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Running head: Survey of HRM practices

HRM practices used to promote pro-environmental behavior: a UK survey

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Abstract

To date, the extent to which UK organizations use HRM practices to promote pro-environmental behavior through workplace HRM policies and initiatives is under researched within the literature. Therefore, this paper presents results of a survey investigating current HRM practices used to promote pro-environmental behavior in a sample of 214 UK organizations representing different sizes and industry sectors. Overall, findings indicated that HRM practices are not used to a great extent to encourage employees to become more pro-environmental. The most prevalent practices used within organizations incorporated elements of management involvement supporting the idea that managers are the gatekeepers to environmental performance. Although organizations indicated that some HRM practices were more effective than others at encouraging pro-environmental behavior in their staff, only a very small percentage of organizations actually conducted any form of evaluation; organizations consequently lack clear evidence as to whether their HRM practices actually result in employee behavior change. Practical implications and future research directions are discussed.

Keywords: Green HRM; environmental sustainability; environmental management; workplace pro-environmental behavior; behavior change

HRM practices used to promote pro-environmental behavior: a UK survey

Introduction

Over the past few decades organizations have come under increasing economic, political and social pressure to address ecological problems and improve their environmental performance (Sarkis, Gonzalez-Torre and Adenso-Diaz, 2010). Not only have energy prices reached an all-time high, governments across the world have also announced legally binding targets to reduce greenhouse gas (GHG) emissions by 2020 (United Nations, 2013). As significant contributors to these emissions, organizations are now forced to comply with environmental legislation and regulations or face financial penalties, fines and possible legal action (e.g. Climate Change Levy, UK; Department of Energy and Climate, 2010). Beyond this 'coerced compliance', however, business leaders are also recognizing the significant opportunities for their organizations in pursuing improved environmental sustainability, both in terms of their reputation and long term competitive advantage (Etzion, 2007; Millar, Hind and Magala, 2012). These combined factors have led to many organizations aligning environmental sustainability to their overall corporate strategy (Esty and Winston, 2009). This typically includes implementing an environmental management system (EMS) which takes a structured approach to addressing environmental performance (Daily and Huang 2001; Ramus, 2002; Ramus and Killmer, 2007; Jabbour and Santos, 2008; Rimanoczy and Pearson, 2010). However, merely introducing an EMS, and their associated policies and initiatives, does not guarantee the organization will improve their environmental sustainability and influence employee behavior (Rondinelli and Vastag, 2000). Integrating these systems within existing organizational functions including, most notably, Human Resource Management (HRM) is likely integral to successful EMS implementation

(Daily and Huang, 2001; Renwick, Redman and Maguire, 2013). This paper takes a closer look at the role of HRM practices in facilitating employees' pro-environmental behavior.

The concept of environmental sustainability is often discussed within a broader sustainability framework that integrates environmental, social and economic considerations, referred to as the 'triple bottom line' (Elkington, 1998). The environmental component has often been defined as seeking a balance between industry growth and preserving the natural environment for future generations (Jennings and Zandbergen, 1995; Daily and Huang, 2001; Ramus, 2002). To date, the way in which an organization achieves this level of sustainability still remains unclear, therefore research uncovering how businesses can structure their policies and initiatives to enhance the opportunities for environmental sustainability is now critical (Daily and Huang, 2001; Renwick et al, 2013). One key approach is linking organizational efforts to employee behavior; many researchers have argued that environmental issues are largely caused by human activity and should therefore be tackled by changing human behavior (e.g. Oskamp, 1995; Oskamp, 2000; Ones and Dilchert, 2012); a concept recognized by many governments (e.g. UK Parliamentary Office for Science and Technology, 2010). However, whilst changing individual behavior and every day practices has been the underlying philosophy behind many environmental behavior change programs outside of organizations (Uzzell and Moser, 2009), the role of employee behavior in delivering improvements in environmental performance within organizations has generally been overlooked (Ones and Dilchert, 2012; Davis and Challenger, 2013;). Further still, the role of HRM practices in influencing employee environmental behavior and subsequent EMS objectives has similarly been under-researched; this is despite researchers highlighting the potential role HRM could play in developing strategies for this purpose (e.g. Brio, Fernandez and Junquera, 2007; Jabbour and Santos, 2008; Rimanoczy and Pearson, 2010;

Jabbour, Santos and Nagano, 2010; Jackson, Renwick, Jabbour and Muller-Camen, 2011; Ones and Dilchert, 2012; Young, Davis, McNeill et al, in press).

This paper examines the role of HRM factors, such as management support, training and reward systems (Daily and Huang, 2001), in encouraging employees to become more pro-environmental which may ultimately support successful EMS implementation. First, the basic concepts of an EMS are described; insights are then drawn from the Green HRM and organizational change literature to guide an examination of the HR factors that can influence employee environmental behavior and EMS implementation; finally research is presented outlining HR professionals' perceptions of the extent to which HRM practices are used, and their utility in supporting environmental sustainability (Balzarova, Castka, Bamber, and Sharp, 2006).

Environmental management systems

An environmental management system (EMS) is a regulatory structure that documents the procedures and policies that influence and control an organization's environmental impact (Deming, 1986). There are several EMS standards to which a company can adhere, for example ISO 14001. This particular system was introduced in 1996 and is reportedly the most widely accepted EMS certification – an international standard based on the idea of continuous environmental improvement (Cascio, 1996). However, like with most EMSs, it does not require that organizations actually meet specific environmental performance goals.

One of the assumptions of an EMS is that it helps organizations achieve better environmental performance through standardized practices, communication, documentation and organization learning (Ronnenberg, Graham and Mahmoodi, 2011). However, there have been contradictory findings as to whether adopting an EMS actually improves environmental performance (e.g. Rondinelli and Vastag, 2000; Dahlstrom, Howes, Leinster and Skea, 2003;

Russo and Harrison, 2005). In a meta-analysis of nine studies, Darnall and Sides (2008) found that organizations with an EMS actually had worse environmental performance than those that did not. By contrast, a large-scale study of 80 organizations found that having an EMS improved overall environmental performance (NDEMS, 2003). It is thought that one of the reasons an EMS may not be successful following implementation is because organizations often do not consider the basic processes by which employees and other stakeholders accept change (Ronnenberg et al., 2011). EMS development has been described as paralleling the establishment of other types of change management programs, such as Total Quality Management (TQM). However, whilst the TQM literature highlights HRM factors as playing a key role in successful TQM (Flynn, Schoeder, and Sakibaba, 1994; Mohrman, Lawler, and Ledford, 1996), there is currently a lack of research examining the impact of HRM factors in the implementation of an EMS and its associated policies and initiatives (Jackson et al, 2011). Aside from the technical details, supportive HRM practices such as top management support, environmental training, empowerment and rewards are likely to be critical to the successful implementation of policies and initiatives associated with an EMS (Daily and Huang, 2001; Govindarajulu and Daily, 2004).

Literature review

This section provides an overview of the literature relating to HRM practices that can influence employee pro-environmental behavior and the successful implementation of an EMS. The following five areas are outlined: employee life cycle; rewards; education and training; employee empowerment and management commitment. A brief review of the wider organizational change literature is also explored.

Employee life cycle (recruitment, induction, appraisal and promotion)

Jabbour and Santos (2008) outline a number of important ways in which HRM practices can support an organization's environmental performance and suggest that aspects of the employee life cycle are crucial in supporting the initiatives associated with an EMS. First, individuals committed to the environment should initially be selected into the organization and second, employees should be evaluated based on environment-related criteria. Whilst there is a lack of systematic studies exploring 'green collar' recruitment practices (Renwick et al, 2013), a notable exception is Jabbour et al (2010) who surveyed 94 Brazilian organizations and found recruiters selected candidates based on environmental knowledge and motivation. Ones and Dilchert (2013) also suggest incorporating personality factors into green recruitment, based on earlier work that linked openness, agreeableness and conscientiousness to employee green behaviors (Dilchert and Ones, 2011). With an increasing number of 'green jobs' and green tasks being added to existing roles (Schmit, 2011), emphasizing environmental aspects within job descriptions and person specifications has been another strategy for green recruitment as well as using interviews to draw out candidate's environmental knowledge, values and beliefs (Renwick et al, 2013).

Not only can recruitment practices cultivate a greener workforce, organizations adopting green HRM practices can benefit from attracting a wider pool of high quality candidates. For example, a UK survey found high-achieving graduates consider an organization's environmental performance and reputation when making decisions for job applications (CIPD, 2007). Similarly a number of studies have found that job seekers are attracted to organizations with good green credentials (e.g. Aiman-Smith, Bauer and Cable, 2001; Backhaus, Stone and Heiner, 2002; Behrend, Baker and Thompson, 2009). Willness and Jones (2013) suggest this could be down to

three signalling-based mechanisms that ought to be capitalized on throughout recruitment; job seekers may: 1) perceive a strong value fit between their own and the organization's values; 2) use information about an organization's social and environmental performance as an indicator of how they treat their employees; and 3) anticipate feeling a sense of pride working for an organization with a good reputation regarding environmental performance.

Using environmental management performance indicators in appraisal is a further HRM tool. Although many EMSs do not stress the importance of appraisal feedback in relation to environmental behavior (Chinander, 2001), researchers in this area suggest that feeding back the impact and effectiveness of environmental efforts through metrics and appraisal processes is key in facilitating environmental performance (Govindarajulu and Daily, 2004; Jackson et al, 2011). The key benefit of including environmental performance indicators within performance management systems is that employees become accountable for environmental management. However, more research is needed to determine how best to implement this approach; whilst meeting the criteria for reliability, validity and fairness perceptions, organizations also need to know how to deliver feedback, how to balance metrics that focus on environmental behaviors with those measuring environmental outcomes and how to distribute responsibility across the organization (Jackson et al, 2011).

Rewards

Several authors have proposed the use of rewards to encourage employees to engage in pro-environmental practices (Daily and Huang, 2001; Govindarajulu and Daily, 2004; Jackson et al, 2011). Reward systems should be designed to reflect management's commitment to environmental performance whilst reinforcing and motivating employees' pro-environmental behaviors (Patton and Daley 1998; Daily and Huang 2001). The rewards themselves can be

monetary (e.g. bonuses, tax exemptions, profit shares) or non-monetary (e.g. recognition, praise)

depending on the motivations of the employees (e.g. Leitch, Nieves, Burke, Little and Gorin,

1995; Patton and Daley, 1998; Bass, 1999; Govindarajulu and Daily, 2004; Davies and Smith,

2007). Typically in those organizations currently rewarding employees for environmental

behavior, monetary rewards only tend to be provided to senior managers (Fernandez, Junquera

and Ordiz, 2003; Renwick et al, 2013). The success of this approach is reflected in a study of 469

US organizations that linked higher CEO pay with better environmental performance (Berrone

and Gomez-Mejia, 2009).

However, designing reward systems that accurately and fairly reward employees based

on environmental performance can be difficult (Fernandez et al, 2003). Firstly, people are

motivated by different 'carrots' and 'sticks'; whilst the above study on CEOs reveals the success

of financial incentives, a more recent study (Handgraaf, van Lidth de Jeude and Appelt, 2013)

found social rewards (grade points and positive comments) were more effective than monetary

rewards and public rewards were more effective than private rewards in reducing energy use in a

Dutch organization. Secondly, if punishments or negative reinforcements for failing to make

environmental improvements (e.g. warnings, suspensions) are too harsh employees may

withdraw from environmental management or fail to disclose environmental problems, whereas

if rewards are too 'weak' they may fail to motivate employee behavior (Jackson et al, 2011;

Renwick et al, 2013). Reward systems should therefore be well-designed and individually

relevant (Govindarajulu and Daily, 2004).

Education and Training

Appropriate training is required to implement any type of EMS standards (Daily and

Huang, 2001). Successful implementation demands that employees receive information about

the standards through introductory training sessions (Beard and Rees, 2000; Daily and Huang, 2001). Through the provision of education and training, employees can become aware of the need for pro-environmental action in the first place (Bansal and Roth, 2000; Govindarajulu and Daily 2004); become equipped with the key knowledge and skills needed to carry out environmental behaviors (May and Flannery, 1995; Fernandez et al, 2003; Brio, Fernandez and Junquera, 2007); and become empowered and motivated to participate in environmental initiatives (Cook and Seith, 1992). Ramus (2002) demonstrated that environmental training and education along with cultivating a culture where employees feel accountable for environmental outcomes were the most important HRM factors for environmental goal achievement. Some authors have questioned whether EMS training should also focus on changing attitudes and emotional involvement towards environmental goals (e.g. Fernandez et al, 2003). This is supported by recent empirical research showing positive environmental attitudes and positive affect predict employee pro-environmental behavior (Bissing-Olson, Iyer, Fielding and Zacher, 2013).

Whilst a UK CIPD/KPMG survey reported 42% of UK organizations now educate and train employees in environmentally friendly business practices (Phillips, 2007), training is not always successful; for example Perron, Cote and Duffy (2006) found that there were no significant differences in environmental knowledge between a group of employees who received environmental training and those who did not. As outlined by Jackson et al (2011), environmental training may be unsuccessful if there is an inadequate needs analysis, poor trainee readiness, poor training transfer to the job and/or employee cynicism. In order to effectively support EMSs, environmental training needs to take into consideration these potential barriers throughout design and delivery.

Employee empowerment

The introduction of any new system will be more successful if employees are treated as key stakeholders in the organization (Leitch et al, 1995; Mohrman et al. 1996). Reflecting traditional change management research (e.g. Strebel, 1996), environmental initiatives that are implemented by management but without employee involvement are likely to be less successful. A number of studies have found that employee involvement in environmental management is related to improved environmental performance (e.g. May and Flannery, 1995; Hanna, Newman and Johnson, 2000; Florida and Davison, 2001; Brio et al, 2007). Renwick et al (2013) highlight a number of processes by which employee involvement has its effect upon environmental management including through 1) targeting employees' tacit knowledge of current production processes (Boiral, 2002); 2) engaging, motivating and empowering employees to come up with ideas for environmental improvement (Govindarajulu and Daily, 2004); and 3) developing an organizational culture that supports environmental management.

There are a number of methods reported in the literature that can increase employees' involvement towards environmental management. For example, introducing newsletters, suggestion schemes and problem solving groups (Renwick et al, 2013); identifying low-carbon or environmental champions (e.g. Andersson and Bateman, 2000; Clarke, 2006); and setting up "green teams" to motivate employees to be involved in environmental improvement efforts (Govindarajulu and Daily, 2004). Empirical research (e.g. Beard and Rees, 2000) suggests that such teams may help to generate ideas, enhance learning, and explore ways to pursue the best environmental initiatives. Implementation of any EMS is likely to require communication and co-ordination from departments across the organization (Daily and Huang, 2001); good teamwork is therefore likely to be a key determinant of successful EMS implementation.

Manager involvement

The importance of top management commitment in driving forward environmental sustainability is well recognized within the literature (Ramus 2002; Rimanoczy and Pearson 2010; Zibarras and Ballinger 2011; Ronnenberg et al., 2011; Robertson and Barling, 2013). This stems from management's ability to direct corporate strategy along with organizational policies, initiatives, programs and reward systems (Branzei, Vertinsky and Zietsma, 2000). Top management subsequently provide the framework for environmental improvement including the success of an EMS (Daily and Huang 2001; Govindarajulu and Daily, 2004; Zutshi and Sohal, 2005).

A key contributing factor is cultivating a corporate culture that supports environmental improvement (Govindarajulu and Daily, 2004) i.e., ensuring the organization's underlying values and assumptions are in line with environmental sustainability and employees are given the freedom to make environmental improvements (Schein, 2010; Govindarajulu and Daily, 2004). Management can contribute towards this cultural development by not only communicating positive environmental values but also role modelling environmental behaviors themselves (Schein, 1995; Ones and Dilchert, 2012). In Robertson and Barling's (2013) recent study, they found that leaders' personal pro-environmental behaviors directly influenced employees' pro-environmental behavior. They also found that environmentally specific transformational leadership (ESTL), which encompasses sharing environmental values with employees; convincing followers they can achieve pro-environmental behaviors; helping employees consider environmental issues in new and innovative ways; and establishing relationships with employees through which they can exert influence also positively impacted employee pro-environmental behavior through increasing their passion for environmental issues. These findings are supported

by previous research demonstrating the importance of specific management behaviors in increasing employee engagement with environmental initiatives (e.g. Ramus and Steger, 2000; Ramus 2002).

The HRM practices outlined above also map onto those traditional organizational change principles considered relevant for enacting environmental sustainability within organizations. For example Davis and Coan (in press) outline four areas of change management relevant for driving workplace pro-environmental behavior from their review of the literature including 1) embedding sustainability within the organizational culture by aligning the green agenda with underlying organizational values and assumptions (e.g., Russell and McIntosh, 2011); 2) ensuring there is strong environmental leadership with key change agents positioned throughout the organization (e.g., Andersson and Bateman, 2000; Robertson and Barling, 2013); 3) engaging employees and encouraging employee involvement through the provision of environmental information, rewards and employee participation in decision-making (e.g., Osbaldiston and Schott, 2012; Cox, Higgins, Gloster, Foley, and Darnton, 2012); and finally 4) choosing the appropriate form of change that best suits the organization. For example 'planned change' tends to be fairly fixed and led by management (Burnes, 1996), whereas 'emergent change' tends to be more of an ongoing process in response to evolving environmental needs and driven by employees (By, 2005). Often it is a combination of top down and bottom-up approaches that an organization adopts, taking a 'contingency approach' where the type of change adopted is contingent upon a number of situational variables (Davis and Coan, in press). There are therefore clear links between these organizational change principles and the HRM practices needed for pro-environmental behavior change and successful EMS implementation.

Summary

The preceding literature review suggests that certain HRM practices can play an important role in facilitating employee pro-environmental behavior and the policies and initiatives associated with an EMS. More specifically, HRM practices can support the achievement of sustainability objectives and help direct employees' attention and behavior towards the environmental strategy and goals of an organization. To date, the extent to which UK organizations use HRM practices to promote pro-environmental behavior through workplace HRM policies and initiatives is under researched within the literature (Jackson et al, 2011; Renwick et al, 2013). Therefore this research explores the prevalence of HRM practices used in this way and in doing so makes important empirical and practical contributions to the environmental and HRM literatures. There is some indication in the literature that organization size may influence the extent to which environmental practices are implemented; for example Grant, Bergesen and Jones (2002) found that small organizations are more reactive to environmental issues and regulations and Wagner (2011) found that larger organizations are more likely to engage in environmental management. Similarly, Min and Galle (1997) found larger organizations more likely to adopt green purchasing practices. The impact of organization size also translates across other HRM practices such as the use of group exercises in selection (Zibarras and Woods 2010). It is plausible therefore that large organizations may have more resources to implement the necessary initiatives to achieve environmental change (Ronnenberg et al., 2011). Therefore the influence of organization size is also explored in this research. We adopted an exploratory approach to our analyses, with the objective to examine the extent of HRM practices being used, and therefore did not set any formal hypotheses.

Method

Survey

The survey design was informed by reviewing previous environmental surveys (e.g.
Chartered Management Institute, 2009), academic literature (e.g. Ramus and Steger, 2000;
Ramus, 2002; Jabbour and Santos, 2008; Gonzalez, Sarkis and Adenso-Diaz, 2008; Paulraj and
de Jong, 2011; Daily, Bishop and Massoud, 2012); and also through informal interviews with
environmental managers responsible for environmental policy in five large organizations along
with the HR managers from three of these organizations. The survey included three broad areas
as outlined below and a complete copy of the survey can be obtained from the author.

(1) **Company and respondent demographics,** including organization size, sector and
turnover; and respondent age, gender and management level.

(2) **HRM practices used to encourage pro-environmental behavior.** Respondents were
asked *"To what extent does your organization use the following methods to encourage staff*
to behave in a pro-*environmental way"* with response options grouped into five categories
as follows: (a) **employee life cycle** (including recruitment, induction, appraisal and
promotion), e.g. *"Recruitment and selection criteria that recognize environmental*
behavior/commitment*"*; (b) **rewards**, e.g. *"Individual incentives or reward programs that*
encourage environmental behavior"; (c) **education and training**, e.g. *"Training courses*
aimed at developing/encouraging environmental behavior"; (d) **employee empowerment**,
e.g. *"Set up of green champions/task force/green team etc."*; (e) **manager involvement**,
e.g. *"Actively championed by senior management"*. Each item was rated on a scale of 1 =
Never to 5 = Always.

(3)   **Most successful HRM practices in encouraging employees to be pro-environmental.**

Respondents were then asked to rank the top three most successful HRM practices in

encouraging employees to be pro-environmental, from the list given in the previous

question: *"Considering the methods above, which three have been the most successful in*

encouraging pro-enviro*nmental behavior in your staff in your organization"*. The final

question asked whether these initiatives had been evaluated to determine their

effectiveness: *"Have you done anything to evaluate the effectiveness of environmental*

policies / initiatives on e*mployee behavior".* If respondents answered yes, they were

prompted to specify what type of evaluation method they had used.

Sampling procedure

In order to ensure that a representative sample of respondents completed the survey, a

number of possible sampling frames were considered for UK organizations such as the Value

Added Tax and Pay-as-you-earn Income Tax registers. However, these were considered

unsuitable as they omit smaller businesses and we wanted to include a range of different

organization sizes. Therefore two alternate sampling frames were considered. First over 5,000

members of the Chambers of Commerce were identified using membership websites. Twenty

percent of this sample (N=1000) were randomly selected and contacted. **We contacted a**

random selection of only 20% of this sample to ensure that no one UK region would be

over-represented because some of the membership websites included incomplete contact

information for their members. The second sampling frame was the Personnel Manager's

Yearbook (PMY), a directory of 11,000 companies that have HR departments or individuals

responsible for HRM functions. Of these, around 80% have contact details for the HR manager.

Since the PMY contains only organizations large enough to have a dedicated team or person

responsible for HRM (i.e. medium or large organizations), we randomly selected and contacted a smaller proportion of these organizations (N=250).

The identified person responsible for HRM within each organization (comprising directors, managers, owners and HR Managers) was contacted via email and invited to complete the survey. However, to ensure that the respondent had adequate knowledge about the organization's environmental initiatives to complete the survey, one question specifically asked about the participant's level of the knowledge. Any respondent that suggested they had less than 'average' knowledge was dropped from the subsequent analyses. The invitation email included information about the survey, details of how to complete the survey, assurances of voluntary participation, and that the data would be anonymously submitted and aggregated to preserve confidentiality. Out of the 1,250 emails sent, 572 were returned undelivered, leaving a total possible sample of 678.

Participating Organizations

In sum, 266 respondents completed the survey (total response rate 39%), however 52 of these were either incomplete or completed by someone who had less than average knowledge of environmental initiatives and were therefore not included in the analyses. The anonymous nature of the survey meant that we could not calculate response rates from the two sub-samples. The response rate in our study compared favorably to other survey studies (e.g. Sheehan, 2006; Zibarras and Woods, 2010). Thus a total of 214 organizations were included in the analyses for the present study. Of the 214 respondents, 42% were female and 29% were male (29% missing data), and their mean age was 38.5 years. Nineteen percent were directors, 10% were senior managers, 18% middle and 9% junior managers and 16% were non-management (data was missing from 28%). The demographic characteristics of the participating organizations, including

organization size and industry sector, are shown in Table 1. Using a χ^2-test of independence, there appeared to be no significant difference between the participating organizations and initial sampling frame with regards to organizational size and sector.

INSERT TABLE ONE ABOUT HERE

Results and analyses

Prevalence of HRM practices in UK Organizations

The frequencies of the extent to which organizations use different HRM practices to encourage pro-environmental behavior in employees can be found in Table 2. The final column in Table 2 indicates the total prevalence of HRM practices that are used at least sometimes in organizations to promote environmental behavior and ranks their order. This column indicates that the top three most prevalent methods used to encourage pro-environmental behavior in organizations focus on manager involvement. The fourth most prevalent method relates to education and training via internal awareness raising campaigns and the fifth most prevalent method relates to the employee life cycle, specifically induction programs emphasizing environmental issues/concerns. It is noted that the category "rewards" appear to be among the least prevalent methods used in UK organizations to encourage pro-environmental behavior.

INSERT TABLE TWO ABOUT HERE

Prevalence of HRM practices by organizational size

In recognition that larger organizations may have more resources to implement necessary initiatives to achieve environmental change (Ronnenberg et al, 2011) we also examined whether size of organization influenced the extent to which these were implemented. In order to examine associations between frequency of use of HRM practices and organization size, both Pearson

Chi-square (χ^2) and Cramer's V (crv) were used. Pearson chi-square indicates a relationship

between independent (organization size) and dependent (HRM practice) variables; whilst

Cramer's V indicates the strength of the relationship between variables (where .10–.20 indicates

a weak relationship; .20–.40 a moderate relationship; and .40–.60 is a relatively strong

relationship). Findings indicated that organization size significantly influenced the extent to

which certain HRM practices were used to influence environmental behavior. The "rewards"

category was the area in which organization size was most influential, with individual ($\chi^2 = 8.48$,

p = .004, crv = .24); team ($\chi^2 = 15.83$, p < .001, crv = .23); and organizational ($\chi^2 = 6.62$, p = .01,

crv = .21) incentives being more prevalent among large organizations than SMEs. Aspects of

"employee empowerment" were also more prevalent in large organizations, including

engagement workshops ($\chi^2 = 9.19$, p = .002, crv = .25) and setting up of green champion

networks ($\chi^2 = 14.22$, p < .001, crv = .31). Finally performance indicators used as part of the

employee life cycle ($\chi^2 = 6.77$, p = .009, crv = .21); internal awareness campaigns as part of

education and training ($\chi^2 = 32.22$, p < .001, crv = .47); and vision/mission statements ($\chi^2 =$

12.17, p < .001, crv = .28) were all found to be significantly more prevalent in large

organizations than in SMEs.

Most effective HRM practices

Respondents were also asked to indicate which of the HRM practices were the most

effective in encouraging employees to become more pro-environmental; these are shown in

Table 4. The top three most effective HRM practices indicated by organizations were

encouragement via internal awareness-raising campaigns (education and training); active

championing by senior management (manager involvement); and set up of green champions

(employee empowerment). Interestingly, rewards were included in the list of most effective

HRM practices; but, as shown in the previous section, are not used extensively in UK

organizations. A Spearman correlation was conducted to determine whether there was a

significant relationship between how effective the practices were considered and the extent to

which they were used. That is, we correlated the number of organizations that considered the

methods effective with the ranked data indicating extent of use; we found that there was a

significant correlation between the two: (rho = -0.64, p < 0.001), which suggests that those

methods considered the most effective were used the most often. Note that the correlation is

negative because the highest ranking HRM practice is ranked as 1.

<div align="center">***INSERT TABLE THREE ABOUT HERE***</div>

We also asked respondents to indicate whether they evaluated the effectiveness of the

HRM practices in encouraging employees to engage in environmental behavior. This was

considered an important question because we wanted to determine whether organizations

actually conducted any evaluation of HRM practices to determine their effectiveness. Out of the

214 participating organizations, only 16% (N = 34) indicated that they evaluated the

effectiveness of their HRM practices. Fifty-five percent (N = 117) said they did not evaluate the

effectiveness of their HRM practices, whilst 18% (N = 38) did not know. There was missing data

from 12% of the sample. This is an interesting finding, because if HRM practices are not being

evaluated, then it may be difficult for organizations to determine whether they are truly effective

or not.

Discussion

  In this study we examined the extent to which UK organizations are using HRM practices to promote environmental behavior and support EMS initiatives. In summary, organizations appear to be using some key HRM practices to encourage pro-environmental behavior in their employees. However, findings also indicated that organizations are not using HRM practices to a great extent overall, with even the most prevalent HRM practice (active championing by senior management) being used at least sometimes in only 63.1% of the organizations sampled. This implies that over one third of organizations were either not using this method at all, or using it rarely. Thus organizations could use HRM practices more actively to promote environmental behavior and support EMS initiatives. Additionally, the extent to which organizations implement HRM practices varies by organization size. Of the organizations examined, a higher proportion of large organizations implement HRM practices, most notably in relation to team, organization-based and individual incentives. This supports the notion that large organizations have better resources to influence environmental change (Ronnenberg et al, 2011).

  The top three most prevalent methods used within organizations entailed manager involvement, such as being actively championed by senior management or informal encouragement by line management. This suggests that managers act as key gatekeepers for facilitating pro-environmental behaviors providing a framework through which to motivate their staff. This is important because the literature (e.g. Govindarajulu and Daily, 2004) and empirical research (e.g. Ramus and Steger, 2000; Ramus, 2002; Robertson and Barling, 2013) suggests that manager involvement is influential in encouraging employees to engage in environmental initiatives. **Managers' influence may be particularly crucial because leaders have the scope and visibility to ensure that the same pro-environmental messages reach a large number of**

employees. Particularly when leaders are transformational in style, they can transfer environmental values, model desirable environmental behaviors, and inspire and motivate employees – both from the senior management side and through informal encouragement from line managers (Robertson and Barling, 2013). Furthermore, manager involvement of this nature may become the starting point for other methods concerning employee empowerment, including green teams, and awareness-raising campaigns due to an increase in innovation elicited by transformational leadership (Robertson and Barling, 2013).

However, whilst managers are important, it should be noted that even within organizations that are committed to environmental sustainability, managers often do not give as much support to environmental behavior than other management-related activities (Ramus and Steger, 2000); **future research should consider measuring the relative support given to environmental issues compared to other management-related issues.** Additionally, over a third of organizations sampled did not include an environmental policy statement in their vision/mission statement, so these companies may be missing out on an important way in which to communicate and promote environmental issues internally to staff. Research shows that vision/mission statements are important because they send positive signals to staff within the organization from top management (Ramus and Steger, 2000), which increases the likelihood that employees will engage in pro-environmental behavior (Ramus, 2002) **and may serve to reinforce informal encouragement from line managers and establish the pro-environmental status of the organization.**

Although one aspect of education and training (internal awareness-raising campaigns) was among the most prevalent methods used by organizations, the other education and training methods were less common (ranked 9th and 10th). **This can be explained practically – it is**

likely to be more efficient and less costly to implement awareness-raising campaigns through means such as seminars and posters than it is to organize formal training courses and leadership and management training on environmental issues. However, despite its popularity by organizations, the effectiveness of the awareness-raising approach in terms of actual environmental behavior change is questionable (see Barr, 2003 for a critical review). Thus, despite the potential costs, organizations may need to involve employees in formal education programs aimed at developing and encouraging pro-environmental behavior; it is through providing education and training that employees can learn how to enact environmental changes and become aware of the organization's efforts towards sustainability. As Ramus (2002) notes, employees who know about such policies are more likely to engage in pro-environmental behavior.

It is noteworthy that findings suggest rewards are not used extensively within organizations to encourage pro-environmental behavior in staff. **Despite literature suggesting that rewards can be useful (Daily and Huang, 2001; Govindarajulu and Daily, 2004; Jackson et al, 2011), Fernandez et al. (2013) note that it can be difficult to successfully implement a reward system that works for all employees and, since individuals are motivated in different ways, this poses a problem for organizations in terms of the resources necessary to tailor rewards to individual motivations. In light of this, it is perhaps not surprising that rewards are not used to the extent as other methods such as manager involvement and awareness-raising, especially in organizations with large numbers of employees.** Additionally, elements of the employee life cycle (selection, appraisal or promotion) rank fairly low in terms of HRM practices used. This is despite the fact that literature (e.g., Ramus and Steger, 2000; Ramus, 2002; Jabbour and Santos, 2008; Rimanoczy and Pearson,

2010) suggests that selection/appraisal/promotion could play key roles in supporting the attainment of sustainability-related goals via their employees. Again, these findings suggest that organizations could make better use of their HRM practices to support employee pro-environmental behavior and the policies and initiatives associated with their EMSs.

With regards to the HRM practices considered most effective in encouraging employees towards pro-environmental behavior, four of the top five practices listed were also most prevalently used. Indeed, there was a strong correlation between the perceived effectiveness of HRM practices and the extent to which they were used; indicating that organizations are using the methods that they perceive to be most successful. It was only "rewards" that were ranked higher in terms of effectiveness than they were in terms of prevalence. That said, the relative effectiveness of the HRM practices should be interpreted with caution given that only 16% of organizations reported conducting any sort of evaluation, and of this 16% we do not know how rigorous the evaluation methods were. This is an important finding because it has significant implications for an organization's environmental performance. If only a small proportion of organizations evaluate their HRM initiatives, it will be impossible to know whether they are actually improving employees' environmental behavior.

It is also important to consider the role of HR in influencing change; for example Rimanoczy and Pearson (2010) have highlighted that the HR function has responsibility for ensuring that policies, processes and systems throughout organizations are cohesive, bought-into by management, and communicated clearly to all employees. Thus HR may be ideally positioned to influence environmental change (Dubois and Dubois, 2012). For organizations wishing to improve employees' environmental behaviour and become environmentally sustainable, often a culture shift is necessary (Rimanoczy and Pearson,

2010). Therefore, having environmentally relevant HRM practices in place is essential for engaging and involving employees in this shift. Through practices such as recruitment, selection, induction programs, training, and rewards, HR will be able to help organizations shift their culture towards one that is more pro-environmental. Weaving sustainability into key HRM practices – and communicating this effectively – will make it more likely that employees are agreed on what sustainability means to their organization and the necessary steps to achieving it; both of which drive subsequent environmental behavior (Colbert and Kurucz, 2007). Cultivating this sense of belonging to a community that is working towards a common goal is likely to increase engagement and reinforce continued learning; resulting in fewer barriers to change (Rimanoczy and Pearson, 2010).

Theoretical and practical implications

This research has a number of theoretical and practical implications. This study provides empirical evidence regarding what HRM practices are currently being employed by organizations to support employee pro-environmental behavior and those initiatives that may form part of an EMS, yet the findings appear to highlight a gap between research and practice. Research literature suggests HRM practices can play a key role in supporting the attainment of sustainability and EMS goals within organizations (e.g. Ramus and Steger, 2000; Ramus, 2002; Govindarajulu and Daily, 2004; Jabbour and Santos, 2008; Rimanoczy and Pearson, 2010). However, the survey findings show that organizations are not using HRM practices to a great extent. Practically, it appears that organizations could make greater use of HRM to promote environmental behavior among staff. This could go some way towards ensuring that EMS initiatives are supported and successfully implemented in organizations.

Currently, practices that entail manager involvement appear to be among the most prevalent methods of encouraging pro-environmental behavior; thus there may be an opportunity for the HR function to engage with management to play a strategic role in reaching environmental objectives. **In addition, organizations may consider recruiting managers who value the environment. Training should be made available to all employees, including management, which focuses on improving environmental knowledge, awareness and skills.** Additionally, findings imply that organizations need to empower employees to take ownership of some of the environmentally-related issues and/or initiatives themselves; **for example including employees in the design and implementation of any new environmental change initiative as well as appropriately rewarding them through both formal (e.g., performance management) and informal channels (e.g., praise and recognition).**

Only a very small percentage of organizations actually evaluate HRM practices to determine their relative success in promoting pro-environmental behavior among staff. Ones and Dilchert (2012) highlight the need for organizations to account for both the number of environmental initiatives introduced and the associated impacts upon the environment. Our findings suggest that organizations may not have clear evidence as to whether HRM practices actually result in employee behavior change and/or have a direct impact on the environment. This evaluation is integral to help organizations identify what does and does not work and **both self-report and objective metrics should be designed and used for this purpose.** It may also help organizations understand how to effectively integrate these practices with each other to create organization-wide change. Furthermore, if more organizations are able to demonstrate the success these HRM practices have in supporting EMSs and subsequent behavior change as well as additional benefits beyond the environment (e.g., financial outputs; Renwick et al, 2013;

worker productivity; Delmas and Pekovic, 2013), this might encourage other organizations to introduce similar practices.

A final practical implication to consider is the organizational context since this may impact the success of any change intervention. Not only will such factors as organisational climate (Norton, Zacher and Ashkanasy, , 2012) and organisational culture (Alcaraz, Kausel, Colon, Escotto, Gutierrez-Martinez, Morales and Vicencio, 2012) play a role, but also understanding the type of organizational change strategy that best suits the organization will be key (i.e., planned, emergent or contingent; cf. Davis & Coan, in press). Furthermore, there are a number of external factors that drive environmental efforts, such as external pressures, desire to control risk, response to stakeholders, competitive advantage, and revenue (Ervin, Khanna, Jones and Wirkkala, 2012); and organizations differ in their response to these drivers. Indeed, it is noted by Delmas and Toffel (2004) that even organizations exposed to the same pressures may undertake differing environmental practices; therefore an appreciation of organizational context is likely integral to the successful implementation of environmental practices.

Limitations and recommendations for future research

There are a number of limitations of this research that should be noted. One potential limitation of our study was its reliance on self-report data; there was no way of ensuring that participants completed the survey honestly or accurately. This is a common problem for self-report questionnaires (e.g. Podsakoff and Organ, 1986), **although self-report data has been shown to be valid in the context of pro-environmental behavior when objective and subjective data was compared (see Kaiser, Frick and Stoll-Kleemann, 2001);** nevertheless we recommend that future survey studies should aim to collect some objective data, such as

energy or resource usage and waste. A second potential limitation is that although this research

examined the HRM practices used in organizations to promote pro-environmental behavior in

employees, it did not explore whether there was a relationship between specific HRM practices

and the extent to which employees are likely to engage in pro-environmental behavior.

Therefore, future research should aim to explore this relationship, since this will help

organizations decide where to dedicate resources for the greatest positive environmental impact.

A further limitation is that, being a survey, the findings represent a brief "snapshot" in time as to

what HRM practices organizations currently use from the viewpoint of managers. It is

acknowledged that this design did not permit an examination of the full complexities of the

issues addressed here, from the **perspectives of all employee groups (i.e., including non-**

managerial staff). Future research should aim to 1) quantify the impact that HRM

practices have had on successful EMS implementation; 2) explore the specific role HR

managers play in facilitating these HRM practices; 3) consider the views of all employee

groups; 4) uncover the key challenges in implementing Green HRM practices; and 5)

determine the specific factors driving successful Green HRM practices. For example, the

types of incentives and reward systems that work best; how senior management have

specifically championed environmental sustainability; the type of environmental

information included in successful training sessions and induction programs; and the

organizational contexts that are most and least suited to facilitating Green HRM practices.

Finally, whilst the most effective practices reported in this study map onto traditional

organizational change principles considered key in driving workplace pro-environmental

behaviour (see Davis and Coan, in press), a closer examination of the key differences

between the implementation of Green HRM practices and both non-Green HRM practices

and other forms of organizational change would be an interesting avenue for future research.

Nevertheless, despite these limitations, this study provides a first step in capturing those HRM practices that are most widely implemented across UK organizations whilst highlighting those perceived to be most successful in facilitating employee pro-environmental behavior.

Final comments

This study examined the prevalence of HRM practices used to promote pro-environmental behavior in UK organizations. Our main finding was that HRM practices could be used to a greater extent to facilitate employee pro-environmental behavior and support EMS initiatives. Although organizations indicated that some HRM practices were effective at encouraging pro-environmental behavior in their staff, only a very small percentage of organizations actually conducted any form of evaluation. We believe that HRM has the potential to lead the way on environmental management issues by engaging both staff and leadership whilst incorporating sustainability as part of daily operations (Rimanoczy and Pearson, 2010). HRM practices have an important role to play in developing capabilities that enable change towards achieving sustainability and environment-related goals, ultimately helping organizations achieve long-term competitive advantage (López, Garcia, and Rodriguez, 2007).

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Tables

Table I.

Demographic breakdown of the organizations represented in the survey

Company information	N	Percentage
Organization size		
Small (1-50)	46	24.5
Medium (51-250)	21	13.5
Large (251-2,500)	46	29.7
Very large (2,500 plus)	42	27.1
Industry sector		
Business services	80	52.3
Public and voluntary	50	32.7
Manufacturing and retail	16	10.5
Energy	7	4.6
Turnover		
Less than £1m	31	22.8
£1m - £10m	30	22.1
£11m - £100m	33	24.3
£101m - £500m	31	22.8
Over £500m	11	8.1

Note. Total N does not always round up to 214 due to missing data

Table II.

HRM practices used by organizations to encourage employees to be pro-environmental

	% use	Never	Rarely	Sometimes	Often	Always	% use at least sometimes
Employee life cycle							
Recruitment and selection criteria that recognize environmental behavior/commitment	56.5	21.2	13	4.7	4.7		22.3 Ranked 14th
Induction programs that emphasize environmental issues/ concerns	27.8	17	19.1	17.5	18.6		55.2 Ranked 5th
Performance indicators/appraisal that include environmental behavior/targets	51.3	14	14	11.9	8.8		34.7 Ranked 8th
Promotion decisions	67.9	18.7	7.3	4.7	1.6		13.5 Ranked 16th
Rewards							
Individual incentives or reward programs that encourage environmental behavior	57.6	17.8	15.7	5.2	3.7		24.6 Ranked 13th
Team incentives or reward programs that encourage environmental behavior	57.5	17.1	18.1	3.1	4.1		25.4 Ranked 12th
Organization-based incentives or bonus schemes that encourage environmental behavior	64.8	19.2	8.8	4.1	3.1		16.1 Ranked 15th
Penalties for non-compliance	70.5	17.4	8.9	1.6	1.6		12.1 Ranked 17th

Education and training

Training courses aimed at developing/encouraging environmental behavior	45.0	22.2	16.4	12.2	4.2	32.8 Ranked 9th
Encouraged via internal awareness-raising campaigns/publicity etc. e.g. series of lectures/seminars/ debates for employees, posters etc.	30.3	13.3	21.8	23.4	11.2	56.4 Ranked 4th
Leadership/management training on environmental issues	46.8	22.6	17.4	8.4	4.7	30.5 Ranked 10th
Employee empowerment						
Engagement workshops or forums for staff to improve environmental behavior	42.6	17.4	25.3	10	4.7	40 Ranked 7th
Set up of green champions/task force/green team etc.	37.8	11.5	14.7	16.8	18.3	49.7 Ranked 6th
Manager involvement						
Actively championed by senior management	18.7	18.2	25.7	15.5	21.9	63.1 Ranked 1st
Informal encouragement by line management	19.4	19.4	22.5	18.8	19.9	61.3 Ranked 2nd
Environmental impact factored into team/departmental budgets	55.9	18.3	12.4	9.1	4.3	25.8 Ranked 11th
In organizational vision/mission statement	29.8	9.9	17.8	16.2	26.2	60.2 Ranked 3rd

Note. The final column indicates the % of organizations that use the HRM practice at least sometimes, and ranks these in order.

Table III.

HRM practices used at least sometimes by organizations to encourage employees to be pro-environmental, by organizational size

	Organizational size	
% that use HRM practice at least sometimes	**SME (N=67)**	**Large (N=88)**
Employee life cycle		
Recruitment and selection criteria that recognize environmental behavior/commitment	31.3	20.0
Induction programs that emphasize environmental issues/concerns	51.6	57.6
Performance indicators/appraisal that include environmental behavior/targets	**23.4**	**44.0**
Promotion decisions	10.9	16.7
Rewards		
Individual incentives or reward programs that encourage environmental behavior	**14.3**	**35.7**
Team incentives or reward programs that encourage environmental behavior	**10.9**	**40.5**
Organization-based incentives or bonus schemes that encourage environmental behavior	**7.8**	**23.8**
Penalties for non-compliance	9.5	14.3
Education and training		
Training courses aimed at developing/encouraging environmental behavior	27.0	38.1
Encouraged via internal awareness-raising campaigns/publicity etc. e.g. series of lectures/seminars/debates for employees, posters etc.	**31.3**	**78.0**
Leadership/management training on environmental issues	25.0	36.9
Employee empowerment		
Engagement workshops or forums for staff to improve environmental behavior	**28.6**	**53.6**
Set up of green champions/task force/green team etc.	**35.9**	**67.1**
Manager involvement		
Actively championed by senior management	54.7	67.5

Informal encouragement by line management	59.4	60.0
Environmental impact factored into team/departmental budgets	22.2	25.3
In organizational vision/mission statement	**42.9**	**71.4**

Note. A significant association between organization size and HRM practices used is indicated by percentages shown in italics and bold.

Table IV.

Top 10 HRM practices considered most effective by organizations to encourage employees to be

pro-environmental

Category		No. of orgs
Education and training	Encouraged via internal awareness-raising campaigns/publicity etc. e.g. series of lectures/seminars/debates for employees, posters etc.	37
Manager involvement	Actively championed by senior management	34
Employee empowerment	Set up of green champions/task force/green team etc.	31
Employee life cycle	Induction programs that emphasize environmental issues/concerns	27
Manager involvement	Informal encouragement by line management	24
Manager involvement	In organizational vision/mission statement	17
Employee empowerment	Performance indicators/appraisal that include environmental behavior/targets	15
Employee empowerment	Engagement workshops or forums for staff to improve environmental behavior	13
Rewards	Individual incentives or reward programs that encourage environmental behavior	9
Rewards	Team incentives or reward programs that encourage environmental behavior	8