STRATEGIC HRM AS SOCIAL DESIGN FOR ENVIRONMENTAL SUSTAINABILITY IN ORGANIZATION

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A strategic model of human resource management is proposed as a framework to support sustainable adaptation to the disruptive and dynamic challenges in the business context related to environmental sustainability. The implications of a whole-systems ecological approach to the design and implementation of human resource systems are explored, and the literature on best HR practices to support environmental sustainability is summarized. Implications for practice and research are presented.

Keywords: environmental uncertainty, strategic HR, corporate culture, organizational development, corporate-level strategy

CEOs increasingly view managing sustainability as critical to their company's success (Kell & Lacy, 2010), and 80 percent of Fortune Global 250 companies now disclose their sustainability performance (Apotheker, 2010). Addressing sustainability challenges can create shareholder value (Hart & Milstein, 2003). For example, companies committed to sustainability outperformed industry averages during the financial crisis from May–November 2008 (A.T. Kearney, 2009), displaying resilience to volatile markets.

Laszlo and Zhexembayeva (2011) make a clear business case that growing pressures from three trends will compel organizations to deal with sustainability: declining resources (such as energy, metals, and minerals), increasing expectations (from customers, employees, investors, and regulators), and radical transparency (made possible by technology, media, activists, and nongovernmental organizations [NGOs]). These interdependent forces are creating a paradigm shift in the general business climate. Laszlo (2003) makes a case for creating sustainable value through addressing not only shareholders, but also the full range of organizational stakeholders.

To date, the human resource management literature and function have lacked a powerful voice in sustainability circles. Although an emergent literature has laid out the need for HRM involvement in sustainability initiatives (e.g., Ehnert, 2009; Jackson & Seo, 2010), it does not offer an overarching model to drive strategic HRM leadership in organizational sustainability initiatives. The purpose of this article is to provide such a

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model, specifically with regard to environmental sustainability (ES).

Sustainability, the Triple Bottom Line, and the Business Context

The term *sustainability* is commonly used in a manner consistent with the World Commission on Environment and Development (Brundtland Commission, 1987), as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability implementation has focused on the three pillars of economic, social, and environmental sustainability, or the triple bottom line of people, planet, and profits (Elkington, 1998). A long-term emphasis and broadened scope of interest characterize sustainability, in contrast to the dominant short-term focus on quarterly earnings and economic performance. Changing business conditions are rendering Milton Friedman's (1970) advice— "there is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits"—incapable of creating sustainable success.

We focus on the implications of ES for organizations because the natural environment increasingly drives the organizational environment, as firms depend upon an increasingly insufficient supply of natural resources, given global population growth. Pressures on the carrying capacity of the planet's natural systems will increasingly create disruptive impacts on organizations, their employees, and the society in which we live.

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The Natural Environment Driving Business

Many ES issues currently impact organizations, and we illustrate these effects with energy costs and climate change. The continued rise in energy costs (US Energy Information Administration, 2010) reflects market forces, as supply struggles to keep up with steadily increasing demand, exacerbated by world population growth (US Census Bureau, 2011) and the impact of "peak oil" (i.e., a decline in oil production rates as oil fields mature; Hirsch, 2005). Continued energy cost increases require adaptation from organizations because they impact the entire supply chain, from employee behavior to operations, building use, and transportation. Additionally, origination of oil supplies from hostile or unstable countries causes volatile prices, producing instability for markets and supply chains (T. Friedman, 2008), as well as national security. Further, adaptations such as implementing alternative energy sources and making major changes to transportation and building efficiency can take years or even decades to fully implement.

Similarly, global climate change (National Aeronautics and Space Administration [NASA], 2011) presents challenges to organizational adaptation. Historically, changes in the natural environment have occurred slowly (US EPA, 2011a), but human activity has sped up changes dramatically, creating a discontinuous shift in the progression of atmospheric, temperature, precipitation, storm, sea-level, and ocean acidification changes (US EPA, 2011b). Scientists expect larger, more unpredictable storms, as well as significant changes to weather patterns that affect agriculture, plant growth, wildlife, and where people can safely live. These conditions threaten the very existence of those organizations that are impacted directly, as well as those in the supply chain. Government, insurance, and investment community efforts to decrease the speed of climate change have led to both voluntary and required efforts to manage carbon emissions. As climate-related risks and initiatives increasingly shape the business environment, they provide competitive advantage opportunities for those organizations that effectively manage these challenges. As such, adversity offers opportunity. We could similarly elaborate on issues of declining water quality, pollution, scarcity of rare earth metals, and

many other natural environment issues, but such elaboration veers from the focus of this article.

How ES Pressures Are Unique Drivers

ES presents urgent organizational change challenges that differ in several important ways from other key business climate influences such as technology change or globalization. Although these influences can all create discontinuous change, technology and globalization typically limit their impacts to employees whose jobs are directly affected by the change. For example, a new information system or computer-aided manufacturing technology creates changes in competencies and work processes only for those employees who use the technology and those who directly manage them, and perhaps those who work with their outputs. Likewise, globalization impacts expatriate employees directly but can be transparent to many home-country employees whose jobs and working conditions do not change. Similarly, a cursory organizational attempt to address ES, or "bolted-on sustainability" (Laszlo & Zhexembayeva, 2011), might similarly impact only subsets of employees who deal directly with initiatives in scattered areas of the organization.

In contrast, embedding ES deeply into an organization (Laszlo & Zhexembayeva, 2011) requires changes in thinking and behavior that sweep across all levels of employees in all areas of an organization. Obvious ways in which this might occur include the participation of every employee in recycling, or turning off equipment not in use and lights that aren't needed. But when ES is truly embedded within an organization, it pervades the thinking and behavior of employees who go beyond compliance with new rules and norms to participate in innovating job-related changes in work processes, set-up, and product and service design. Getting every employee on board is particularly challenging, and given human nature and the influence of individual differences, reaching 100 percent of employees in a large organization might not be realistic. Embedding ES requires whole-system (Bertalanffy, 1968) change rather than changes confined to pieces and parts of the organization.

Pressures from the natural environment that impact employees' personal lives also pose organizational challenges. For example, increased energy costs affect employees' financial well-being by increasing their basic living expenses for things like transportation, food, heating and cooling, and housing. These personal pressures can affect employees' capacity to retain or accept jobs with a significant commute, and more importantly their stress and health levels, which subsequently impact work performance. Climate change has a similar array of personal impacts, such as distress or displacement from tornados, hurricanes, or drought. Interactive effects also occur, such as health concerns and the capacity to afford cooling during a heat wave, or obtain prescriptions when disasters strike.

ES challenges are thus unique in the urgency and scope of changes they impose on organizations and their HRM functions. Success in embedding ES within an organization requires the presence of HRM in the organization's executive leadership team. Success also relies upon HRM professionals to serve as design architects for the many HRM systems, policies, and practices needed to prepare employees to engage and contribute meaningfully to the accomplishment of ES goals. Although a growing body of research addresses HRM involvement in ES (e.g., Egri & Hornal, 2002; Ehnert, 2009; Jackson & Seo, 2010), much of what is written focuses at the level of particular HRM functions or the support role of the HRM function. Thus, we offer a systems view of strategic HRM to provide ES leadership.

We fully recognize that embedding sustainability throughout an organization requires simultaneous consideration of

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economic, social, and environmental sustainability. In fact, realizing the goal of an integrated triple bottom line requires connecting the silos—moving from an exclusive, heads-down focus on functional efficiency to also incorporate heads-up collaborations on organizational effectiveness and sustainability. But here we separate out ES in order to clarify and address its particular requirements. Further, ES has received comparatively little attention in the HRM literature. The majority of HRM literature to date has addressed economic sustainability, with the purpose of HRM systems being advancement of organizational performance from an economic perspective (e.g., Youndt, Snell, Dean, & Lepak, 1996). Further, a significant percentage of HRM literature has addressed issues within the social sustainability domain, including diversity, organizational justice, and safety and health, and more recently issues of corporate social responsibility, such as corporate philanthropy and labor standards, particularly with respect to forced labor and child labor (Kolk, 2004). Thus, the scope and role of HRM systems and practices in ES merits elaboration.

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HRM and Environmental Sustainability

The HRM function is needed as a core partner in organizational ES efforts from several angles. First, HRM possesses expertise on effective strategy implementation. Organizational ES efforts typically begin with development of a sustainability vision and strategy; enacting these requires changing work processes and behavior through training, organizational development, talent management, and the like, the basic competencies of HRM (Cohen, 2010). Second, both internal and external social systems are key targets of ES efforts. HRM possesses social management tools effective for mobilizing employee energy and coordinated

action in the participatory process of working toward ES. Whether engendering employee engagement and innovation or designing and consulting how to maintain effective relations with external stakeholders, an organization's social systems remain their key resource, and often their biggest roadblock, to realizing their ES goals. Finally, the centrality of the HRM function ideally positions it for strong leadership and design roles in ES, as HRM is the one function that impacts employees in all other organizational functions (Eisenstat, 1996). Thus, we position the HRM function as a key player in realizing organizational ES strategy.

Unfortunately, the HRM profession as a whole has not sufficiently stepped up to assume a proactive role in ES initiatives, for in most organizations the HRM function neither designs nor leads them (DuBois & DuBois, 2010). The minority of companies studied by Wirtenberg, Harmon, Russell, and Fairfield (2007) had HRM leaders who approached sustainability proactively, and in some companies they were simply not involved. Egri and Hornal (2002) found low levels of diffusion of environmentally related HRM practices in manufacturing firms. Thus, the HRM function typically plays support roles or is completely out of the loop, evidence that the HRM profession has not yet embraced its proactive design and leadership roles in embedding ES.

In fact, the Society for Human Resource Management (SHRM), the world's largest support organization for HRM professionals, provides minimal information on its website regarding the issue of sustainability in organizations, much less the role of HRM in ES. To their credit, they recently published *Advancing Sustainability: HR's Role* (SHRM, 2011), a report summarizing the results of a survey on HRM and sustainability jointly undertaken by SHRM, BSR, and Aurosoorya. Thirty-six percent of respondents reported that their senior management team was primarily responsible for creating their organization's sustainability strategy (ideally HRM was represented in those senior management teams). Fifty-one percent reported that the senior management team also had

primary responsibility for implementing the sustainability strategy, but only 25 percent reported that the HR department had this responsibility.

Textbooks used to prepare undergraduate and graduate students for careers in HRM now usually mention sustainability but give little attention to the essential roles of the HRM function in sustainability implementation, particularly with regard to embedding ES. Many HRM professionals and researchers have an industrial-organizational [I/O] psychology background; Aguinis (2010) suggested that I/O psychologists have given little attention to the issue of organizational responsibility because I/O psychologists focus primarily at the level of the individual and on internal organizational issues, whereas the focus of organizational sustainability to date has been primarily at the organizational level of analysis and concerning external issues. While this may be true, the call for HRM professionals to become "business people" (Ulrich & Brockbank, 2005) mandates development of capabilities at the organizational level and an awareness of the external environment, as well as stakeholder relationships and issues.

The lack of HR involvement represents a significant missed opportunity for HRM (Wirtenberg et al., 2007). The design of HRM systems can either facilitate or frustrate employee efforts to enact organizational ES goals. Aguinis (2010) proposed that "I/O psychology researchers and practitioners are in a unique position to create and disseminate knowledge on how to best implement SRM [strategic responsibility management]" (p. 866). Toward this end, we introduce a model of strategic HRM that highlights the importance of HRM as a design architect for successful implementation of organizational ES strategy.

Strategic HRM

As the strategic roles played by HRM expanded over the past few decades and organizational leaders increased expectations that the HRM function should provide value to the firm, the stature of the HRM profession grew considerably (Eisenstat, 1996; Schuler & Jackson, 2005). Correspondingly, the literature on strategic HRM grew to cover sizeable territory. Wright and McMahan (1992) applied a range of theoretical frameworks to strategic HRM. A stream of research produced four major research perspectives on strategic HRM: universalistic, contingent, configurational, and contextual (Martin-Alcazar, Romero-Fernandez, & Sanchez-Gardey, 2005).

These perspectives broadened in scope as they accounted for an expanded range of complexities and addressed the alignment of HR practices (Schuler & Jackson, 1987), both vertical (consistent with organizational strategy) and horizontal (across practices). They highlight the role of best practices (Pfeffer, 1998), organization strategy (Lengnick-Hall & Lengnick-Hall, 1988), the environment within which the organization functions (Jackson & Schuler, 1995), cultural context (Brewster & Bournois, 1991), and the global environment and stakeholder satisfaction (Schuler & Jackson, 2005). Each of these strategic HRM models offers a distinctive and valuable perspective to guide research and practice. As such, identification of a singular, overarching/best view of strategic HRM is neither relevant nor necessary.

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A Contextual Model of Strategic HRM for Environmental Sustainability

Our model of strategic HRM for ES is informed by this prior work and incorporates many of the elements of "greening strategic HRM scholarship" discussed by Jackson and Seo (2010), such as the basic assumptions underlying strategic HRM and using the HRM system to promote change. Ehnert (2009) offers a very useful sustainable HRM model that addresses a generalized notion of sustainability and emphasizes the desired effects of HRM at the individual, organizational, and

social levels. We sought to design a strategic HRM model that could not only address the unique HRM challenges set forth by ES, but could also:

- clarify pressures in the business environment that make ES initiatives imperative;
- highlight the transformational role of the HRM function in embedding ES deeply into the organization;
- emphasize the role of design in creating HRM systems that can support and guide the implementation of ES changes throughout an organization;
- address issues of vertical and horizontal alignment of HRM practices;
  - serve as a useful framework to identify relevant research to generate progress; and
  - engender useful collaborations between scientific and practice communities.

We display our model of strategic HRM for ES in Figure 1. Our model was inspired by Schuler and Jackson's (2005) strategic HRM model, which recognized business context drivers, the organization, HRM policies and practices, and stakeholder interests. Our model blends stakeholder interests into context drivers, and frames them from a natural environment perspective. They are represented as the three contextual trends that are currently redefining how organizations create sustainable value, as identified by Laszlo and Zhexembayeva (2011). Our representation of the organizational environment is much like that in the Schuler and Jackson (2005) model, with slightly different subcategories. Our representation of HRM recognizes the distinction between transformational and traditional/transactional HRM (Carrig, 1997) and is also delineated by policy/system design and implementation.

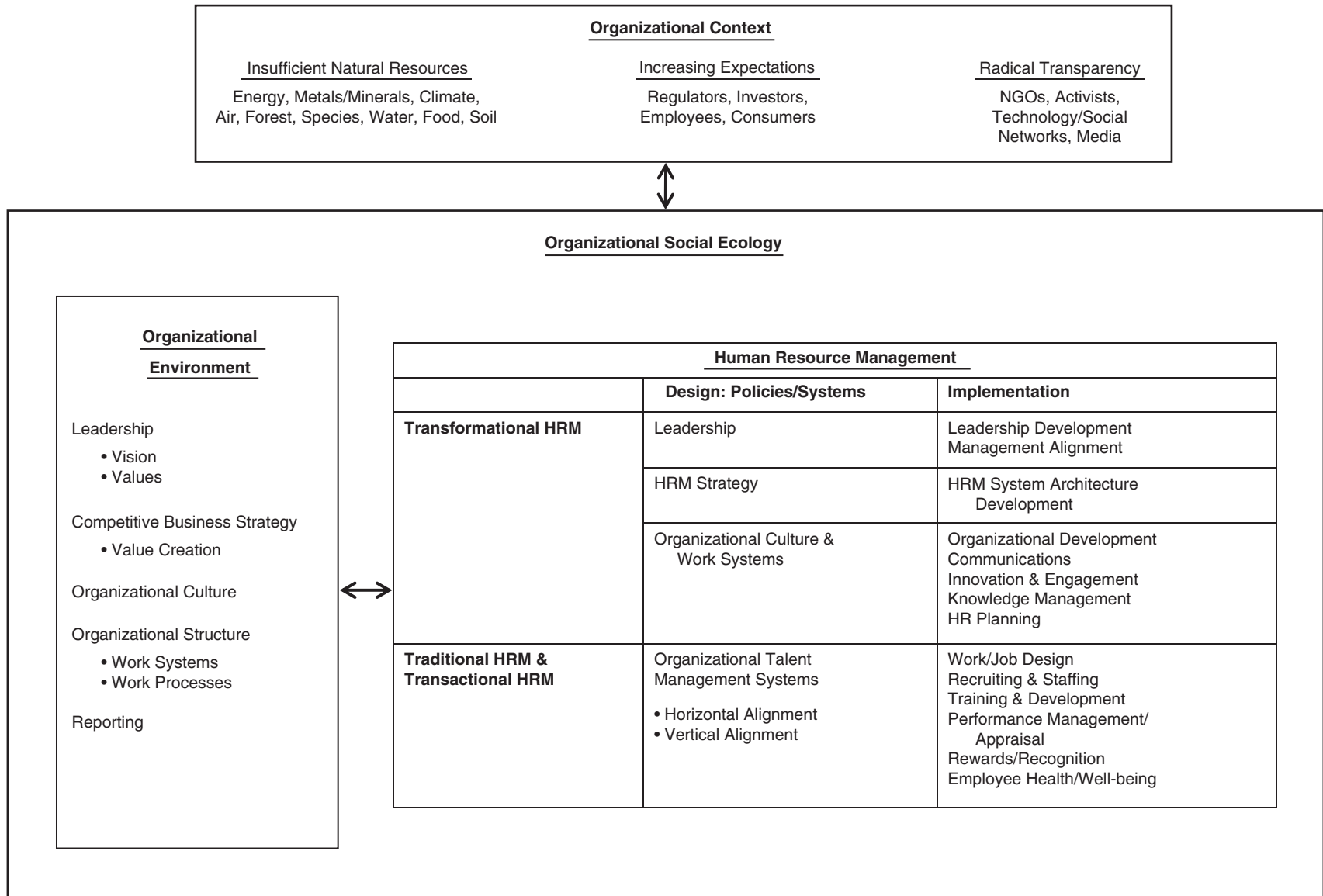Finally, the arrows connecting the boxes recognize the reciprocal nature of relationships between HRM and the organization, and between the organization and the context drivers and stakeholders; the arrows reflect that everything in the model is part of a whole system in which any one element can influence another. For example, an organization's processes might create negative environmental impacts, which draw pressures from stakeholders who use media to make this information public. The resulting pressures to change organizational processes demand changes within the organizational environment, such as new strategy and culture, which require implementation support from the HRM function. If the HRM function fails to formalize changes in HRM systems (job descriptions, training, performance accountabilities, etc.), employee actions can impede desired organizational change and the stream of negative impacts to the environment continues. The most significant progress occurs when elements in the whole system align toward common goals; breakdowns can occur at any point in the whole system and are felt at other points within the system.

Organizational Context

Our model highlights three context drivers that pressure organizations toward ES: insufficient natural resources, increasing pressures from stakeholder groups, and radical transparency.

Insufficient Natural Resources

Although Laszlo and Zhexembayeva (2011) designated the first trend as declining resources, we represent this trend as insufficient natural resources to recognize the relationship of supply and demand. For example, our supply of water is declining from overuse; the availability of clean water is increasingly insufficient to support our growing populations and the full range of life forms within our natural bodies of water. Industry creates 300–500 million tons of heavy metals, solvents, toxic sludge, and other wastes each year, and accounts for 59

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Organizational Context

Insufficient Natural Resources	Increasing Expectations	Radical Transparency
Energy, Metals/Minerals, Climate, Air, Forest, Species, Water, Food, Soil	Regulators, Investors, Employees, Consumers	NGOs, Activists, Technology/Social Networks, Media

Organizational Social Ecology

Organizational Environment

Leadership
- Vision
- Values

Competitive Business Strategy
- Value Creation

Organizational Culture

Organizational Structure
- Work Systems
- Work Processes

Reporting

Human Resource Management

	Design: Policies/Systems	Implementation
Transformational HRM	Leadership	Leadership Development Management Alignment
	HRM Strategy	HRM System Architecture Development
	Organizational Culture & Work Systems	Organizational Development Communications Innovation & Engagement Knowledge Management HR Planning
Traditional HRM & Transactional HRM	Organizational Talent Management Systems • Horizontal Alignment • Vertical Alignment	Work/Job Design Recruiting & Staffing Training & Development Performance Management/ Appraisal Rewards/Recognition Employee Health/Well-being

Model inspired by Schuler and Jackson (2005) and Laszlo and Zhexembayeva (2011).

FIGURE 1. A Contextual Model of SHRM for Organizational Sustainability

percent of water use in high-income countries (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2011). The interactive effects of declining water quality and climate change compound concerns. For example, climate change–related rising water levels from glacial melt and sudden storms, as well as falling water levels from drought, further threaten usable water supplies for organizations and their employees.

Earlier we discussed the energy-related pressures organizations are currently feeling. Under any energy supply scenario going forward, major changes will be required of organizations and individuals to adapt to the changing energy supply markets. While not so dramatic, similar demand and supply challenges exist for a wide range of other commodities that impact the business context for all organizations. For example, high-tech companies rely on rare earth metals, and China controls 95 percent of the global rare earth output (Yap, 2011). This allows China to manipulate availability and prices of these valuable inputs, which creates uncertainty for organizations that depend upon their supply. Figure 1 lists the additional insufficient natural resources of air, forests, species, food, and soil, which space here does not allow us to explore.

Increasing Pressures From Stakeholder Groups

Our model lists four major stakeholder groups: regulators, investors, employees, and consumers. Governments have regulated natural resource pollutants for some time (US EPA, 2011c), and cap-and-trade regulation of carbon is increasingly discussed and exists in a few countries (US EPA, 2011d). Whereas this forces some organizations to enact modifications to meet compliance levels, other organizations choose to set and meet goals that exceed enforced standards. Even industry has lent its support to legislation in response to investor interests, such as state regulation for the hydraulic fracturing process used to obtain natural gas (Lubber, 2011).

Some research indicates that the majority of workers prefer to work for an organization that pursues environmentally sustainable practices (Corporate Express, 2007). Growing demand by consumers for environmentally friendly processes and products, particularly among younger and higher-educated groups, is also driving organizational awareness of ES (Murray, 2011). Together, the growing awareness regarding the importance of ES among this array of formal and informal groups provides powerful incentives for organizations to mobilize efforts toward ES.

Radical Transparency

Our model lists four means through which information regarding the impact of organizations on the natural environment is made public. A host of nongovernmental organizations, such as CERES, Sierra Club, Worldwatch Institute, and WWF, as well as environmental activists, serve as watchdogs and whistleblowers to make organization environmental misdeeds public knowledge, making it increasingly difficult for organizations to carry out environmental degradation in secret. Their communications, often with graphic details of abuses, travel quickly with the aid of pervasive global communication technologies, media, and social networks, through which they can reach millions of people all over the world. Interestingly, once they get the attention of an organization and a corresponding commitment to ES, these same NGOs provide a very useful resource and work productively with the organization to find ways to resolve their environmental issues. For example, Nokia's 2010 Sustainability Report mentions numerous ways in which they partner with NGOs to address both environmental and social sustainability issues.

Together, this complex web of pressures provides both motivators for organizations

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to embrace ES and punishments for avoiding it. Increasingly, organizations can gain customers, investors, employees, and the good will of governmental and nongovernmental bodies for decreasing and even reversing the damage they do to the environment, all of which support organizational success. This reciprocal relationship is represented in the two-way arrow between the context driver/stakeholder box and the organizational ecology box in our model.

Organizational Social Ecology

The two aspects of the organizational and social ecology highlighted in our model represent the organizational environment and HRM. The two-way arrow between these boxes reflects, once again, a potentially synergistic relationship where the organizational environment and HRM function work together to facilitate or impede the embedding of ES within an organization.

Organizational Environment

Our model features five elements that together shape what an organization does and how it functions: leadership, strategy, culture, structure, and reporting. Each of these plays a key role in embedding ES into an organization.

Leadership. We begin with leadership because the values and convictions of organizational leaders set the tone for the organization (Sims & Brinkmann, 2002). Successful ES initiatives are championed by executives who believe it is possible to do good while doing well (Mirvis, DeJongh, Googins, Quinn, & Van Velsor, 2010). Such leadership requires collaboration within an organization and between its stakeholders (Cohen, 2010). On a deeper level, globally responsible leadership also requires elements of moral authority, conviction, and character (Globally Responsible Leadership Initiative, 2008).

Although organizational leaders can initiate the ES focus, the initial motivation can also come from employees; but strong executive sponsorship and belief in the value-generating power of ES is the engine behind meaningful ES progress. For example, CEO Christopher Connor presented to his senior leadership team the need to proactively address ES issues, which led to creation of the very successful EcoVision initiative at the Sherwin Williams Company (DuBois, 2012). Alternatively, CEO Ray Anderson (2009) was asked by a group of his employees to provide his environmental vision for Interface modular carpet company, prior to his having considered ES at all. After careful thought and research, he formulated a powerful vision and has championed ES progress not only at Interface, but also for organizational ES on a global scale.

Strategy. Executives lead the process of ES strategy articulation to construct a value proposition for sustainability. The early perspective on pursuit of ES was that it simply added costs to doing business, even if the value it produced created a well-intentioned trade-off (e.g., Palmer, Oates, & Portney, 1995). For example, environmental protection regulation produces value for the public good in preserving the natural environment, but the costs of regulatory compliance can be prohibitive for organizations. Hahn, Figge, Pinske, and Preuss (2010) present an analytical framework to delineate the complexity of potential trade-offs associated with sustainability, which incorporates four levels (societal, industry, organizational, and individual) and three dimensions (outcome, temporal, and process). Indeed, the pursuit of sustainable development is a complex endeavor with potential tensions from competing demands at many levels; it is an ongoing process replete with admirable goals and messy choices.

Mirvis et al. (2010, p. 5) wrote, "A central challenge for responsible leaders is to construct a value proposition for business that enriches and aligns its relationships with shareholders and stakeholders across economic, sociopolitical, ecological, and moral spheres." Laszlo and Zhexembayeva (2011) propose seven generic strategy responses that extend beyond the pursuit of sustainability

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as trade-offs, each of which reflect/require increasing embeddedness of sustainability. These are mitigating risk; reducing energy, waste, and materials; differentiating products; entering new markets; protecting and enhancing brand; influencing industry standards; and radical innovation. Although working toward embedded ES is a cumulative process that can involve trade-offs along the way, numerous organizational examples demonstrate the capacity of organizations to create organizational success by doing good.

Organizational culture. Barney (1986) suggested that organizational culture is a source of sustained competitive advantage because it impacts an organization's effectiveness in enacting its strategic goals. Introduction of ES organizational values leads to the emergence of new norms and roles to support changes in processes and products (Starik & Carroll, 1992). Cultural artifacts such as sustainability-related slogans and rituals, and stories about sustainability impacts play an important role in developing and maintaining a culture of sustainability (Starik & Rands, 1995). CEOs can be a powerful source and transmitter of organizational culture (Davis, 1984) by communicating organizational values and priorities. Because employees often ascribe a high level of influence to leaders, leadership can shape an ES culture through articulating how ES creates a value proposition for the organization, and thereby for employees. Employees expect leaders to reflect ES in their personal actions, such as changes in their consumption patterns or participating in ES community projects sponsored by the organization. They also expect leaders to back up their words with resources (Reed, 2002), which are often captured by changes to organizational structure and work processes.

Organizational structure. Organizations formalize their commitment to ES through designating people to lead the ES mission.

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Procter & Gamble (P&G) chose to create a broadly representative sustainability leadership council composed of representatives from their Global Business Units, market development organizations (regions), and corporate functions (White, 2009). This team leads efforts to embed sustainability throughout the organization, and a designated leader for each region is accountable for development and delivery of their sustainability strategy. In contrast, organizations that limit ES efforts to a particular part of the organization or a subset of employees reflect a "bolted-on" approach to sustainability.

Many organizations choose to hire a sustainability coordinator/manager/chief sustainability officer to lead and guide sustainability-related activity throughout the organization. The degree to which these professionals are provided with a support staff and budget signals to employees the ES priorities of organizational leaders. These professionals often have technical backgrounds related to energy and building management, as they are hired to create savings in those areas. Yet a recent study by the International Society of Sustainability Professionals (Willard et al., 2010) demonstrated that these employees deem soft skills to be of more importance than hard skills, because so much of their work is communication and influence creation. As such, they have a great deal to gain from partnering with the HRM function.

An organization's structure influences the work systems it supports. For example, the culture of innovation that is frequently inspired by sustainability initiatives can benefit from greater flexibility in work systems and processes or increased employee empowerment (Ramus & Steger, 2000). Rethinking work flows and work systems from a whole-systems perspective might reveal ways to save energy or create less waste. Thus, from one perspective leadership might need to attend to the design of the organization and its work systems; from another perspective, leadership might need to empower employees to make adjustments as needed and get out of the way.

Reporting. Organizations have long created reports to shareholders, and more recently they have added a range of sustainability reporting. Most Fortune 500 firms feature sustainability on their corporate websites, listing goals, initiatives, and accomplishments. Many firms also include in their websites inspiring and informative video segments that feature their employees and sometimes their supply-chain partners. Organizations may choose among a variety of sustainability reporting structures, such as the Global Reporting Initiative (GRI), ISO26000, and the Organisation for Economic Co-operation and Development Guidelines for Multinational Enterprises (Skibola, 2011), or they might just create their own format. The key purpose of reporting is to create transparency of organizational sustainability actions. As might be expected, some of these formats do not require reporting of anything other than positive progress, which is one motivator for not using a standard system and can lead to greenwashing. The GRI system requires reporting in particular areas (GRI, 2011), and organizations using this format regularly report both successes and failures. Increased transparency leads to increased trust in organizational ES commitment.

Parallel to these organizational elements of leadership, strategy, culture/structure, and reporting are systems and processes within the HRM function. We now explicate the final portion of our strategic HRM for ES model.

Human Resource Management

Bowen and Ostroff (2005) introduced the concept of HRM system strength as a mediating variable in the HRM–firm performance relationship. Their work draws from the contingency perspective of strategic HRM (e.g., an innovation strategy requires HRM practices that support innovation; Schuler & Jackson, 1987) and from the work on the influence of situational strength on individual action (Mischel, 1977). In the case of ES, HRM systems that are distinctively and consistently aligned to clarify and support organizational ES goals could create a strong situation that induces consensus and conformity among employees to align their actions with organizational ES goals. In this manner, HRM systems can play a powerful role in embedding ES throughout an organization.

The larger 2×2 structure of the HRM box in our model differentiates transformational HRM from traditional/transactional HRM (Carrig, 1997), and recognizes both design and implementation stages of HRM policies and systems. This structure communicates two key points. First, we suggest that HRM can play a more impactful role in embedding sustainability when positioned and staffed to strongly carry out transformational HRM. Second, we suggest that design work at a whole-systems level is necessary to appropriately plan for the desired effects of HRM systems, and to ensure vertical and horizontal alignment when implemented. Because the full array of HRM functions take on new meaning when ES concerns are added to economic concerns (Cohen, 2010), HRM system design merits increased consideration because it requires a broader perspective than it did when the sole focus was economic success and the HRM function maintained its interest in employee well-being at a stealth level.

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Transformational HRM. Transformational HRM includes activities that address the organizational system as a whole. These include providing HRM leadership and supporting organizational leadership development, articulating HRM strategy to support organizational strategy, and overseeing organizational culture and work systems. Each of these contributes meaningfully to the process of embedding sustainability.

Leadership. Of the five key HRM competencies identified by Ulrich, Brockbank, Johnson, Sandholtz, and Younger (2008), the greatest impact comes from being a "credible activist" who steps forward and advocates their position. When positioned as a strategic player in the organization, HRM

has more impact in realizing an organization's sustainability strategy (Wirtenberg et al., 2007). This is the case at the Sherwin Williams Company, where the senior VP of HR has jointly led EcoVision with the senior VP of operations excellence (DuBois, 2012), and has been able to play the key role of change agent in creating an organizational culture permeated by ES and the innovative spirit necessary to support ES. Several types of special groups were created to address ES challenges and opportunities, and serve as springboards for employee engagement and needed changes to work systems. Communications from HR strengthen and validate the ES culture and opportunities.

The HRM–line manager partnership can be highly influential in embedding sustainability throughout all levels of an organization, because both parties provide means through which employees can connect with the goals articulated by organizational leaders.

HRM leadership is also needed in working with line managers to ensure that they are on board with the ES direction, prepared to support employees in making necessary changes (Colbert & Kurucz, 2007) and communicate consistent messages to their employees. Ramus and Steger (2000) found that employees were more likely to initiate environmental innovation if they perceived supervisory support for environmental innovation, which reflects that the daily communications of managers and supervisors significantly impact employee thinking, motivation, and behavior.

The HRM–line manager partnership can be highly influential in embedding sustainability throughout all levels of an organization, because both parties provide means through which employees can connect with the goals articulated by organizational leaders (DuBois, DuBois, & Astakhova, 2011). The nature of the HRM–line manager partnership is reciprocal: line managers need the HRM function to create efficient and effective systems that they can use in the hiring, training, performance appraisal, and so on of their employees; the HRM function relies on managerial input to facilitate creating effective HRM systems, as well as on the appropriate implementation of HRM systems as designed to avoid disgruntled employees, lawsuits, and the like.

HRM strategy. Ehnert's (2009) sustainable HRM model recognizes the reciprocal relationship between organizational strategy and HRM strategy. A strategic approach to HRM, in which a set of consistent HRM systems is aligned with organizational strategy, contributes to organizational performance (Huselid, Jackson, & Schuler, 1997; Wright, Gardner, Moynihan, & Allen, 2005). Ehnert (2009) also recognizes that employees can influence organizational strategy, in that they offer their convictions and capacity to help shape organizational capacity. Further, employees are both part of the organization's internal systems and part of the external context in which the organization functions, for employees belong to social groups and NGOs who might exert influence on the organization. This is reflected in our model with employees as a stakeholder group.

The complexity of these relationships demands attention to the design of the HRM system architecture as a whole, such that the functional systems of recruiting, selection, performance appraisal, and compensation appropriately reflect organizational ES strategy. Additionally, functional HRM systems that fit together to consistently reinforce ES goal accomplishment can avoid creating "the folly of rewarding A while hoping for B" (Kerr, 1975).

Organization culture and work systems. Cultural steward is another of the key HRM competencies identified by Ulrich et al. (2008), for the HRM function often serves as an architect of organizational design and change (Ulrich & Beatty, 2001). As such, the HRM function has a key role in marshaling ES-related organizational culture changes.

Ultimately, organizations change when the individuals within it believe, think, and behave differently. Training sessions are frequently used by organizations to communicate new ES goals and values. But changing an individual's core beliefs and values is

not an easy task (Hellervik, Hazucha, & Schneider, 1992) and goes well beyond providing a cognitive rationale. Commitment to change requires engaging emotions through appeals to human values, desires, and identities (Poole, 2004) that underlie paradigms. The dominant social paradigm with the beginning of the industrial revolution held that nature and the natural resources it provided as organizational inputs were limitless. Yet we are increasingly faced with the reality that the natural world is a closed system, a common pool of resources accompanied by the notion of scarcity (Ehrenfeld, 1997). Those employees who hold strong environmental values will enthusiastically embrace an ES culture, whereas resistance may come from those employees for whom ES values potentially collide with their economic, political, or religious beliefs (Dunlap, 2008; Pew Research Center, 2009). Thus, as organizations face the challenge of creating a paradigm shift among their workers, their framing of the organization's ES rationale becomes particularly significant. Making a clear business case for ES is important because employees are more likely to be committed to an organizational change when they find it congruent with the organization's mission (Choi, 2011).

Recent research has highlighted the influence of organizational subcultures on embracing a sustainability culture change (Linnenluecke & Griffiths, 2010). Linnenluecke, Russell, and Griffiths (2007) found that employee understanding of corporate sustainability was greatest in subcultures that were high in both flexibility and a focus on external dynamics. Subcultures might also be shaped by employees' social norms and relationships. For example, if employees in a close-knit workgroup hold similar beliefs and values with regard to the environment, their social norms might facilitate or create resistance to ES culture change. Consistency of culture change efforts throughout an organization are needed to inspire uniform change that is taken seriously by stakeholders. HRM professionals can benefit from recognizing that the culture change process might not occur uniformly across the organization, and adjust accordingly.

Organizational development. Fairmount Minerals chose to address the climate-change issue head-on, openly recognizing the role of fossil fuel consumption in climate change and incorporating it into their sustainability shift. They facilitated the speed and depth of their culture shift through immersing employees in the issue. The CEO has led the way with very clear messages regarding the importance of sustainability, as reflected in the company's website where the home page is dominated by the words "People, Planet, Prosperity" and "Do Good, Do Well" (Fairmount Minerals, 2011). All employees participated in an organizational development (OD) process of appreciative inquiry (Cooperrider & Whitney, 2005), which allowed them to express their sustainability-related ideas and concerns, and feel included in the process of articulating sustainability-related organizational goals and values. This was followed up with a host of consistent HRM initiatives, such as environmental education training for all employees, creating habitat teams at all locations, and recognizing employee ES efforts through employee awards and recognition programs (Fairmount Minerals, 2008). Stanford University Medical Center also employs an ongoing OD effort to transform their culture at a deep level (SHRM, 2011).

Making a clear business case for ES is important because employees are more likely to be committed to an organizational change when they find it congruent with the organization's mission.

The HR director for a multinational firm kicked off its ES culture change process with an OD intervention for company executives only, as their massive workforce prohibited a formal OD effort that could include everyone (confidential personal communication). The intervention provided a transformational experience for the executives, who returned to their locations ready to involve employees in the organization's sustainability efforts. The executives provided opportunities for the "true

believers"—those employees who were most excited about the company's sustainability focus—and leveraged their enthusiasm and accomplishments to pave the way for other employees to follow. From a diffusion of innovation perspective (Rogers, (2003), the "true believers" reflect the innovators whose values, attitudes, and actions provide valuable peer leadership for fellow employees, who follow along in successive waves.

Communication. Culture change requires carefully crafted communication regarding new organizational values and direction, both to internal and external constituents. Leadership necessary to achieve sustainable excellence also requires careful listening, especially to diverse voices (Cramer & Karabell, 2010). Communication that flows upward allows employee ideas on how to alter work processes to support ES to reach those with the authority to approve necessary changes. For example, at the Sherwin Williams Company, even though there are several communication processes in place to specifically support ES goals (a task force, forum groups, and a web-based suggestion system), employees often go right to the CEO with their suggestions (DuBois, 2012). SAP employs the use of social networks to facilitate ES-related communication that reaches the hearts and minds of employees (SHRM, 2011).

Innovation and engagement. The importance of innovation in driving changes that support organizational ES initiatives is highlighted throughout the sustainability literature (e.g., Cramer & Karabell, 2010; Ramus & Steger, 2000). For example, 3M's Pollution Prevention Pays (3P) program, implemented in 1975, has paved the way for 4,750 employee innovation projects that prevented the generation of 1.7 billion pounds of pollution and collectively saved $850 million in the first year of implementation (Reed, 2002). This spirit of innovation has long been a part of 3M

Culture change requires a host of carefully crafted communications regarding new organizational values and direction, both to internal and external constituents.

culture, as evidenced by the unwritten rule that allows engineers to spend 15 percent of their work time pursuing projects of their own interest (Kretkowski, 1998). Clearly this flexibility has facilitated progress in their 3P program.

The role of HRM systems in supporting innovation has been well specified (Cook & Saini, 2010) and involves the full array of transformational and traditional HRM systems. The primary barriers to innovation reside in the organization's social system, reflected by poor division of labor and interfunctional teamwork, the presence of norms/values that limit people's ability to change, top-down leadership and poor vertical communication, inadequate management skills, problematic power configuration, and a linear/formal process of decision making regarding innovation (Boonstra & Vink, 1996). On the other hand, managerial behaviors that increase employee self-efficacy also build employee creativity (Redmond, Mumford, & Teach, 1993), and a democratic and considerate managerial process fosters open communication that positively influences employee creativity (Kimberley & Evanisko, 1981). This highlights the importance of line management in supporting ES innovation, and the value of their partnership with HRM to create desired results.

The Internet is replete with suggestions on how to engage employees in sustainability, for worker participation is essential to organizational ES initiatives (Florida, 1996). Management support for employee participation and collaboration, along with employee capacity to act on their knowledge, facilitates engagement. Engaged employees are fully involved in and enthusiastic about their work and they are proud of their company, which results in improved business unit performance (Harter, Schmidt, & Hayes, 2002). Engaging employees in ES can generate enthusiasm and positive emotion; it can provide a larger purpose with which employees can connect. At Fairmount Minerals, which offers numerous ways for employees to engage in ES, employees openly express that the company's

sustainability focus is meaningful to them and that it binds them to the organization.

Knowledge management. Recognition of the importance of organizational knowledge management has exploded in the past two decades. Chen and Huang (2009) demonstrated a positive relationship between strategic human resource practices and knowledge management capacity, which, in turn, positively impacts organizational administrative and technical innovation performance. Also important are findings indicating that opportunities for employees to exchange knowledge in an atmosphere of trust are necessary for knowledge creation (Nahapiet & Ghoshal, 1998) and subsequent innovation. The Sherwin Williams Company provides its employees worldwide with an information system through which they can share ES innovation and progress information (DuBois, 2012), which provides an effective means to communicate ES innovations across locations; this both motivates employees and pushes ES efforts forward.

HR planning. Needs analysis can play an important role in the organizational learning process that is part of the organizational ES journey (Jackson & Seo, 2010). State-of-the-art HRM functions regularly engage in HR planning processes that consider organizational human capital needs for the organization as a whole. This systems view of talent supply and future talent needs, given the potential range of organizational transformation required by a commitment to ES, becomes increasingly important. Salient HR planning tasks might include identifying which jobs are positioned to be key contributors to ES efforts, how temporary ES task groups might be deployed, which employees have ES-related competencies, how workflows and processes might change to decrease resource impacts, and so on. HR planning lays the foundation for designing the array of traditional HRM system changes needed to embed ES within the organization.

Traditional and Transactional HRM

Successful change programs that bring about significant improvement require the use of multiple change levers (Macy & Izumi, 1993) and implementation of congruent changes across an array of organizational practices (Robertson, Roberts, & Porras, 1993). Thus, organizational change methods also include traditional HRM functions, such as the socialization of new employees, employee training, daily performance management, and messages communicated about the organizational change. Although traditional and transactional HRM practices differ in meaningful ways (Carrig, 1997), in the context of our model, it is not necessary to distinguish them from one another.

Another key HRM competency identified by Ulrich et al. (2008) is talent management. Although the term "talent management" lacks a consistent definition and conceptual framework, we use it to represent the array of traditional/transactional HRM functions in our model. Organizational success is linked to the talent it can access and utilize; thus talent management has become increasingly important to managing human resources from a strategic perspective. As such, we emphasize that in the context of ES strategy, the full array of traditional HRM systems can be approached with an eye to organizational transformation. Of particular importance are vertical system alignment with the organization's ES strategy and horizontal alignment across all HRM functional systems to maximize system synergies, which require that HRM professionals hone their competencies as design architects and give careful consideration to alignment when designing talent management systems.

Work/job design. ES-related empowerment for innovation might bring about changes to work tasks and workflow. Many companies use task forces to identify work processes and behaviors that can be changed. Ones and Dilchert (2010) identified a taxonomy of "green behaviors" that includes the five dimensions of working sustainably, avoiding harm, conserving, influencing others, and taking initiative. Their

Engaging employees in ES can generate enthusiasm and positive emotion; it can provide a larger purpose with which employees can connect.

critical incidents study identified both behaviors that supported ES and behaviors that created ES problems. Interestingly, 25 percent of reported negative behaviors were required of employees by their organizations. HRM professionals can use this taxonomy in working with employees to formalize into work design those behaviors that positively impact ES, and find ways to redesign jobs and processes to eliminate behaviors that negatively impact ES.

Recruiting and staffing. An organizational ES strategy can be an asset when recruiting new employees. Disseminating information about the organization's sustainability focus during recruiting can attract high-quality recruits (Albinger & Freeman, 2000) as well as contribute to "organizational branding" (Wirtenberg et al., 2007). Other ES angles on recruiting include replacing costly printed materials with technology, providing electronic records, and attracting technology and sustainability-savvy recruits. HR professionals might consider carefully the talent needs presented by the organization's ES strategy, identify competencies currently lacking in the organization's talent pool that could spur innovation and initiative, and build a pivotal talent pool that possesses requisite capabilities to support ES-related changes in the organization's work (Boudreau & Ramstad, 2005). Further, it would be wise to identify those jobs that might play more critical roles in implementing the ES strategy, perhaps some of the technical positions or HR positions with transformational responsibilities, and ensure that those positions are filled with top candidates.

Training and development. Training plays a significant role in embedding ES because all organization members need to understand what sustainability means generally, as well as how it fits the organization's strategy, and even what's in it for the employees (Aguinis, 2010). Beyond culture change–related training, employees might need to acquire basic "ecological competence," incorporating interdisciplinary scientific knowledge. For example, Burt's Bees' The Greater Good initiative requires employees to spend up to 30 hours a year in training that addresses environmental stewardship, social outreach, natural wellness, and leadership; employees learn about energy and water conservation, change management, and the health properties of the honeybee (Beavis, 2011). Employees might also need technical training to support sustainability-related changes in their work processes and accountabilities (Prindle, 2010). Organizations that empower employees to eco-innovate might benefit from augmenting their training because increased training is positively related to increased innovation (Laursen & Foss, 2003). Acquisition of goal setting and communication skills to manage change processes (Boonstra & Vink, 1996) might also facilitate ES progress.

Performance management and appraisal. ES progress emerges from the cumulative daily efforts of employees, which highlights the importance of effective performance management and support for ES from line management. Articulating goals and holding employees accountable for their accomplishment is a tried-and-true method of motivation (Locke & Latham, 2002). Thus, many companies, such as UPS (2009), use performance targets and goals for relevant employees and workgroups, and follow through by holding them accountable for goal accomplishment.

Rewards and recognition. ES performance goal accomplishment can result in rewards or recognition. Milliman and Clair (1996) concluded that the use of rewards and recognition to motivate ES performance was positively related to increased innovation. Although Egri and Hornal (2002) found that the majority of companies in their sample did not use financial rewards for employee environmental contributions, nonfinancial rewards are widely used. For example, Fairmount Minerals (2008) recognizes individual employees by

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annually awarding Sustainable Development Employee of the Year distinctions and the Bill Conway Founders Award for sustainability-related service in the community, and GE (2010) recognizes with awards its facilities that decreased greenhouse gas emission by at least 5 percent over the baseline year.

Employee health and well-being. Schein (1973) made a bid for the consideration of the whole person within the larger complex systems of structure and process within organizations. This is particularly salient in an organization with an ES focus, for each employee represents an ecological system within the organization ecology, with needs regarding safety, health, and well-being. Exposures to toxic substances and environments are key elements of ES programs. For example, at 3M their ES initiatives are closely entwined with their environmental health and safety system (Reed, 2002).

HRM Summary

Table I provides a lengthy list of a wide array of HRM functions for which design and implementation are required to support ES initiatives. This list was created by incorporating ideas from numerous articles and discussions with experts in organizational sustainability. This list is far from completely comprehensive but it contains a representative list of ways in which HRM systems can support ES. It provides a good starting point for HRM professionals new to ES, as well as for consultants. Notably, the list incorporates, but extends well beyond, Pfeffer's (1998) list of seven best HR practices. It also reflects that organizational members comprise a resource to be developed and utilized wisely.

Discussion

Considered Choices

In formulating their ES strategy as part of their larger sustainability strategy, organizational leaders make choices that define the scope of their ES goals. This becomes a potentially complex web, as economic, social, and environmental goals interact and vie for attention. As noted earlier, an organization can choose a partial approach that "bolts on" one or more pieces of ES, such as a focus limited to energy usage and savings. This would allow an organization a more convenient entrée into the sustainability arena that is simpler to implement and accommodates a more convenient subset of win-win choices (e.g., purchasing energy-efficient equipment that offers quick payback) and avoids dealing with choices that involve trade-offs and potential conflicts (e.g., longer-term equipment and training investments and changes to work processes). However, stakeholders will notice gaps produced by lower levels of commitment, and the organization's efforts might be perceived as "greenwashing."

At the other extreme, an organization can choose to fully embed sustainability in its core, which demands a truly transformative organizational change process. It also forces the organization to directly address challenging issues like climate change and reframe how they do business. Laszlo and Zhexembayeva (2011) provide examples of numerous ways in which sustainability can embed into business strategy. Kim and Mauborgne (2005) introduced the notion of a blue ocean strategy where the organization creates a new market space by addressing stakeholder needs that have not yet been addressed. For example, GE (2011) uses design thinking (Brown & Wyatt, 2010) to create new products that meet current and emerging needs, such as the GE WattStation for charging electric cars, which can be installed in a home or public area. But true embeddedness is reflected by GE and other companies that design products and services for a whole new set of customers: the 2.5 billion people in the world who live on less than $2.50 a day. These products and services address global sustainability on many levels, not only

> *An organization can choose a partial approach that "bolts on" one or more pieces of ES, such as a focus limited to energy usage and savings.*

T A B L E I	HRM Actions to Support Embedding Environmental Sustainability Deeply Into an Organization
Transformational HRM: Create a paradigm shift for all organizational members	
HR Functional Area	*HR Actions*
Leadership	
Leadership Development	Develop leadership competencies in strategic planning, communication, and creating change.
	Train leaders in external organizational conditions that create the need for an organizational ES focus.
	Assist leadership in connecting with employees regarding ES.
Line Management Alignment	Help managers grasp the business rationale for ES.
	Ensure that managers have clearly articulated, measureable ES goals and are held accountable for goal accomplishment.
	Ensure that managers understand the impacts of ES on work design, needed KSAOs, and performance management.
	Ensure that managers provide employees access to ES-related training.
	Help managers to be good ES role models: espouse/enact organizational ES-related values.
	Provide training for managers in how to listen and respond effectively to employee ES-related ideas and concerns.
	Assess innovation competencies of current management team; fill gaps.
	Identify/create communication channels between employees and managers regarding ES issues.
	Provide support to line managers in addressing the job and KSAO-related needs necessary for ES goal accomplishment.
HRM Strategy	
Organization Strategy Participation	Senior HR executive participation in organizational strategy sessions: • Identify internal/external stakeholders. • Define the business case for ES for the organization. • Design organizational ES strategy/goals. • Design plans to embed ES into the organization.
	Drive dialogue on ES among senior executives and managers.
HRM System Architecture Development	Vertically align HR strategy with organizational ES strategy and lay out a whole system plan for HRM system horizontal alignment.
	Seek new ways to create ES-related synergies across functional areas and organizational HRM systems.
Organizational Culture and Work Systems	
Organizational Development	Create a common language and understanding of ES among all organizational members, as well as symbols and stories.
	Create ES/innovation/engagement values and norms.
	Manage change processes throughout the organization.
	Create a culture of continuous improvement (ES is a long-term goal; value the steps of progress and work toward the goal).

T A B L E I	HRM Actions to Support Embedding Environmental Sustainability Deeply Into an Organization (continued)

Transformational HRM: Create a paradigm shift for all organizational members

HR Functional Area	HR Actions
Communication	Develop communications across the organization about sustainability.
	Seek out and publicize employee successes related to sustainability.
	Develop sustainability-related suggestion systems for employees, with prompt responses from management.
	Measure/report to organizational members ES-related gains.
	Develop work-based social networking support for ES initiatives.
Innovation and Engagement	Create opportunities for employees to take initiative and make a positive ES contribution through their work.
	Create opportunities for employees to connect with the organization through its ES mission.
	Use ES values and opportunities as a "social glue" to inspire employees, improve employee morale, create a sense of citizenship, and thereby increase retention.
	Create common areas for collaboration.
	Minimize enclosed spaces that proffer status.
Knowledge Management	Create systems to house and share ES-related information, ideas, and progress.
HR Planning	Create cross-functional "green teams" to provide organization-wide ES leadership; populate them with "true believers."
	Modify organizational structure to facilitate ES strategy.
	Forecast jobs and employee KSAOs needed for ES: • Determine if your organization can offer new "green jobs." • Determine how jobs might be impacted by ES initiative. • Determine the internal supply of innovation-related KSAOs.
	Determine available labor supply in needed ES jobs/KSAOs.
	Identify critical talent/jobs that contribute to ES progress.

Traditional HRM	**With an eye to transformation, ensure vertical/horizontal alignment**
Work/Job Design	Offer flexible work arrangements to reduce commuting, etc.
	Revise work processes/job descriptions to increase ES.
	Specify ES-related activities in job descriptions so they are perceived as task performance, not just as citizenship behaviors.
	Allocate appropriate time to ES-related activities so that they can be completed and don't create work overload.
	Arrange space/bins to make recycling easy; minimize trash receptacles.
Recruiting	Update recruiting materials to highlight organizational ES initiatives.
	Use recruiters who can sell importance of ES.

(*Continued*)

T A B L E I	HRM Actions to Support Embedding Environmental Sustainability Deeply Into an Organization (continued)
Transformational HRM: Create a paradigm shift for all organizational members	
HR Functional Area	*HR Actions*
Staffing	Target recruiting efforts to those who are open to ES.
	Implement online recruiting methods to decrease resource use.
	Build a talent pool (knowledge/skill) to support ES strategy.
	Modify selection assessments to address needed ES-related KSAOs.
	Seek new hires who will commit to ES.
	Implement online selection methods to decrease resource use.
Orientation	Build commitment to ES: why salient to the organization and work.
	Provide information about how employees access the ES suggestion system and actively contribute to ES efforts.
Training and Development	Provide clear understanding of what ES means, why it is important to the organization, and how it impacts employee work.
	Provide KSAOs necessary to support ES strategy and objectives (environmental knowledge, etc.).
	Provide opportunities to grow professionally through ES pursuits.
	Develop self-management and team skills to empower workers.
	Build communication and innovation skills.
	Infuse mentoring/career development with ES opportunities.
Performance Management	Incorporate ES-related performance into performance appraisal forms.
	Articulate sustainability-related goals/hold employees accountable.
	Measure and report sustainability-related performance.
	Provide necessary resources to support sustainability actions/changes.
	Empower employees to innovate for sustainability.
	Balance efficiency with creation of new and more sustainable processes.
Rewards and Recognition	Create incentive systems to motivate ES innovation/action.
	Create disincentives for performance that decreases ES.
	Publicly recognize excellent ES-related performance.
Employee Health and Well-Being	Involve employees in eliminating workplace toxins and unsafe conditions.
	Offer excellent health care benefits and stress support.
	Create well workplaces: attend to hand hygiene/workspace cleanliness.
	Monitor emotional/physical well-being of workforce; address ES issues.

Note: Citations for the above table include Colbert and Kurucz (2007); Egri and Hornal (2002); Ehnert (2009); Jabbour and Santos (2008); Junquera, Brio, and Ordiz (2008); Prindle (2010); Starik and Rands (1995); Wirtenberg et al. (2007).

improving the lives of underserved populations, but also addressing natural resource issues, such as environmentally friendly water and waste filtration systems and clean-burning cooking stoves.

Organizational leaders determine where the organization strategy fits into these spaces of sustainability and markets. They choose whether changes will be incremental, radical, or even disruptive (Laszlo & Zhexembayeva, 2011). These choices are made according to vision, organizational resources, and capacity, keeping in mind the economic sustainability of the organization—for if that is not carefully managed, the organization will be rendered incapable of contributing to making our world a better place. Companies set boundaries on where they will accept trade-offs, such as P&G's policy of finding ways to deliver significant sustainability improvements with no trade-offs in performance or value of its products (White, 2009). Such a policy manages risk and perhaps creates a more incremental approach to ES changes.

The bottom line from a strategic HRM perspective is that the degree to which an organization's strategy commits to ES embeddedness will largely dictate the corresponding HRM needs. Where change is partial or incremental, less leadership and system change will be required of the HRM function. Where organizational change is radical or disruptive, the demands on the HRM function can be significant. We have attempted to represent the broader extent of change in our strategic HRM model, for changes in the full array of transformational, traditional, and transactional HRM systems and practice are required for truly embedded sustainability.

Implications for Practice

As the notion of strategic HRM grew, a call went out for HRM professionals to become "businesspeople" (Ulrich & Brockbank, 2005). The profession rose in stature, fueled by an increase in graduate HRM-related degrees, professional certification, and the growing visibility and influence of SHRM.

Once again, we deliver a call to the HR profession to expand their competencies, for the next phase of HRM career development is upon us. More than ever before, the HRM professional needs to be a businessperson—understanding not only the organization itself, but also the larger context within which the organization functions. HRM professionals could benefit from understanding the state of the natural environment and social systems, as well as how they pose challenges and opportunities to their particular organizations. The full array of Ulrich et al.'s (2008) HRM competencies is needed, particularly those competencies required for transformational HRM, and those that provide the capacity to deal with larger systems issues within traditional/transactional HRM.

Organizational ES progress requires considerable communication with employees to provide knowledge and dialogue about ES-related culture changes, work changes, and innovation opportunities. A practical recommendation from those with ES experience is to bring the messages to the appropriate level of employee to avoid asking them to connect dots that they can't connect. That is, think carefully about the various employee audiences throughout the organization, and bring them closely to employee experiences. For example, when talking about water pollution issues, tie the messages to the local stream or lake they might use for fishing; when discussing air pollution, bring in relevant statistics on incidence of asthma for children in the local community. Take employees gradually from their current thinking and knowledge base to where the organization needs them to be.

Additionally, the need for "social design" skills within HRM has never been greater. In comparison to "business as usual" applications of design within HR functions, such as selection or training design, where the design goal is maximization to a narrow

The bottom line from a strategic HRM perspective is that the degree to which an organization's strategy commits to ES embeddedness will largely dictate the corresponding HRM needs.

performance criterion, a social design perspective could instead optimize systems across a broad array of contextual criteria. Part of this development work is to describe and define these more complex sets of criteria that incorporate relevant elements of the internal and external social, financial, and natural environments. Another part will include the exploration of alternative social processes to assist the design process. Given the inherent technical and social complexity of sustainability challenges, this could include, for example, the use of social design charrettes, modeled after architectural and industrial design, to develop innovative and elegant social design solutions. Also, worth examining to build out the repertoire of design ideas for application to social systems are biomimicry (Benyus, 1997) and industrial ecology.

If the HRM function is to contribute meaningfully to embedding ES, a considerable amount of training and development of HRM staff will likely be required.

In a recent casual survey of chief human resource officers by former SHRM president Sue Meisinger (2011), these officers estimated that only about 70 percent of their global HR team was well prepared to help their organization go forward. This means that nearly one-third of the HR professionals employed by these organizations lack sufficient knowledge and skills to generate value into the future. If the HRM function is to contribute meaningfully to embedding ES, a considerable amount of training and development of HRM staff will likely be required. The capacity to grasp whole-systems issues and the ability to use design thinking in generating HRM solutions are increasingly useful competencies. Ideally, SHRM will incorporate such training into its offerings and HCRI certification testing will cover relevant content.

ES provides exciting opportunities for the HRM function, and with opportunity comes responsibility. A strong HRM staff and the commitment to their professional development require organizational resources, as well as insightful leaders who are capable of understanding this and willing to provide them.

Implications for Research

Campbell, Daft, and Hulin (1982) noted that research studies focused on addressing real organizational problems have significance superior to those that are incremental extensions of previous research. Organizational ES provides opportunities for a robust stream of research, for sustainability issues by their very nature do not fit into neat boxes. Pursuit of ES forces consideration of whole-systems issues, highlighting the need to better understand how to create vertical and horizontal alignment of HRM systems. ES initiatives also provide a unique opportunity for the HRM function to work alongside other functions in an increasingly meaningful manner. As such, clear identification of the broadened competency set for HRM practitioners, as noted earlier, needs some attention. Also, a more precise understanding of transformational HRM leadership and processes would be useful. Because HRM systems need to pick up where OD processes end, development of a framework to connect these systems and processes could be very helpful to practitioners.

The persistent HRM challenge of creating and sustaining employee behavior change is relevant to the process of embedding ES. Employee training is widely used to support ES initiatives, but its impact is limited because knowledge is too often not sufficient for spurring behavior change (McKenzie-Mohr, 1999). Although a basic understanding of the role of deep-seated values, beliefs, and emotions in shaping behavior has been established, ES varies from other work-related issues because employees tend to feel more passionate about it. Some are passionate about the need to protect the environment, and others think climate change is a hoax derived for political purposes. Better understanding how to establish constructive communications and action across the full range of these two extremes would be very helpful to HRM practitioners. Cialdini, Reno, and Kallgren's (1990) work on the power of social

norms to influence behavior is highly relevant for embedding ES into organizations.

The use of community-based social marketing (McKenzie-Mohr, 1999) has been effective in communities, yet research is needed to translate these processes to the organizational environment. The number of alternative actions individuals can take to reduce environmental impacts is huge. Decisions about which actions should take priority, and where to target programs of behavior change, are limited by knowledge of the carbon impacts of behavior and the probability of behavior change for each type of behavior. Further, much additional knowledge is needed about how to generalize from specific behavior changes to the wide range of relevant behaviors. It would be useful to apply the notion of positive deviance (Spreitzer & Sonenshein, 2004) to research on ES behavior change, for there is much to be learned from studying both organizations and employees who have successfully navigated those waters.

The suggestions here comprise a small percentage of the research possibilities associated with embedding ES; we leave the designation of a comprehensive framework to another article. Furthermore, we can't yet anticipate a full research agenda, for although embedding ES is a process on which many organizations have embarked, much unknown territory lies ahead. We expect the challenges associated with embedding ES to provide a fascinating research stream for years to come.

Conclusion

Nearly two decades ago, the World Development Report declared the achievement of sustained and equitable development as the greatest challenge facing the human race (World Bank, 1992). Since then, the role of organizations as both the creator and resolver of a range of environmental and social sustainability concerns has been elaborated (e.g., Hawken, Lovins, & Lovins, 1999). Doing business in a hot, flat, and crowded world (Friedman, 2008) requires different assumptions, strategies, and operations, and creates a fascinating set of challenges and opportunities that are urgent in timing. The scope, impact, and volatility of the ES-related changes imposed by the business context put exceptional demands on organizations and their social systems. These challenges shine the spotlight on the significance of strategic HRM in leadership and social design; they provide the imperative through which the substance and stature of the HRM profession can rise to the next level.

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