

Hiring for the green economy

Employer perspectives on sustainability in the business curriculum

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green
economy

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Abstract

Purpose – The purpose of this paper is to investigate how recruiters at a college career fair perceive sustainability and the knowledge business graduates should have about it. It reports on how recruiters understand sustainability and perceive their organization's engagement and resulting expectations for new hires. The results indicate that recruiters neither understand sustainability well, nor are suitably informed of their organizations' needs with respect to this topic. Educators, as a consequence, face a dilemma of how to craft adequate educational experiences, as employer needs are not clearly expressed. The paper concludes with suggestions on how educational institutions can nevertheless proceed with offerings in sustainability education.

Design/methodology/approach – The study was performed by conducting personal, structured interviews at a college career fair.

Findings – While most respondents considered sustainability to be an important topic, there appears to be a lack of thorough understanding of sustainability. Recruiters were not overly informed about their organizations' position and efforts toward sustainability. They considered it to be important that students learn about sustainability, but preferences for educational tools were not aligned with expected depth of knowledge. This leaves educators in search of guidance on how to align educational offerings with organizational needs.

Research limitations/implications – As a pilot study, the total number of interviewed organizations was low, and therefore, the results should not be over-interpreted. The findings nevertheless point to a clear disconnect between organizations' expressed needs for adequate trained personal and their ability to define what they are looking for. These results encourage more research to develop a better link between company strategy toward sustainability, recruiter's know-how of it and concise expectations in new hires that could be mirrored in educational offerings.

Practical implications – Human resources play a critical role in providing organizations with the capabilities to become more sustainable. Organizations need to develop concise recruitment policies that better communicate what they are looking for, as well as educational programs for recruiters to ensure future hiring fulfills critical needs.

Originality/value – This paper closes a gap in the literature as it includes a thus-far ignored stakeholder group, namely recruiters; into the research on how to align organizational needs with the development of adequate educational offerings that generate future leaders and managers well-versed in sustainability.

Keywords Recruitment, Sustainability, Education, Business curriculum

Paper type Research paper



Introduction

The twenty-first century brought with it a growing consensus that corporations should include sustainability in their strategic goals. Finding a concise, generally agreed upon definition of what sustainability actually is, however, appears to be less straight forward (Haug and Talwar, 2010). One of the earliest definitions of “sustainable

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development” was provided by the World Commission on Environment and Development (WCED, 1987): “Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future”. Since then, the literature has moved from the development aspect to a broader definition of sustainability. Carter and Rogers (2008) describe sustainability as “the strategic, transparent integration and achievement of an organization’s social, environmental and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains.” Similarly, Soyka (2012) formulates sustainability as consisting of “three legs of the stool”, namely economic prosperity, environmental protection and social equity. He also notes that the phrase “people, planet, profits” is increasingly used to describe these three aspects. The Millennium Development Goals of the United Nations (UN, 2006) equally look at sustainability as including these three aspects.

Various recent reports describe the status of sustainability in the business world. The United Nations Global Compact and Accenture (2010) report “A new era of sustainability” found that of 766 CEOs, 93 percent consider sustainability to be “important” or “very important”, and 96 percent state that the company strategy needs to include it. Sustainability is in fact perceived as a disruptive trend and a key strategic challenge. MIT Sloan Management Review and Boston Consulting Group (2011) reported that during 2010, 68 percent of organizations increased overall commitments toward sustainability, compared to 59 percent in 2010 and only 25 percent in 2008. GreenBiz’s (2011) “State of Green Business Report 2011” report found that of the interviewed companies, 89 percent expect increases or at least no changes in their spending on environment, health and safety; and 56 percent expect increasing investment in green product development, compared to only 28 percent in the previous year. On the other hand, the United Nations Global Compact Office (2013) report concludes that 65 percent of signatories are committing to sustainability, however, only 35 percent are specifically training their managers to integrate sustainability into strategy and operations, 51 percent provide employee orientation, 49 percent do staff training or workshops.

These developments raise important questions. First, how do managers implement sustainability into their organizations? Any changes toward sustainability require significant managerial effort and expertise in the attempt to adopt or redesign business processes (Siebenhüner and Arnold, 2007). Implementation, or at least knowledge, of other operational improvement processes such as quality management or lean manufacturing, are supportive as they allow for identifying synergies in the process of internalizing and operationalizing the needed change (Corbett and van Wassenhove, 1993). Further evidence for this argument is provided in the literature: Zhu and Sarkis (2004) report that quality management is a very important antecedent for successful greening of a firm’s supply chain. In his theory-building framework, Wood (1991) stated that environmental and socially responsible actions need to be viewed from an institutional, organizational or individual level; or from any combination of the three. Carter *et al.* (1998) found top- and middle-level management support to be significantly important for successful green supply chain management implementation. According to Naveh and Marcus (2005), success of ISO 9000 implementation depends on the level of assimilation (i.e. adoption alone is not sufficient), that then needs to be supported by flexible rules to provide identification and internalization. Darnall (2001) suggests that firms mandating ISO14001 are able to withstand greater external pressures and have

stronger overall internal capabilities indicating that these internal capabilities are prerequisites for the successful process improvements required by ISO14001. Christmann (2000) identifies these capabilities as process innovation and implementation. Lueneburger and Goleman (2010) report that sustainability differs from other corporate initiatives as sustainability concerns operational reality and, simultaneously, public perceptions. In this way, sustainability requires that every entity within the firm adapts to operations and company culture. These authors identify three phases in the transformation toward a sustainable organization that each requires specific managerial skills. Phase 1 “Making the case for change” requires a leader capable of influencing others, creating a collaborative environment and leading change. During the second phase “Translating vision into action,” managers need to translate the sustainability vision into concrete, commercially viable actions and metrics to track their success. Finally, phase 3 “Expanding Boundaries” requires leadership skills that encompass the development of strategic long-term sustainability opportunities and the institutionalization of sustainability goals. Another model for change toward sustainability developed by Dunphy *et al.* (2003) identifies three distinct waves that are further divided to result in six steps: rejection, non-responsiveness, compliance, efficiency, strategically proactive and sustaining organization. Sloan *et al.* (2013) propose a framework that compares the Dunphy *et al.* (2003) and Lueneburger and Goleman (2010) models with Kotter’s (1995) classic change management model and Doppelt’s (2003) “Seven blunders of sustainability” model. Sloan *et al.* (2013) conclude that the different models have various levels of overlap in the description of how to bring forth change toward sustainability and that they allow identifying where organizations stand within this process.

With such a rich body of literature prescribing the leadership capabilities needed to transform an organization toward sustainability, the important next questions become: What is the exact level of expertise needed by executives, managers and employees with regards to these capabilities, what other knowledge does it require and from where is it acquired? Goleman (2010) points out that the future leaders in the field particularly require the ability to persuade and motivate. Furthermore, he suggests that they need to have a solid understanding of the technical issues of sustainability as well as general business sense. This raises the additional question whether such well-versed leaders exist. Coyle (2005) concluded from existing research that environmental ignorance persists even among well-educated and influential members of society. Woodward (2008) reports that personnel in charge of sustainability initiatives, such as a sustainability coordinator, often have excellent technical skills but lack the required leadership capabilities. Based on the previously cited Accenture-United Nations Global Compact study, Lacy *et al.* (2012) report that nearly 24 percent of CEOs identified a “lack of skills/knowledge of middle-senior management” as a crucial barrier preventing the effective management of sustainability issues. As Haugh and Talwar (2010) put it, it can be a “leap of faith” to assume that mid-level managers and employees are aware of sustainability policies and procedures. According to Pearce *et al.* (2013), it is critical to select the right managers, and to advance their skills and knowledge through ongoing development. And yet, as the United Nations Global Compact Office (2013) report states, even companies committed to sustainability do not appear to have consistent measures in place to train and develop managers and employees for sustainability. In summary, the literature points to three issues regarding personnel capabilities: first, leadership and technical skills are required; second, ideally, both are found in one person, or the right balance needs to be found by forming teams of leaders and technical people; and third, this has to happen throughout the organization,

from top to bottom. However, the literature also indicates that in reality, these three aspects are rarely realized in organizations.

In fact, few organizations will find themselves in the luxurious position to have the right mix of people with the right mix of capabilities when starting sustainability initiatives. How can this deficiency be overcome? Lacy *et al.* (2012) report that the interviewed CEO's put a clear emphasis on the critical need for education, which should happen through formal education in higher institutions of learning, through employee training programs and in general, as a process to educate the broad citizenry. Siebenhüner and Arnold (2007) also emphasize that for any organization on a path toward sustainability, learning must be at its heart and it must happen company-wide and cross-functionally. Haugh and Talwar (2010) provide a set of tools to enable organizational learning that includes, among others, codes of conduct, company structures and policy, and employee training and workshops. According to Craig and Allen (2013), employees who consider sustainability to be important want to learn about it; hence, firms need to understand and manage the information resources that employees use to learn about sustainability.

Employees are instrumental to the success of any sustainability initiative as they operationalize the sustainability goals in their day-to-day work (Soyka, 2012) which Chen (2008) aptly identifies as an organization's "green intellectual capital." This reality makes it clear that, besides education and training, recruitment becomes critical to ensure that positions are filled with the right people (Goleman, 2010). Lacy *et al.* (2012) also assert that finding personnel with adequate skill sets is a key recruitment component. Accordingly, the literature provides evidence that Human Resource (HR) departments play a critical role in the development of a sustainability culture (Liebowitz, 2010). Epstein *et al.* (2010) suggest a corporate sustainability model that clearly requires HR to be a key input component. Strategic HR investments, such as training and performance management systems, are necessary (Harmon *et al.*, 2010). However, the authors also report, from a survey of HR leaders, that while these professionals judge sustainability as very important, they do not rate themselves as having a critical role in the transition process, nor do they see many incentives to act (Harmon *et al.*, 2010).

With recruitment being recognized as critical, the next question becomes where do organizations go to hire this talent? Studies by Wolfe (2001) and McIntosh *et al.* (2001) found that, at that point in time, only one in ten US institutions of higher education required environmental literacy for graduation. Gitsham and Lenssen (2009), however, point out that business schools and professional institutes are key contributors in providing management development and learning to enable managers to lead the required organizational change for sustainability. Stewart (2010) posits that colleges are not nearly doing enough to provide education in environmental issues and sustainability. On the other hand, Benn and Martin (2010) report that while integration of sustainability in business curricula is limited because its application in organizations is not well-understood, there are still an increasing number of business schools that attempt it, and in a variety of different ways. California State University Northridge (CSUN) took the approach of making itself a sustainable institution in order to "[...] change how students were educated about global change processes and to make the campus itself climate neutral" (Kurland *et al.*, 2010, p. 458). These educators sought to change the way they educate their students in two ways: to better integrate sustainability education across disciplines to create a broad base of knowledge and awareness of the issues; and to ensure that each CSUN graduate understood and

experienced many ways in which sustainability matters to everyday life. CSUN accomplishes these educational goals via an established Institute for Sustainability which developed an interdisciplinary course and an undergraduate minor in sustainability (Kurland *et al.*, 2010).

Another approach to incorporating sustainability in business school curricula is to use an organizational change model to instigate a change in business school education. Exter *et al.*'s (2013) suggest a stepwise change model for academia that is routed in Dunphy *et al.* (2003) model. A qualitative study by Benn and Martin (2010) describes how a Chinese university utilized an organizational learning and change model in order to develop a shared meaning of sustainability across the educational institution as well as into social sectors of the community. These researchers argue in favor of a model where business schools establish a dynamic relationship with their particular social, economic and ecological context. Dickson *et al.* (2013) report on the development of an award-winning graduate course for sustainability education that focusses on inter-institutional and industry collaboration. Similarly, Baden and Parkes (2013) observe that exposure of students to social entrepreneurship through experiential learning is effective to instill business students with knowledge, motivation and skills in this area. Coleman (2013) presents reflections on a sustainability program for experienced managers that tries in particular to address the inconsistencies between basic managerial principles and the concepts of sustainability. The author notably reports that while participants are enthusiastic and report back their actual actions and implementations through an active alumni network, the program is small and other educational institutions have not taken on similar approaches.

Marshall *et al.* (2010) propose that a paradigm shift is underway that will mandate the transformation of both the education and practice of business enterprise to incorporate sustainability as essential to business. These researchers offer three principles necessary for a paradigm shift transformation of current business curricula to a "sustainability inspired" education curriculum. These three principles include: embrace systems thinking; pursue scientific inquiry; and build human and social capital. According to the authors, these principles are foundational for the required business education paradigm shift toward an incorporated sustainability approach to occur. Banerjee (2011) supports this idea of a paradigm shift in business education by stating that "[...] the starting point of a transformative curriculum is to challenge assumptions of infinite resources, limitless growth, and technical fixes to social and environmental problems" (p. 728). Adams *et al.* (2011) define the role of business schools in the development of the leaders in sustainability as critical. According to the authors, education must refocus on teaching the recognition and management of boundaries and relationships businesses encounter; a well as on tools and skills of critical self-reflection on values and society needs.

Individual business school curricula are not the only place where there is variation in how sustainability is being incorporated into business curricula. In a web-based content analysis of sustainability in the business education curricula of 642 business schools in Europe and the USA, Wu *et al.* (2010) found wide variations between European and American business schools in terms of how sustainability is approached. Specifically, the findings of this study pointed out that European schools were more likely to address sustainability at the graduate level by offering electives while American schools focussed on incorporating required courses at the undergraduate level. Further differences were found in Asia and Oceania underscoring the wide variation found in business school approaches to incorporating sustainability into business education (Wu *et al.*, 2010).

Pillania (2014) reports that business schools in India are not doing much at all with regards to “green education.”

These examples from the literature demonstrate that many business schools are seeking ways to educate business students on sustainability although the approaches are varied and inconsistent. Banerjee (2011) suggests that management educators must play a decisive role in providing the skills needed to transform organizations toward sustainability. However, the literature points to gaps and criticisms that hinder the success of these activities. One such criticism is that the teaching and learning occurring around sustainability within business schools seems to be largely dependent upon individual faculty member initiatives rather than a coordinated institutional approach (Benn and Martin, 2010, Thomas and Benn, 2009). Another related criticism is that curricular efforts do not take into account the view of multiple stakeholders (Banerjee, 2011). Stewart (2010) suggests that more research is needed to determine to what depths environment literacy is required. Millar and Gitsham (2013) point out several areas of research on the integration of sustainability in business curricula that require further work: the role of management development; approaches and tools of management development; and the role of business schools and sustainable curricula.

The purpose of this study is to respond to the gaps in the research, to broaden the extant literature to include other stakeholder perspectives and to elucidate the required depth of sustainability knowledge with a particular focus on environmental literacy as one of its aspects. Interviews were conducted with representatives of organizations seeking to hire recent graduates of a baccalaureate business program. The purpose of the interviews was to determine the representative’s perceptions and expectations of the content, breadth and applicability of knowledge new hires will have regarding sustainability, but also to determine his or her own understanding of sustainability and the sustainability goals of the organization represented. This study adds several interesting aspects to the literature. First, if recruitment is a key component to provide a firm with adequately prepared personnel for its path toward sustainability, then recruiters must have a clear understanding of what they are looking for in potential future employees with respect to leadership and technical skills for sustainability. While the literature clearly points to the strategic role of HR in hiring the right personnel to enable the organization’s transition toward sustainability (Goleman (2010), Lacy *et al.* (2012)), the current literature thus far does not raise the question whether the HR personnel charged with recruitment are themselves adequately trained in sustainability aspects and knowledgeable of the specific strategic sustainability goals of their organization. By addressing this aspect, this study adds important findings to the literature. Second, from the perspective of business curriculum development, this study addresses a gap pointed out in the literature by including employers as stakeholders. This addition provides valuable information for educators as they seek to craft educational programs that produce graduates fit to lead the transformation of organizations toward sustainability. Third, following Millar and Githsam’s (2013) analysis of needed research, this paper explores the connection of business school curricula to the impact management development will actually have on organizations.

Methodology

This study was designed as a structured interview with employers who attended an undergraduate career and internship fair at a medium-sized liberal arts college in the northeast. The structured interview protocol was designed by the researchers to investigate levels of awareness and integration of sustainable business practices

present in the participating organizations. The researchers were ultimately interested in exploring what level of preparation, in terms of sustainable business knowledge, the employer participants were seeking in the students they were looking to recruit and potentially hire.

The population included 53 employers from a wide range of industries, seeking to fill various jobs or internship openings, participating in the fall 2012 career and internship fair. In order to obtain the sample, the researcher called each employer to ask for a time to possibly conduct the interview. Of the 53 total employers potentially participating in the internship fair, ten were unable to participate for reasons such as company policy or the organization no longer wanted to participate in the fair leaving a total of 43 organizations in the sample. Of these 43 companies, 17 interviews were granted for a response rate of 40 percent, which is well-above the average 24 percent response rates documented for various types of research interviews (Gounaris and Dimitriadis, 2003).

To insure inter-rater reliability, the researchers conducted the first two interviews together so as to determine the best style, pace and answers to potential questions the interviewees might ask. The company list was then divided equally between the researchers, who then contacted their respective organizations and conducted the interviews independently. At least two follow-up calls were made to each organization in an attempt to secure an interview.

The interview protocol consisted of 12 items inclusive of four different types of questions. Some questions such as "Do you think sustainability is an important effort for your organization to pursue at this time?" consisted of a yes or no response. This response was subsequently coded with 1 for "Yes" and 2 for "No." Another type of question such as "How would you define the "hot topic" sustainability?" resulted in a coded response. In this question, if the respondent provided three areas of definition such as environmental protection, social equality and economic prosperity, then the response was coded 3. If two aspects were given, it was coded a 2. Additionally, for these types of questions, the actual choices were recorded. For example, the question that asked respondents to identify sustainability initiatives (such as the Carbon Reporting Initiative or Rain Forest Alliance) the total number of identified initiatives was noted (coded), as well as the actual choices made. Each choice had an identifier number to allow for statistical analysis. Hence, if for example, only the Carbon Reporting Initiative was chosen, the total number code was 1, and additionally, the identifier number for this choice was noted. A third type of question required a Likert-scale response with 1 representing "not at all" and 5 representing "to a great extent." An example of this type of question is "To what extent do you believe your organization should be incorporating sustainability efforts?" The fourth type of questions in the interview was open-ended qualitative answer questions.

Interviews generally lasted about 20 minutes. The researchers took detailed field notes during the interview along with coding (see previous paragraph) the responses on a copy of the interview protocol as the interview progressed. The answers to all of the interviews were subsequently entered into a data file for analysis. The commercially available statistical analysis software SPSS was used. Specifically, all coded responses, coded choices and Likert-scale answers were transcribed per question to allow for the generation of descriptive statistics that were then analyzed. The authors did not consider 17 data points a representative sample of the population to allow for more in depth statistical analysis.

Results

The interview questions can be divided into the following three themes: first, knowledge of concepts of sustainability; second, relevance of sustainability for the organization; and third, role in education and topics covered.

Knowledge of concepts of sustainability

When asked to provide a definition of sustainability, 47 percent of respondents included economic, social and environmental aspects, 17 percent chose two, and 35 percent chose only one of the three aspects. When questioned about a random list of initiatives that firms can use to implement sustainability, such as ISO14000 certification or the Carbon Reporting Initiative, the respondents on average only knew four out of nine of these initiatives. The best known initiative was Leadership in Energy and Efficient Design. Thus, while interviewees had some understanding of the complexity of sustainability and its various aspects, about half of the respondents were not aware of the so-called “three legs of the stool”, and had overall very little knowledge of the practical implementation methods that could be used. These findings confirm Lacy *et al.*'s (2012) work that there is generally a lack of skills and knowledge about sustainability. With Liebowitz's (2010) and Epstein *et al.*'s (2010) call that HR needs to play a strategic role in building up firm capabilities toward sustainability, or to recruit adequate “green intellectual capital” (Chen, 2008), the question arises how realistic this expectation is if the HR personnel themselves are not sufficiently trained in the topic. This is a result that the previous literature had not yet specifically pointed out. Haugh and Talwar (2010) did state generally that it can be considered a “leap of faith” to expect recruiters to be successful in hiring adequate people if they are not trained themselves. Here, however, interview data confirm that recruiters are in fact ill prepared for this responsibility. While the literature recognizes both the fact that sustainability is often not well-understood, as well as the need for HR to take a strategic role in finding personnel to fill this void, the specific question as to how can recruiters succeed if they do not understand what they are looking for becomes more central. It becomes clearer that it is not enough for an organization to have a sustainability strategy and to attempt to hire the right talent to achieve it. Rather, the organization, before venturing into hiring, needs to ensure that recruiters are adequately trained in concepts of sustainability and can clearly make a connection between the firm's sustainability strategy and qualifications sought in future employees.

Relevance of sustainability in the organization

In total, 70 percent of respondents believe it to be important that their organization pursues sustainability. On a scale from 1 to 5, with 5 being highest, the question of how important it is for the firm to be engaged in sustainability efforts resulted in an average ranking of 4. When judging what the firm actually does, 35 percent of respondents categorized their organizations as being in the compliance stage, 18 percent in the efficiency stage and 18 percent in the strategic proactive stage of Dunphy *et al.*'s (2003) change model. In total, 12 percent considered their organization as non-responsive, but none chose the rejection or sustaining corporation phase. Totally, 17 percent of the respondents were unable to judge their organization's position. Totally, 41 percent of respondents confirmed that their organization has employees dedicated to sustainability efforts, and 47 percent responded that it does not, with the remaining 12 percent not being able to respond. 65 percent indicated that the organization is

following other initiatives than the ones provided, 29 percent stated that no other initiatives are pursued, and 6 percent did not know. While interviewees felt mostly comfortable in judging their organization's position and actions toward sustainability, open-ended questions revealed that many respondents did not feel that they knew enough about what the firm was doing. The majority considered the actions to be mostly on corporate level, and very few indicated that individual teams or personnel are actively involved. Taken together with the observations from the previous section, these findings paint a sobering picture. While the interviewed recruiters mostly recognize the importance of sustainability in general and for their organization, it appears though that they themselves are not involved in any related activities, nor are they very well-informed about whether such activities exist elsewhere throughout the organization. The results further indicate that, in fact, interviewee perceptions are that sustainability is a strategic issue that is restricted to the corporate executive function. Again, this raises the question of how a recruiter should then be equipped to find adequate personnel to support the firm's sustainability strategy.

Respondents were then asked which departments they believe need to get involved in sustainability efforts. The choices in declining preference include: strategy 94 percent, marketing 88 percent, finance 82 percent, HR 82 percent, supply chain 77 percent, accounting 70 percent, research & development 65 percent, product design 65 percent and production 55 percent. Encouragingly, the respondents of this study seem to largely realize that HR needs to be part of sustainability efforts. It appears, however, that respondents perceive sustainability as a more conceptual, "high level" matter of strategy and marketing, that has limited practical consequences, for example, for product design and production. Possibly, this result is biased by the fact that all interviewees work at service firms or in the public sector, where tangible actions toward sustainability are harder to detect. According to Harmon *et al.* (2010), many HR managers do not seem to recognize their critical role in the transition toward sustainability which also might explain these results further. However, a recent study (Klingenberg and Kochanowski, 2015) of the perception graduate students have of sustainability also showed that it is considered a "high level" concept that belonged in discussions on strategy and ethics, with limited practical business consequences. Such a view may create barriers for the willingness of employees to get trained in sustainability concepts and for the concrete implementation of sustainability measures.

Role in education and topics covered

Respondents considered participation in business classes that focus on sustainability (94 percent) and "green student orientation" (88 percent) as valuable educational approaches. Participation in interdisciplinary courses that focus on sustainability was not judged as that important (65 percent), and notably 53 percent of the interviewees did not think that sustainability should be a graduation requirement.

When asked about topics that should be covered in sustainability education (see Table I for a summary), all respondents felt that the meaning of sustainability must be covered. Furthermore, they favored carbon footprint; understanding that sustainability impacts economic, physical and social health; economic development vs economic growth; and the fact that sustainability involves complex interdisciplinary issues. Interestingly, these choices appear to contradict the choice of educational tools, where interdisciplinary courses were not deemed overly important. These results demonstrate where educational obstacles exist. Stewart (2010) based his

Table I.

Topics included in education on sustainability and percentage of respondents' choice

Meaning of sustainability	100%
Carbon footprint (ecological footprint)	94%
Understand that sustainability involves complex social, cultural, political, economic and scientific issues	94%
Economic development vs economic growth	88%
Implication of population growth on the environment, economy and society	88%
Understand the impact of sustainability in maintaining economic, physical and social health	88%
Human population growth	82%
Linear systems vs closed loop systems	82%
Dependence on fossil fuels	77%
Habitat destruction/loss of biodiversity	77%
Limits of Earth's natural resources	77%
Increasing demand and diminishing stock of fresh water	77%
Carbon neutrality	77%
Food	71%
Differences between non-renewable and renewable materials	71%
Perceived connection between material consumption and happiness	65%
Climate change	65%

Note: The topics where chosen following Stewart's (2010) recommendation for sustainability education

recommendations for content on sustainability education on the understanding that it is an interdisciplinary topic. Considering the "three P's" of sustainability, namely people, planet, profit, together requires taking a systemic view of an organization, all of its actions and their various intended and more so, unintended consequences on society and the natural environment. Excluding this interdisciplinary perspective from education and training will result in inadequately prepared personnel.

The least important topics for the recruiters were climate change; the perceived connection between material consumption and happiness; dependence on fossil fuels; habitat destruction; limits of earth's natural resources; and the diminishing stock of fresh water. It appears that respondents see the importance of sustainability; however, again, conceptual topics are favored. Missing is the understanding of how sustainability connects or is rooted in such practical matters as the limits of earth's natural resources. Two examples are provided by Esty and Simmons (2008, 2011) who showed in their publications that making sustainability happen is not just a matter of having a clear strategy, but of very concrete and concise steps that evaluate a firm's actions to find practical, implementable solutions to reduce the use of resources and impact on climate. Clearly, this can only be possible if an organization understands how it impacts, for this example, resources and climate.

A recent study of business and public administration graduate students, presented with identical lists of topics, (Klingenberg and Kochanowski, 2015) provided similar results to this current study: interdisciplinary courses were not deemed to be important, indicating that the need for a systemic approach to sustainability is not well-understood. This group of graduate students also expressed that they do not believe they need to learn about the majority of topics included in the list, and that a course in sustainability should not be a graduation requirement. Taken together, these findings create a dilemma for firms and educators. Sustainability is becoming ever more important for organizations (Esty and Simmons, 2008, 2013), and businesses are in need to find adequately trained employees. Recruiters, however, do not seem to be prepared enough to look for such employees, and (business) students do not seem to recognize that practical know-how of sustainability concepts is a critical need for the twenty-first century.

Conclusions

As outlined at the end of the introduction, this paper attempts to add three aspects to the current literature.

First, this study started with the assumption that HR, and therefore, recruitment is a key component to providing a firm with adequately prepared personnel for its path toward sustainability. Consequently, recruiters should have a clear understanding of what sustainability is and how it relates to their organization's goals. The respondents to this survey overall considered sustainability as important, as well as being important or very important for their organization to pursue. However, it is also evident that not all of them had a full understanding of sustainability, or were fully informed about their organization's position and actions regarding sustainability. These findings corroborate Lacy *et al.*'s (2012) conclusions that there is a definite need for more education in the field. As a matter of fact, this study seems to confirm Haugh and Talwar's (2010) statement that it is a "leap of faith" when, for example, expecting recruiters to find adequately educated people if they themselves are not provided with the necessary knowledge and information. Soyka (2012) concluded that firms are often unable to define exactly what they are looking for as misconceptions about sustainability persist. According to the results from this study, this conclusion indeed appears to be the case as respondents consider sustainability as a mostly conceptual, strategic matter with limited practical implications. It also appears that their respective organizations have either not made significant efforts beyond compliance, or such efforts are not well-communicated within the organization and hence not known to recruiters. And while interviewees generally believe HR needs to be involved in sustainability efforts, there appears to be little connection between this belief and their own recruiting activities, confirming a certain level of unawareness of their critical role in the transformation toward sustainability when recruiting, and thus confirming Harmon *et al.*'s (2010) findings.

In summary, this study points to distinct gaps between organizations' needs to hire adequately trained personnel, defining what they need in terms of talent, and then equipping recruiters with the knowledge to develop hiring criteria to make successful hiring decisions. While aspects of these findings have been previously reported in the literature, this is the first study that synthesizes data elucidating the dilemma so clearly. Specifically that personnel with sustainability know-how are needed but that it is not clear to hiring professionals within organizations what capabilities this need encompasses which then leads to unclear recruiting and hiring criteria. Undergirding this problem is the clear indication that there is little organizational realization of the integrated system-oriented educational process that will be required to transform organizations as they work toward sustainability goals. Furthermore, a previous study (Klingenberg and Kochanowski, 2015) indicates that graduate business and public administration students preparing to work in organizations report that learning about sustainability is important in general, however, not so much for them, as they perceive taking courses in sustainability to be less important while taking interdisciplinary courses in sustainability to be even less important. In other words, the students – wanting to respond to what hiring managers are seeking – also do not receive the message that organizations need future employees versed in sustainability issues, as the message is in fact not or only poorly communicated. Educational institutions therefore not only face the dilemma of not knowing what organizations are looking for with respect to sustainability, but also of a student body that is not very inclined to learning about it.

Second, following Banerjee's (2011) call to include other stakeholders in the discussion on how to accomplish a needed paradigm shift in business education toward sustainability, this study attempts to integrate employer needs and perspectives, specifically from the viewpoint of the actual recruiters, into the research literature. The overarching results confirm Lacy *et al.*'s (2012) call for more education in sustainability. Although respondents indicated that they believed sustainability education to be important for businesses, at least half of them did not consider it to be a necessary graduation requirement for business students. Upon further examination of the interview responses, however, it became clear that the recruiter respondents themselves were not well-educated in terms of sustainability in general, nor in terms of how sustainability played a part in the direction and goals of their organizations. These recruiters, therefore, were not in a strong position to determine the sustainability competencies needed to move their organizations toward their sustainability goals. The educational imperative is clear. The implication for educational institutions and business curricula is the need to address sustainability in all aspects and all levels of the business curriculum including undergraduate and graduate as well as executive education. Many business executives and hiring managers are as in need of sustainability education as are traditional graduate and undergraduate business students.

From the perspective of business curriculum development, this does not easily translate into concise steps. As the Association for the Advancement of Sustainability in Higher Education (2010) report "Sustainability curriculum in higher education: a call to action" points out, the level of support and the amount of change needed to accomplish the respective change throughout institutions of higher learning should not be underestimated. Considering this report along with recent findings that graduate business students do not appear to understand the value of learning about sustainability concepts, particularly not those that explore its interdisciplinary and systemic character (Klingenberg and Kochanowski, 2015), business educators may feel at a loss as to where to start. However, some educational institutions are making a start. As of December 2014, the Association for the Advancement of Sustainability in Higher Education (2014) lists 1,437 degree programs in sustainability. Of these, only 249 are business-related (undergraduate, graduate majors or minor) while the vast majority are in engineering- or science-related fields. The authors believe that business schools can begin to transform their own programs by exploring these existing business, science and engineering programs in order to learn what is working and possibly partnering with them to offer expanded programs that combine science, engineering and business. This integration would help address the interdisciplinary and systematic character of sustainability as well as its practical implementation. It would involve educating organizational talent in several business operational areas which would be a start at integrating sustainability understanding throughout the organizational system.

Another approach for business schools might be to start where there is the greatest perceived stakeholder need at this point. If the student and hiring manager stakeholder groups perceive sustainability as a mostly strategic concept, then educational offerings should perhaps start in this area, and then progress to more practical and operational courses as the awareness grows and operational implications take root. Based on the current research, this integration of sustainability concepts into the more strategic courses would include the courses in strategic HR management along with the traditional strategy courses and would need to occur at undergraduate, graduate and executive levels of business education. In terms of how to integrate sustainability into

these business courses, publications such as Esty and Simmons (2008, 2013) offer a rich source of cases and examples that very clearly showcase the need for systems thinking and provide implementation examples. Furthermore, there is a solid body of text books and business publications available that allow the teaching of sustainability and its core concepts (e.g. but certainly not inclusive: Carroll and Bucholtz (2015), Blowfield (2013), Hussen (2013), Worthington (2013), Sanford (2013), Garner Stead and Stead, 2009). Stewart's (2010) proposal on content for sustainability education provides a guideline for development of actual course content.

Third, how does this study contribute to Millar and Githam's (2013) call to study the connection of business school curricula to the impact management development will actually have on organizations? Business schools provide organizations with future leaders and managers, and clearly, the curriculum needs to be aligned with business needs. A premise of this study was that people involved in the hiring process of these future leaders and managers would be able to provide details on how this connection between business school curricula and management development with respect to sustainability needs to look. The results, however, show that the problem is even more profound, as the recruiters, who should play the role of connecting their organizations' sustainability goals with adequate talent search, are not equipped to do so, and therefore, de facto cannot provide information that educators can use for sustainability curriculum development. This study therefore re-emphasizes Millar and Githam's (2013) call for more research on how to break through this dilemma, while suggesting that nevertheless, business schools need to forge ahead with sustainability education.

Limitations and research outlook

The authors clearly recognize that based on 17 interviews, this work is limited and can only be considered a pilot study. The results should therefore not be over-interpreted. However, the authors nevertheless believe that the study offers a starting point for more research. Results of this study exemplify the disconnect between organizations' expressed needs to hire adequately trained personnel while at the same time struggling to define what these needs are in terms of talent that will enable them to meet their sustainability goals. The challenge for organizations then becomes translating that definition into criteria for recruiting and hiring talent. Hence, future research is needed to investigate the intersection between organizations' sustainability needs and expectations, hiring practices and business school educational offerings in an effort to better prepare current and future employees and employers to meet the challenges on the path toward sustainability. Investigating existing business, engineering and science programs in sustainability in terms of their approach and outcomes would be an important next step in this important research which could provide evidence-based guidelines for business schools looking to integrate sustainability effectively into their business curricula.

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