Management Education for Global Sustainability

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Abstract
Challenges to corporate business success requires the development of a new type of manager/leader who can integrate business expertise with knowledge of science and technology. The Professional Science Masters (PSM) Degree in Sustainability Science is an example of this new model of graduate education. While the PSM degree has grown significantly in U.S. graduate education, this paper tests its viability as a professional degree program designed to prepare sustainability professionals for Vietnamese businesses. A survey was delivered in Ho Chi Minh City, Vietnam to discover if local companies find sustainability education to be a current or future human resource need for their organizations; if so, what education and job skillsets are business organizations looking for; and to assess their support for an experiential program, internship or consultancy for students in such a program. The results of this survey indicate that there is a growing need for sustainability professionals in Vietnam and that companies would be interested in developing research and internship opportunities with local universities.

Keywords: Education, Leadership, Management, Sustainability, Vietnam

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1. Introduction

Business sustainability is a company's ability to achieve its business goals and increase long-term value by integrating economic, environmental and social opportunities into its business strategies (Taylor, 2013) Corporations are part of a larger social and natural system where risk to these systems can hinder business goals and organizational success. Challenges to corporate business success are many and varied (Wirtenberg, 2014). While short term earnings are important, long-term systematic risks are emerging. Climate change and extreme weather affect the viability of supply chains; water supply, air quality, and natural resource constraints due to a rising global middle class fosters increased material, energy, and production costs; growing population inequality is causing social tension and conflict; and radical transparency through internet and cloud-based connectivity and social media makes every business vulnerable, particularly multinationals (AMA).As a result of these developing global risks, a new type of graduate education needs to be developed to create professional sustainability managers that have both science and business skillsets.

An example of this new model is the Professional Science Masters (PSM) in Sustainability Science which posits a rigorous study in science and mathematics with coursework in management, policy and law, with an emphasis on communication, project management and other employer-desired skills (CGS). To test the effectiveness of this model for Vietnam, a survey was delivered in Ho Chi Minh City, Vietnam to discover if companies find sustainability education to be a current or future human resource need for their organizations? If they do, what education and job skillsets are business organizations looking for in their hiring process? And finally, to assess their support for an internship program that would emphasize practical education if such a graduate program was developed?

2. Need for Professional Sustainability Leaders and Managers

The Green Biz Group, an organization that tracts corporate sustainability, reports that 33 percent of global corporate leadership is now actively pursuing sustainability within their organization and positioning green initiatives as an important component to their overall business strategy [5]. Sustainability professionals are now visible at every level of a company or non-profit organization. Their main functions are to coordinate initiatives; encourage employee engagement; and to drive the organization towards greater corporate and community citizenship (Hamilton et al].

In a Green Biz Report in 2014, 32 percent of sampled companies indicated their need for sustainability professionals, and 20 percent of these positions were in newly created jobs. In Vietnam, there is a general need for skilled technical employment and management to increase its global competitiveness (GreenBiz). In a National University of Singapore Report on Vietnam competitiveness, it saw a great need for Vietnamese graduates to have sufficient technical skills to accomplish many of the industrial activities that are required in an emerging global economy. An American Chamber of Commerce Report noted how

the Vietnamese business community is increasingly concerned about shortages of skilled labor. It reported: "Cooperation among educational/training institutions, enterprises and other units employing people is rare. As a result, graduate often lack the skills being demanded in the market. A survey conducted by the Vietnam Student Association (VSA) showed that 50 percent of graduate in Vietnam cannot find jobs in their field and those who have to be retrained account for a significant share…In a discussion paper presented at the Vietnam Business Forum in June 2010, about 65 percent of the Vietnamese labor force is unskilled and about 78 percent of the population aged 20-24 is untrained or lacks the necessary skills" (Hal et all).

In the United States, the research community has long recognized that reform in graduate STEM (science, technology, engineering, mathematics) education is necessary to meet the needs for new professionals (CGS). With the number of traditional academic jobs decreasing, graduate programs in the United States are seeking a new model which emphasizes interdisciplinary, entrepreneurial, and technological innovation. This need for a new type of professional education was revealed in a survey of employers in the state of Oregon, USA. It found that when making hiring decisions, 90 percent of the employers rated work experience and the ability to communicate clearly as the two most important skills for hiring. Next to these skills was the need for students to have knowledge of government regulations and business conditions and practice (See Fig. 1 in the Appendix). And lastly, almost half of the employers rated a graduate degree with advanced scientific coursework as important (Bechert et al).

The Professional Science Masters (PSM) is such a model gaining traction in the United States for graduate education. The PSM stresses written and verbal communication skills, and team-building required in professional settings. It emphasizes more technological innovation than a Masters of Business Administration (MBA) and more professional business skills than a traditional science Master's degree. It includes project or team experience versus the traditional thesis and requires real world experience through internships or projects with companies and potential employers. This paper tests whether this model for a new type of STEM Professional that merges business skills with technical scientific expertise can be a useful model for graduate education in Vietnam by viewing the results of a survey for the PSM in Sustainability Science.

3. Vietnamese Companies and Sustainability Education

In conjunction with the College of Environment at Ho Chi Minh City University of Natural Resources and Environment, the researcher conducted an on-line survey of companies and some governmental agencies between August and December 2015. The purpose of the survey was to evaluate whether a graduate educational program in sustainability science would be well-received by Vietnamese employers and to determine if the PSM model would be an effective graduate model for professional education in the Ho Chi Minh City Region. Companies were identified mainly through the Business Directory of the American Chamber of Commerce – Ho Chi Minh City Chapter and through university-based associations (AmCham). Letters were sent out to 172 companies in the Ho Chi Minh City Region and an additional 23 other companies were

contacted directly through emails, making a potential base of 195 respondents. A total of 45 surveys were collected on-line, a response rate of 23 percent. Letters of inquiry and the on-line survey were delivered in both English and Vietnamese, with 69 percent responding in Vietnamese and 13 percent in English. The survey results were analyzed using SPSS computer statistical program software.

4. Company Respondent Profiles and Survey Results

A majority of the companies surveyed were Vietnamese, with 82 percent having their corporate headquarters in Vietnam, 7 percent in Asia outside of Vietnam, and 11 percent in Europe. 60 percent were industrial companies (See Fig. 2 in the Appendix) and the company respondents were mostly at the Supervisor level in their organizations (See Fig. 3 in the Appendix). 38 percent of the companies surveyed indicated that they have published some type of sustainability report and 47 percent revealed that they had an employee responsible for sustainability issues in their organization.

In order to determine the need for a new type of professional graduate education to meet the requirements for the rise of corporate sustainability, three basic questions were asked. First, what sustainability issues are important to your company? Second, what strategies are most important for a successful sustainability agenda in your organization? And finally, what are the barriers to achieving sustainability in your organization?

The highest sustainability concerns for the respondents were for business ethics; a safe and healthy environment; and reducing waste. The next tier of important concerns were for: maintaining a safe and reliable food supply; clean water; and climate change. The least important concerns were for renewable energy; natural disaster assistance; biodiversity; population growth; and reducing greenhouse gas emissions (See Fig. 4 in the Appendix).
When the respondents were asked to respond to which business strategy would lead to the most successful sustainability agenda for their organization, they listed: the need for senior management support; embedding sustainability into the core business strategy; establishing procedures for measuring sustainability performance; and meeting customer demand and new market opportunities as the most important considerations (See Fig. 5 in the Appendix). And lastly, they saw the lack of awareness or understanding of sustainability as the greatest barrier to sustainability in their organizations (See Fig. 6 in the Appendix).

5. Graduate Professional Education for Sustainability

The first part of the survey concentrated on the respondent's perspective of sustainability in their organization, while the last set of survey questions addressed what the respondents thought were the most important professional and educational skillsets needed for a sustainability professional in their organization. The survey revealed that the highest skillsets needed were problem-solving skills; systems-thinking skills; and communication skills (See Fig. 7 in the Appendix). And finally, when developing a curriculum for a graduate professional program in sustainability science, the two areas

that respondents found most important were emphasized were ethics education and problem-solving skills education (See Fig. 8 in the Appendix).

6. Conclusion

Today, companies are concerned over risks to their operations that can emanate from supply chain disruptions due to typhoons and flooding events; compliance risk that relates to clean air and water issues; and global trade risks due to new packaging and carbon emission requirements. All of these risks reflect the need for a new set of professional managers and business leaders who have expertise in sustainability science. As an emerging professional field, it is important to design a curriculum which meets company requirements and perspectives. The companies surveyed in this study seemed to prefer a model that is based on the Professional Science Masters (PSM), which emphasizes the internship as an important component for graduate education. In the survey, 87 percent of the respondents indicated that they believed that an internship experience was necessary for a successful graduate educational experience. Also, 62 percent stated that their companies would support an internship program and would recommend staff for the PSM in sustainability science if one was established in Vietnam.

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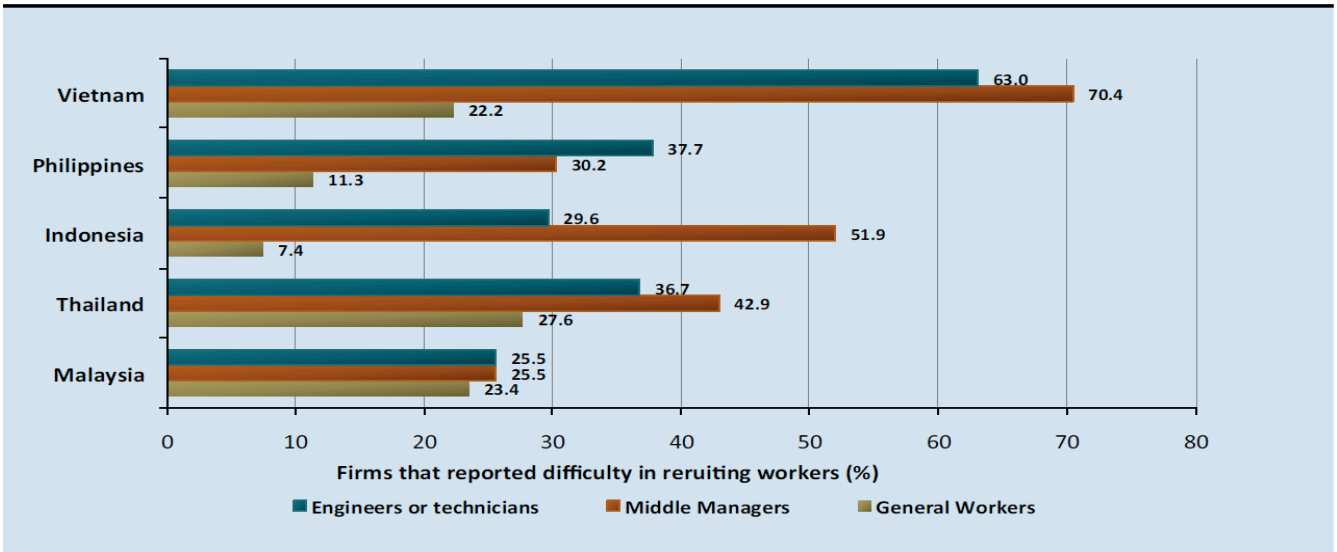
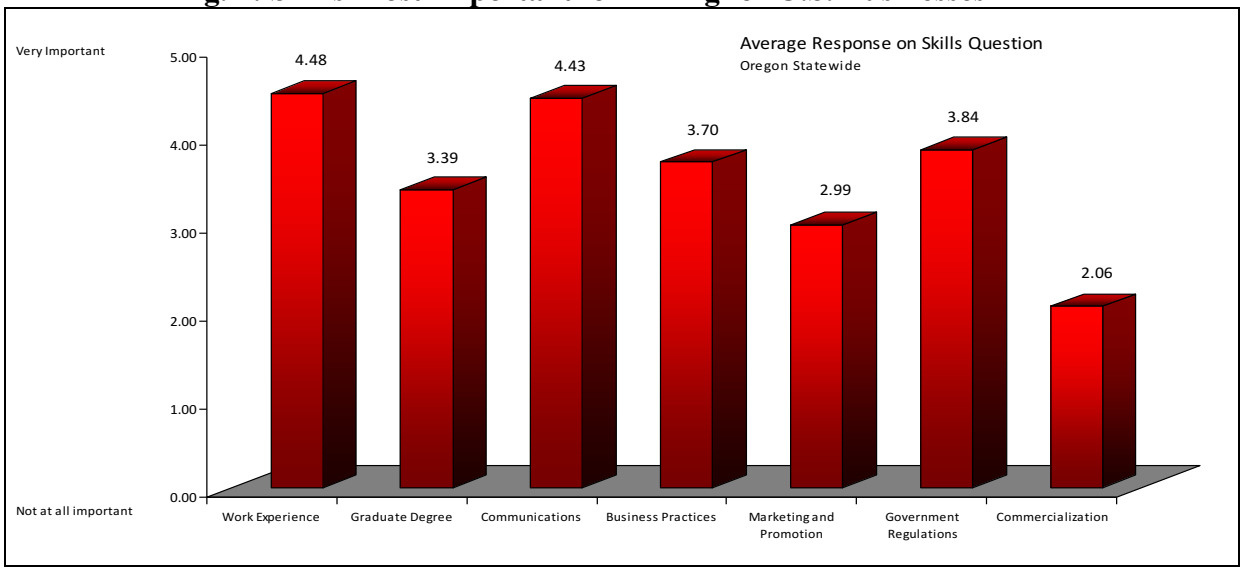
FIGURES IN APPENDIX

Fig. 1: Vietnam's Skilled Technical Employment Competiveness



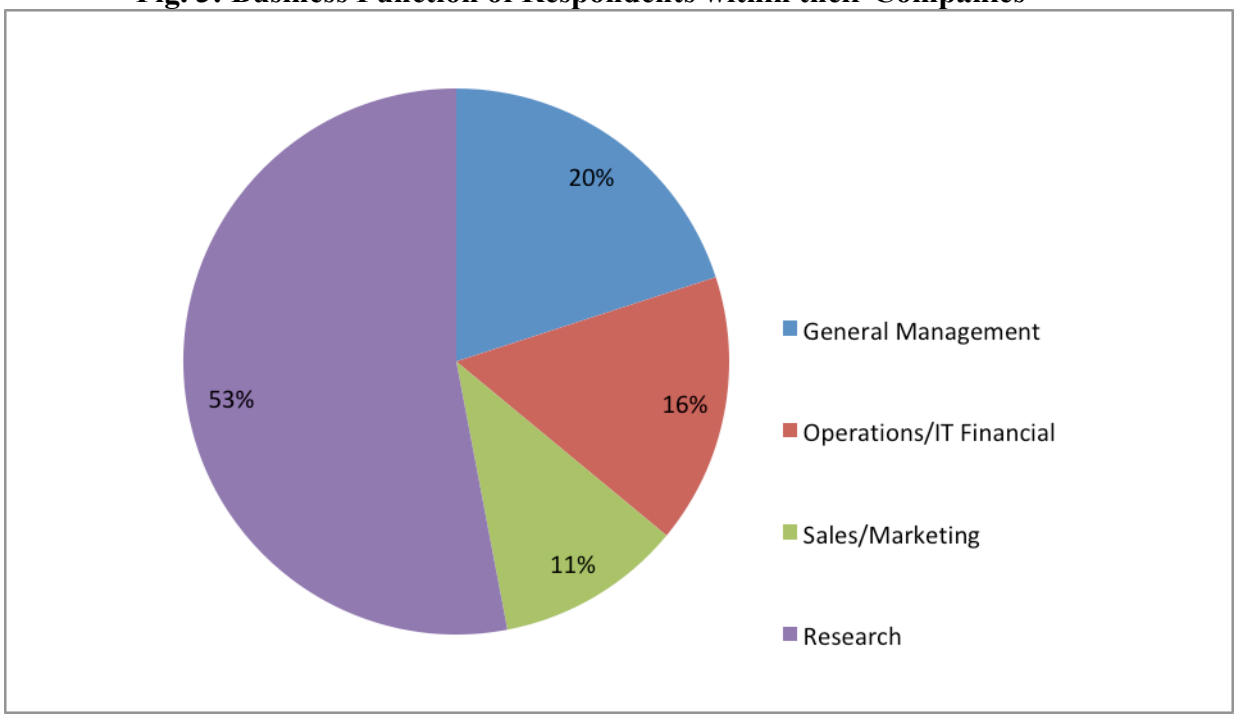
Source: Vietnam Competitive Report, NUS Asia Competitive Institute, 2010

Fig. 2: Skills Most Important for Hiring for U.S. Businesses



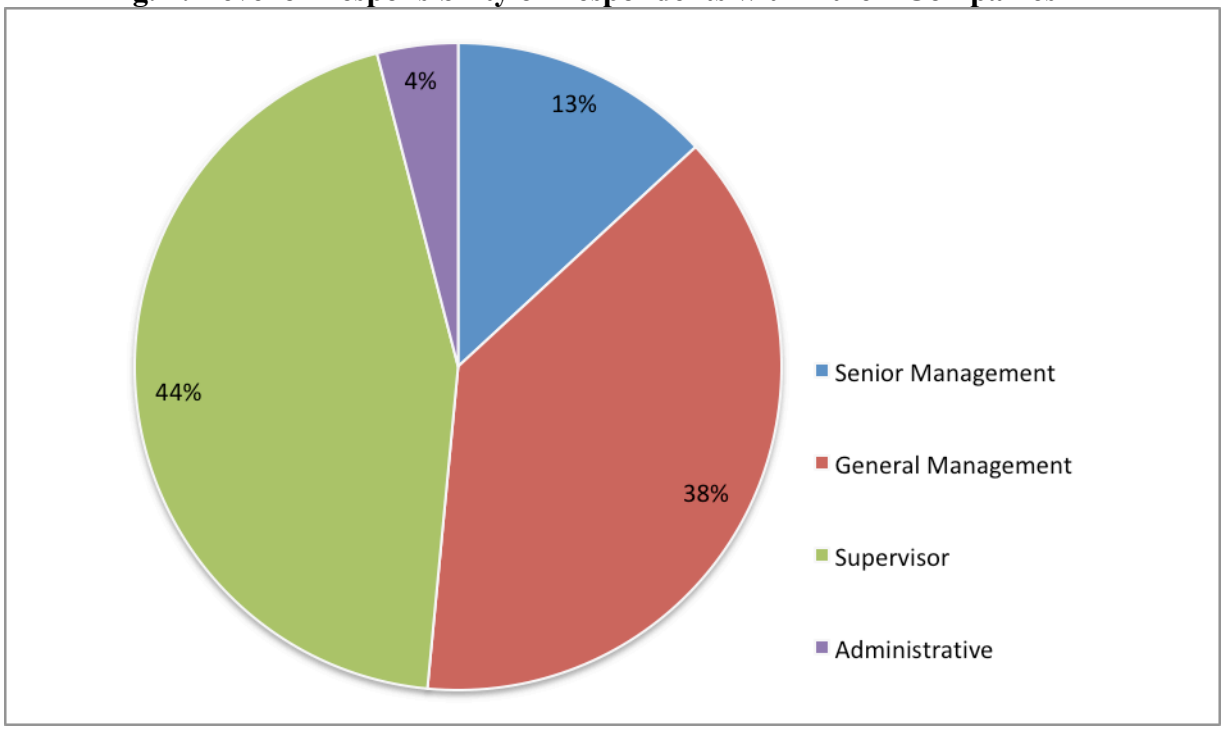
Source: Oregon State Employment Survey, 2011

Fig. 3: Business Function of Respondents within their Companies



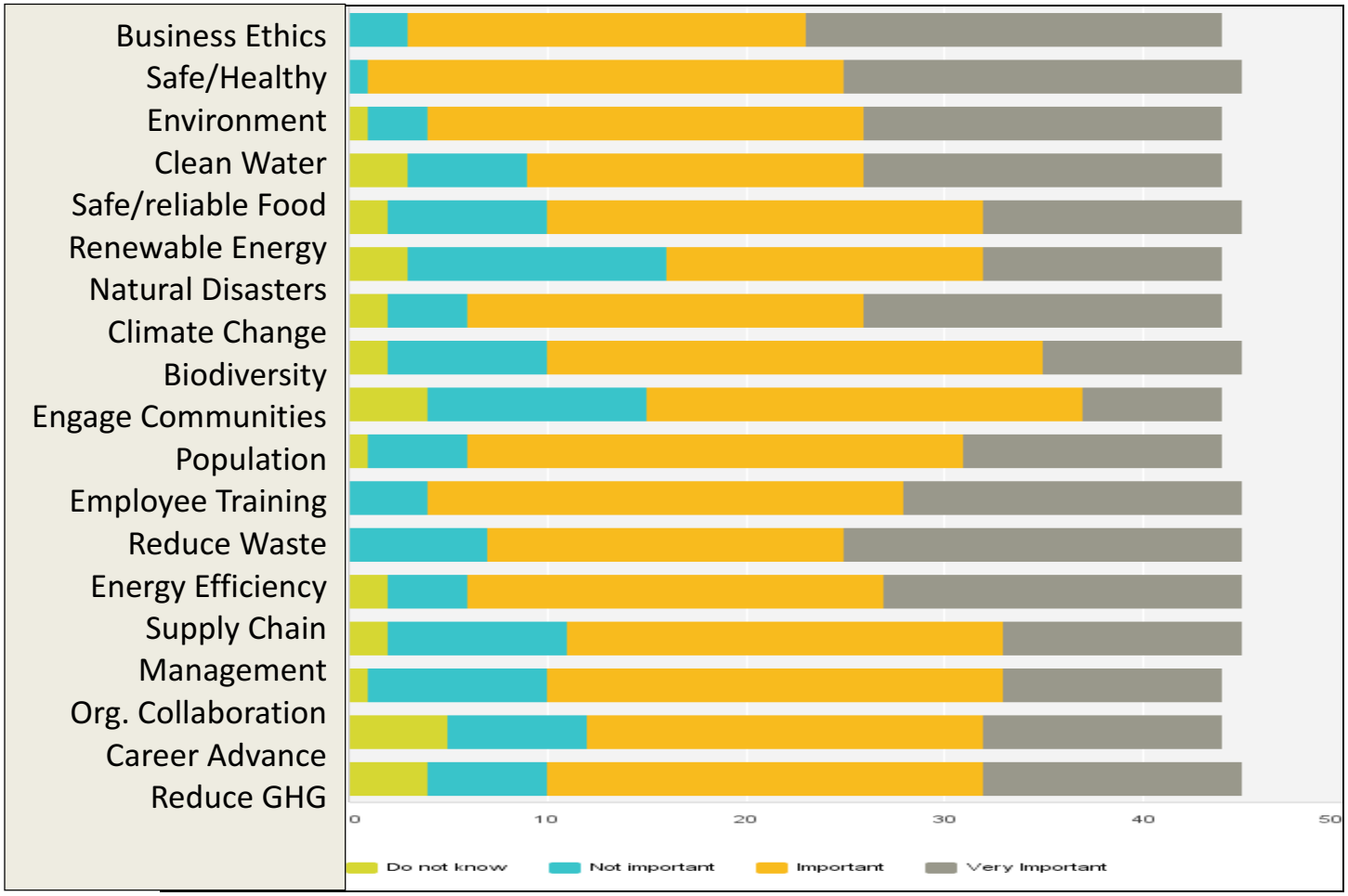
Source: Taylor, 2015

Fig. 4: Level of Responsibility of Respondents within their Companies



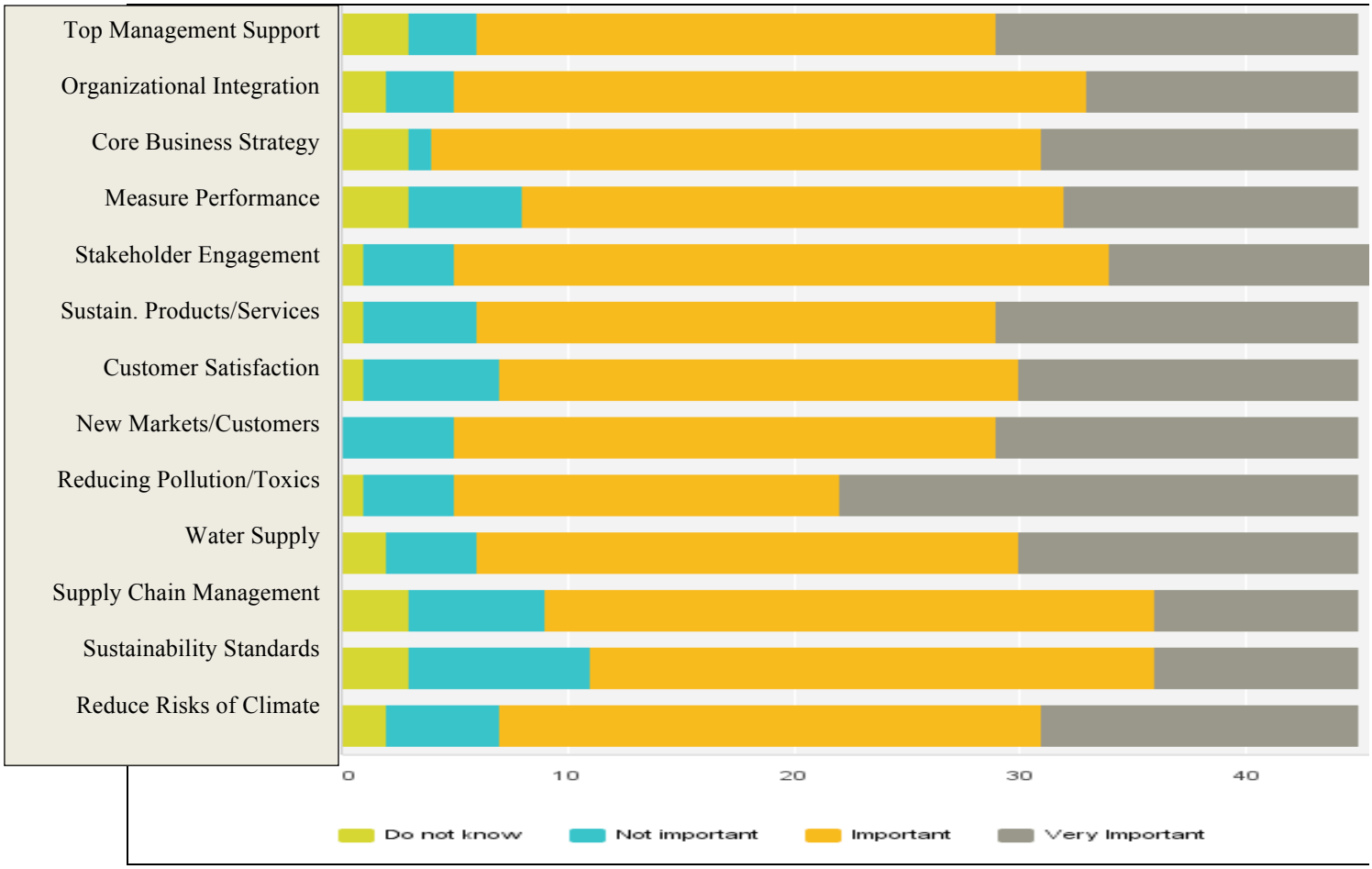
Source: Taylor, 2015

Fig. 5: Respondent Views of Important Sustainability Issues for Vietnamese Businesses



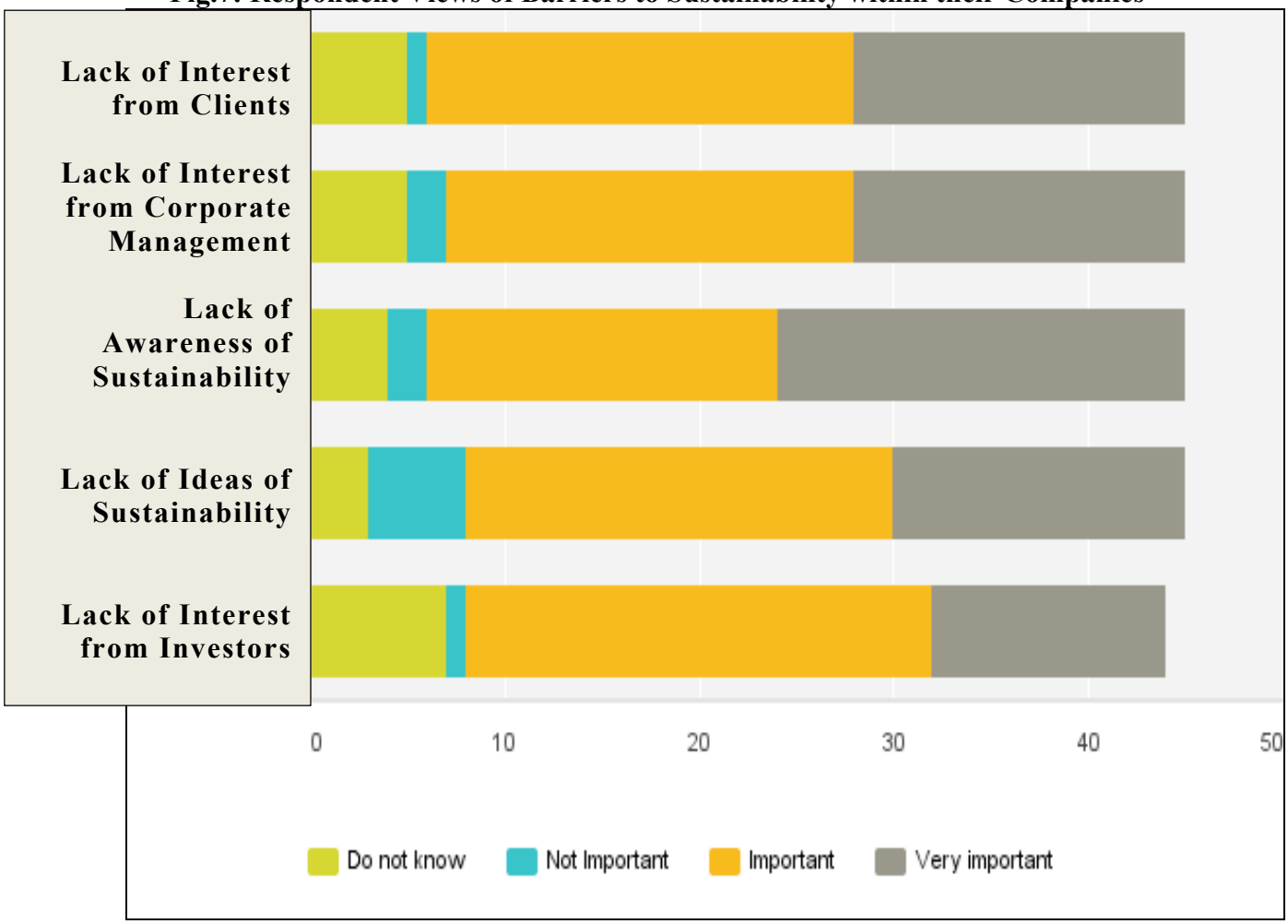
Source: Taylor, 2015

Fig. 6: Respondent Views of Important Sustainability Strategies for Vietnamese Businesses



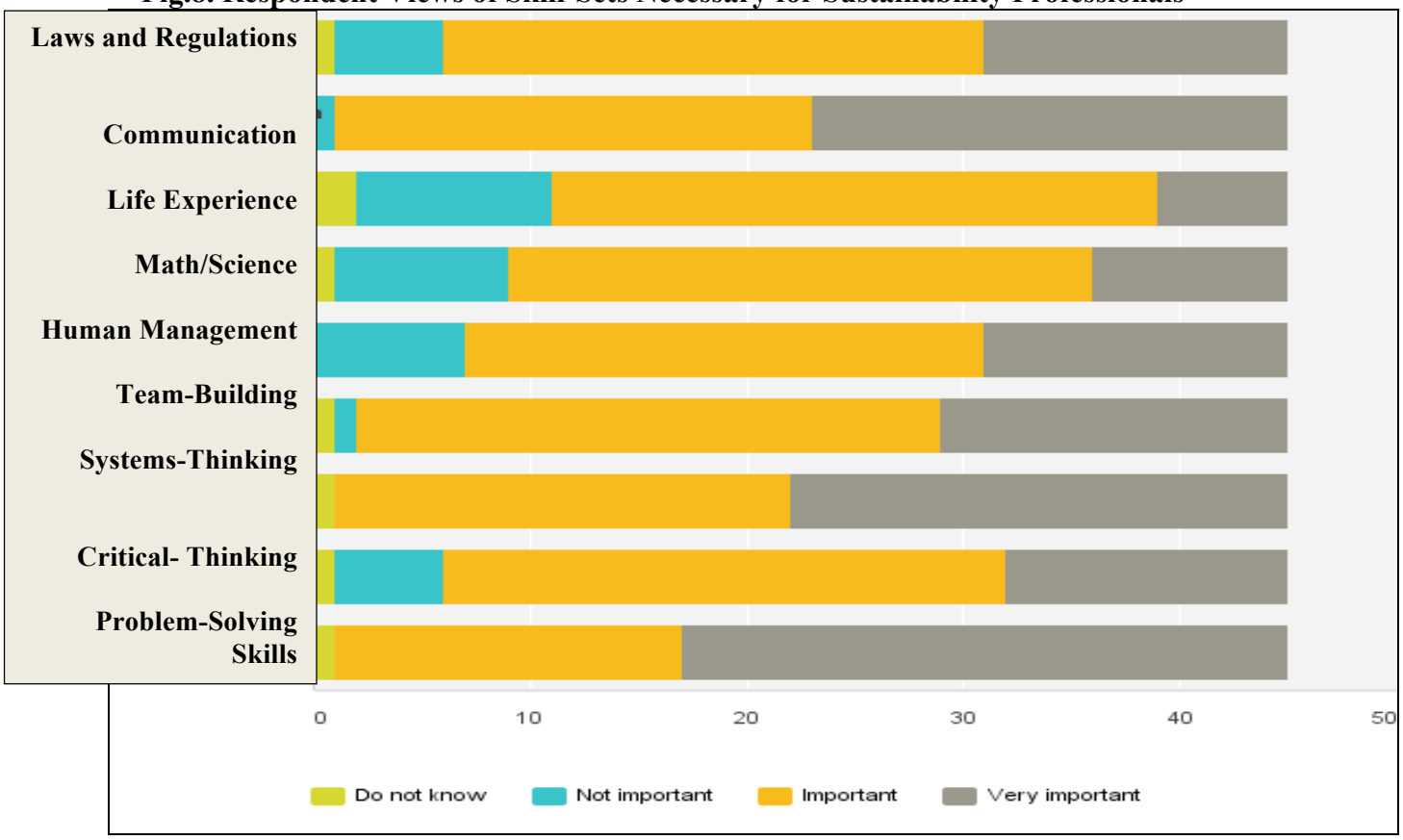
Source: Taylor, 2015

Fig.7: Respondent Views of Barriers to Sustainability within their Companies



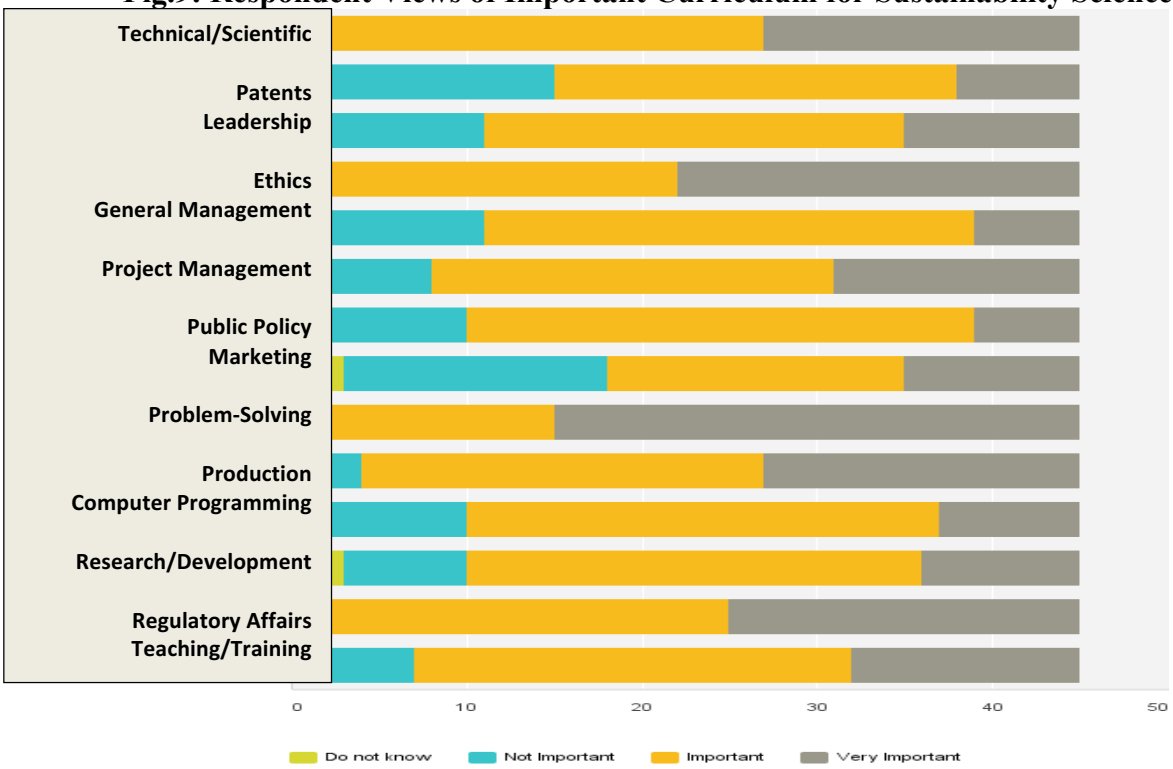
Source: Taylor, 2015

Fig.8. Respondent Views of Skill-Sets Necessary for Sustainability Professionals



Source: Taylor, 2015

Fig.9: Respondent Views of Important Curriculum for Sustainability Science



Source: Taylor, 2015