Sustainable university: what can be the matter?

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Abstract

This article presents a comprehensive managerial model for a sustainable university created by D.Sc. L. Velazquez with empirical data collected from about 80 higher education institutions around the world. The sustainable university model offers a clear perspective about how people responsible for sustainability initiatives achieve their initial momentum to progress to advanced steps in the process to become a sustainable university.

This model depicts a structured framework that is comprised of four phases in a strategic management process. In these phases, four diverging strategies, and many practices undertaken by key players of sustainability initiatives in higher education institutions are analyzed.

Keywords: Sustainability; Higher education institutions; Sustainability model

1. Introduction

Sustainability is an issue that has been present in many official agendas [1] for at least 15 years in private, governmental, and educational sectors. However, as reported by the United Nations, the progress towards the goals established in Rio de Janeiro has been slower than it was hoped, it would be and in some cases we are worse than we were then [2]. Universities are not immune to this dilemma. Sometimes, “progress can be painfully slow and frustrating” [3]. As a tool to help university leaders speed up their progress towards sustainability, this article presents a model that offers a structured framework for visualizing and achieving a sustainable university system. This model can be used to assist universities to improve the effectiveness of their potential or current sustainability initiatives through the identification of strategies and opportunities for sustainability within universities.

Throughout the course of the years, there have been some institutions that have taken and followed plans of action to successfully promote sustainability initiatives, while other’s sustainability initiatives have ceased to continue because of lack of support on the campus where they were implemented. What is missing is a clear orientation on exactly what a sustainable university should be. By creating this model, the authors of this manuscript seek to fill this gap through a systematic analysis designed to help university personnel understand the development of sustainability in higher education institutions.

To ensure that the sustainable university model is connected to the real world of those who will later have to implement and enjoy sustainability, findings in this paper were not derived from general concepts, but rather were extracted from empirical data obtained from many higher education institutions around the world.

Sustainability initiatives in universities are being fostered by a variety of key players in different settings and with different backgrounds such as: engineers, economists, environmentalists, lawyers, and health professionals and others. Hence, it is very likely that some phases in the model will have to be debated and adapted, but the main arguments can provide the means necessary to overcome the institutional barriers confronted by sustainable university advocates in their particular universities.

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2. Methodology

Because sustainability is a high level, complex, and multidimensional concept, the research process in this study was framed by the general systems theory. This theory outlines the essential elements for understanding factors in the context of a dynamic system [4] such as a higher educational institution.

In order to create the sustainable university model, the authors used a benchmarking process. It consisted of benchmarking the best practices used by different universities that were active in implementing sustainability in eighty higher education institutions around the world.

To assure the quality of the research, data source triangulation [5] was used as a method of increasing reliability of the conclusions drawn from the research data. A literature review and the completion of a survey were the data sources used for triangulation. With these complementary approaches, the knowledge necessary for understanding the constituent elements that influence the process for becoming a sustainable university were obtained.

2.1. Data sources

2.1.1. Literature review

As a first step in the data triangulation, a literature review was conducted of published and unpublished articles, conference proceedings, university reports, books, website documents, and education for sustainability profiles identified through the website of second nature.¹ See Table 1. While no single discipline was targeted, most of the materials were from engineering, economics, sociology, and related sciences.

The ultimate goal of the literature review was the identification of the diverging strategies and practices undertaken by key players of sustainability initiatives in order to be able to generate initial meaningful insights about organizational institutional areas and issues for exploring how to effectively implement sustainability in university contexts. To ensure that the model reflects the most current and cutting-edge approaches to become a sustainable higher educational institution, the time frame of the literature review was from 1990 to 2002. Important references prior to 1990 were also analyzed. In particular, the authors evaluated the following information: sustainability initiatives, metrics, barriers, environmental management systems, teaching, research projects, failures, successes, outreach relations, among others. The collection of papers concerning a particular university was arranged in a portfolio.

2.1.2. Survey

The knowledge derived from the experiences of universities around the world in the literature review was very useful in helping the authors to develop the initial stage of the model. However, conducting a survey was necessary to expand the information and to include certain themes in the model that were not available in the literature.

The goal of the survey was to develop a more complete depiction of the sustainable university model through the perceptions and interpretations of people involved with the process for implementing sustainability in higher educational institutions. Table 2 shows the list of universities that participated in the survey. A university’s mission and policy, the university’s size and type, indicators, and barriers, among others were the issues that were addressed in the survey.

The survey instrument consisted of 26 questions designed in an open-answer format. The body of the instrument was divided into three sections, as follows. Part 1 was dedicated to identification of data about the university and the respondent. Part 2 gathered information about organizational issues and sustainability in the educational institution, such as the mission, policies, and plans, among others. Finally, questions in part 3 targeted specific sustainability initiatives that people responding to the survey had participated in. Respondents were requested to return the survey via email. See Appendix A for details about the survey.

The survey targeted a select group of experts in the field. Table 3 lists the roles of the people surveyed. They were chosen because they fulfilled at least one of the following criteria:

- Participating or have participated in a sustainability initiative as a member of the university community (student, professor, staff, or administrator);
- Have presented a paper at a conference related with sustainability in higher education institution;
- Have attended a conference related with sustainability in higher education institutions;
- Have published at least an article in a refereed journal with a topic related to sustainability in higher educational institutions;
- Belong to a network working in the field;
- Have been referred or invited by participants who fulfilled any of the above requirements.

3. The model: the organizational structure of a sustainable university

3.1. Model description

In this section, the details are presented of the four phases of the model that was developed based upon the results of the literature and the empirical study. Because these stages cannot be constructed in a vacuum, they are linked in a logical sequence from strategic to operational.

Fig. 1 depicts the structure of the sustainable university model, which systematically exhibits each of the components of the proposed model encompassed in the strategic management process.

In it, four diverse strategies are delivered through a set of tailored initiatives. Each of the strategies and initiatives has

been drawn from the best practices found in the literature and in the survey.

3.1.1. Phase one: developing a sustainability vision for the university

Theoretically, the strategic move towards sustainability begins when someone, or many people, in the university “dreaming about or envisioning” the possibility that the institution’s members behave according to the sustainable development philosophy. This means that all the resources are used to accomplish the mission of the university in a sustainable manner. At this point, there are neither barriers nor constraints, only imagination and creativity.

At this stage, universities should define their own concept and definition of what a sustainable university is about. And they should make it specific to their university.

As a foundation, a sustainable university is defined by the authors as:

“A higher educational institution, as a whole or as a part, that addresses, involves and promotes, on a regional or a global level, the minimization of negative environmental, economic, societal, and health effects generated in the use of their resources in order to fulfill its functions of teaching, research, outreach and partnership, and stewardship in ways to help society make the transition to sustainable lifestyles.”

Table 1

<table>
<thead>
<tr>
<th>Portfolio number</th>
<th>University name</th>
<th>Journal</th>
<th>Book</th>
<th>Conference proceedings</th>
<th>University report/website document</th>
<th>Education for sustainability profile</th>
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<tr>
<td>40</td>
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<td>×</td>
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<td>×</td>
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</tr>
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</table>
Since sustainability means different things to different people, each university should define its own concept of their sustainable university. In practice, only a few universities have defined ways of conceptualizing a sustainable university in a formal document. In the literature review, it was found that only 8% of the portfolios examined stated their definition, while, according to the survey, 52% of the people surveyed claimed that the concept of a sustainable university is used on their campuses. However, 39% of the participants in the survey affirmed that their universities have at least an official document that shows their concept of a sustainable university. It could be a master plan, environmental plan, environmental guidelines or environmental statement. Authors of articles in journals or reports are not likely to publish the concept of sustainability on their campus if it is not first documented in an official document. Table 4 summarizes the results.

3.1.2. Phase two: the mission

The ideal future envisioned should be used as a fundamental basis for the development of the mission. As a matter of fact, the mission statement should convey the inspiration and motivation of the vision. The mission statements tend to answer three key questions: who, what, and why [6]? The mission statements should lay a foundation for future actions and philosophies that underlie those actions [7].

Epistemological and political philosophies are often found in university missions as a way to legitimate it throughout their institutions [8]. The ultimate goal of university members who advocate sustainability is amending, or creating, the university mission statement to include sustainability as one of the core values of their university.

Despite all sustainability initiatives implemented in universities, colleges, and technological institutions around the world; only a few have included sustainability in their mission statement. As shown in Table 5, in the literature review only 8% of the portfolios have made specific reference to the mission statement. On the other hand, 57% of the participants in the survey stated that in their university the mission statement contains concerns and responsibilities for the environment and for the health of their community (sustainability).

The literature did not provide clues about when the universities included sustainability in their mission statements. However some universities in the survey amended their mission during the period 1994 to 2000. Table 6 shows the year when mission statements were amended. Although several had tried in the last years, only a few had succeeded in the effort.

3.1.3. Phase three: Sustainability committee: creating policies, targets, and objectives

The next managerial step recommends that the organizational structure of a sustainable university should reflect its commitment by incorporating its policies into their routine operations as well as the generation of the means necessary to successfully achieve the mission.
In the sustainable university model, the establishment of a sustainability committee facilitates the tasks of creating and establishing comprehensive campus-wide policies, objectives, and targets. This committee is the main decision-making level. The committee does not take over the initiatives around the campus, it helps people responsible of those initiatives by disseminating and receiving information, coordinating initiatives, avoiding overlapping efforts, obtaining funds, and ensuring that policies are effectively implemented.

Ideally, the committee must be formed with the representation of all key players in the university community such as students, professors, staff members, unions, administrators, and if possible, some representation of honorable members of the surrounding society.

As shown in Table 7, findings in the literature showed the necessity for the creation of a sustainability committee. However, there was no evidence indicating that there was such a committee in their campuses. On the other hand, 55% of the people surveyed reported that there is a department to coordinate efforts among different sustainability initiatives on their campus.

Under these conditions, people responsible of an initiative have to establish their links by themselves. Most of the time, these links are made in an informal way.

Sustainability should be promoted by policies aimed at inspiring behavioral changes of university members. “When

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Developing a vision of a sustainable university</th>
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</thead>
<tbody>
<tr>
<td>Answer</td>
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</tr>
<tr>
<td>Have a definition (vision)</td>
<td>Answer</td>
</tr>
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<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Incorporating sustainability in the mission of a sustainable university</th>
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</thead>
<tbody>
<tr>
<td>Answer</td>
<td>Literature review</td>
</tr>
<tr>
<td>Have included sustainability in their mission statement</td>
<td>Answer</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
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</tr>
<tr>
<td>No Answering</td>
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</tr>
<tr>
<td>Total</td>
<td>40</td>
</tr>
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</table>
a policy is absent or is developed with broad unit input, efforts are likely to be uncoordinated, and the result will be unfocused and short-lived” [9].

During the last three decades, university environmental policies have become more plentiful, yet they have not been truly effective in guiding daily campus activities [10]. Diverse departments implement sustainable initiatives in the university in order to contribute to the goals and targets of the institution. However, when campus-wide policies do not exist, the heads in charge of each initiative should establish their own specific policies, objectives, and targets.

The creation of sustainability policies should be one of the most important tasks for the sustainability committee. Although some higher educational institutions have established sustainability policies, they still appear to not be having much impact in many of those universities. Table 8 shows that 60% of the universities studied in the literature review have established policies for supporting sustainability initiatives. Meanwhile, 52% of the universities in the survey have established policies for supporting initiatives of sustainability. Findings in the survey showed that 47% of the projects have their own policies. However, the time-frame of the actions of these policies is short in comparison with the range of actions of a university-wide policy.

3.1.4. Phase four: sustainability strategies

According to Bauer, sustainable development, in order to be effective, must infiltrate all aspects of the university [11]. Rogers found that authors in this field concur that a sustainable campus must incorporate educational and operational elements in its design [12]. This is consistent with findings in this research. All the sustainability initiatives of universities are organized into four strategies. The first three of them, education, research, and outreach and partnership, can be carried out inside or outside the campus. The other is aimed at implementing sustainability on the campus itself.

Table 9 shows the preference of people responsible for sustainability programs within the first three strategies. Specifically, 90% of the initiatives studied referred to education as a way to promote sustainability in their institutions, 80% of the portfolios referenced research as an activity in their universities for promoting sustainability, and 60% of initiatives analyzed in the literature review are involved in outreach and partnership practices. The survey was not aimed at this topic.

The fourth strategy, sustainability on campus, is the most recent of all strategies for fostering sustainability in universities. While projects and programs in education, research, and outreach and partnership have been in operation since the early 1970s, sustainability initiatives on campus, also called “greening the campus”, began to flourish just a decade ago. Table 10 shows the initiatives identified in the literature review. It does not include the survey’s results since the survey was not aimed at specific initiatives.

All of these four strategies have two fundamental means for successfully fulfilling their goals. One is to enhance the awareness of sustainability issues among the people related with the initiative; the other is the use of technology that permits reduction of the environmental burden at the local or global level depending on where the initiative is being implemented. Frequently, succeeding in raising levels of awareness does not automatically translate into expected results [13]. Sixty-three per cent of the programs reviewed in the literature, highlighted that one of their goals was to increase awareness. The results from the survey show that 40% of the sustainability initiatives rely on cultural awareness to meet their goals, and 25% rely on both awareness and technology for succeeding in their initiatives Table 11.
Also its social and environmental performance. In business
terms, this has been called “the triple bottom line.”

Sustainability indicators are one of the most important ele-
ments in an audit. Ideally, metrics should provide reliable, rel-
vant, and useful information about one or several elements to
be audited in the system. “Sustainability indicators are being
developed at the national level in many countries” [16]. How-
ever, indicators to measure sustainability in higher educational
institutions are lacking [17]. In fact, the development of this
kind of control instrument has become a major priority to uni-
versities [18].

At the corporate level, the Global Reporting Initiative
Guidelines (GRI) is a very competent set of indicators to as-
sess sustainability performance. The third generation of the
GRI guidelines is now underway and it is expected by mid
2006 [19]. Yet, this tool, as many others, needs to be adapted
for being applied to universities [20].

Not surprisingly, environmental audits, rather than sustain-
ability audits, are one of the major control tools used by uni-
versity leaders to gauge, at least, one approach of the sus-
tainability performance of institutions. An environmental
audit typically refers to a methodical examination and review
of the environmental policies and practices on campus.

The U.S. Environmental Protection Agency defines envi-
ronmental auditing as a periodic, objective, and documented
assessment of an organization’s operations compared to audit
criteria [21]. “At a minimum, audit objectives should include
assessing compliance with applicable environmental laws and
evaluating the adequacy of the internal compliance system to
carry out assigned responsibilities.” [22].

Performing a campus environmental audit is the fourth rec-
ommendation in The Blueprint for a Green Campus. This is
based on the potential benefits that audits could bring to uni-
versities such as helping to develop environmental policies,
saving costs, enhancing the image of the university, and teach
students about environmental management principles [23].

By conducting an environmental audit, a university should
develop a better understanding of the state of its operations ac-
cording to compliance criteria. Table 12 reveals that 23% of the
campuses studied in the literature review either mention
or show an indicator to evaluate the performance of their ini-
tiatives. This result is consistent with the results from the sur-
vey, which showed that 20% of the people surveyed were
using one or two metrics to evaluate progress of their pro-
grams. In the research instruments, literature review and sur-
vey, qualitative metrics were more observable than quantita-
tive metrics. It is no surprise that almost all indicators

Table 10
Sustainability initiatives on campus

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Answer</th>
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<td>Energy efficiency</td>
<td>28</td>
<td>70</td>
</tr>
<tr>
<td>Water efficiency</td>
<td>24</td>
<td>60</td>
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</tbody>
</table>
| Non-hazardous waste manage-
  ment                       | 24     | 60 |
| Transportation and commut-
  ing                        | 23     | 57 |
| Recycling                   | 21     | 52 |
| Environmentally preferable  | 17     | 43 |
| procurement                 |        |    |
| Green buildings             | 17     | 43 |
| Natural heritage            | 17     | 43 |
| Reducing                    | 16     | 40 |
| Hazardous waste management  | 15     | 38 |
| EMS                         | 14     | 35 |
| Reusing                     | 12     | 30 |
| Global climate change       | 12     | 30 |
| Composting                  | 10     | 25 |
| Dining services             | 9      | 23 |
| Integrating pest management | 7      | 18 |

The percent column is based on 40 portfolios. Reducing, recycling, and reus-
ing initiatives are aimed at both hazardous and non-hazardous waste.

3.2. Helping efforts: networks and organizations

The motivation for implementing sustainability initiatives
usually goes beyond a particular campus. Key people promot-
ing sustainability in higher education institutions have joined
efforts in order to assist each other in the successful imple-
mentation of their initiatives. They exchange information
and make efforts to raise awareness on campus communities.
Many successful examples are present [14,15].

There are also several organizations such as: the National
Wildlife Federation, the University Leaders for a Sustainable
Future, and Second Nature that collaborate with people, inter-
ested in promoting sustainability, through publications, con-
sultation, workshops, training, and several other resources.

3.3. Sustainability audits

The sustainable university model could not be completed
properly without defining the appropriate instruments for mon-
itoring, analyzing, and controlling the performance of sus-
tainability initiatives. Otherwise, the model becomes
a hypothetical structure with zero implementation value.

The ultimate idea behind a sustainability audit is to mea-
sure not only the financial performance of an institution but

Table 11
Awareness and technological efforts

<table>
<thead>
<tr>
<th>Answer</th>
<th>Literature review</th>
<th>Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Answer</td>
<td>%</td>
</tr>
<tr>
<td>Awareness</td>
<td>27</td>
<td>67</td>
</tr>
<tr>
<td>Technology</td>
<td>N/A</td>
<td>8</td>
</tr>
<tr>
<td>Both</td>
<td>N/A</td>
<td>31</td>
</tr>
</tbody>
</table>

N/A, no answer or not found.
found in the study are environmental rather social or economic. These indicators are reported individually rather than on a composite index.

3.4. Continuous improvement: Plan—Do—Check—Act

This model emphasizes that sustainability initiatives must be based on a continuous improvement. Promoted by W. Edwards Deming, the Plan—Do—Check—Act (PDCA) cycle is a useful tool to coordinate continuous improvement efforts. This is a management philosophy that seeks improvements as a never-ending process of achieving small improvements. [24] Under the continuous improvement philosophy, progress is most often incremental, delivering small improvements over prolonged periods. [25]

The first stage of the PDCA cycle calls for identifying what is going wrong and generating ideas for solving the problems of unsustainability. After this phase, people responsible for sustainability initiatives must evaluate the selected proposal in a small scale. This minimizes costs if the proposed changes do not work.

Check refers to review if the proposed changes are achieving the desired result or not.

Finally, the next step is to implement those tasks that are designed to solve the problem or to improve the efficiency of an initiative. However, the cycle is not stopped at this step. It is always necessary to go through the cycle again for solving new challenges and problems. The implementation of the model must not be a static process for generating a particular initiative. Therefore, the four phases of the model are a series of iterations that are designed to continuously work to improve the sustainability of the institution.

4. Validity and reliability

In order to evaluate the reliability of the findings in this article for accurately representing what a sustainable university is about, this section offers a comparison against results generated in The State of the Campus Environment report. [2] This report was developed by the National Wildlife Federation. Authors of this report claim that it provides a means on the national and institutional level for assessing, comparing and improving environmental performance, while heightening public interest and stimulating dialogue about environmental aspects of educational performance. Because both studies differed in their methodological approach, the similarities between findings in this study and The State of the Campus Environment report are strong evidence to prove the validity of the sustainable university model.

4.1. Similarities in the results

Despite all sustainability initiatives implemented in universities, colleges; and technological institutions, both studies revealed that only a few institutions have included sustainability in their mission statements. The State of the Campus Environment report reported that only 27% of the institutions have already incorporated environmental concerns in their missions. Findings in this study show that only 8% of the universities had special reference to the mission and 12.5% of the people surveyed were able to show the mission of their universities.

The incorporation of policies for supporting sustainability is more usual than the incorporation of sustainability in missions. In this paper, 60% of the universities studied in the literature review have established policies for supporting sustainability initiatives and 52% of the universities in the survey have established policies for supporting initiatives of sustainability. The researchers found 43% of the institutions have or plan to have a written commitment to support sustainability on campus.

The necessity for increasing the coordination among different initiatives on campus was evident in both studies. Fifty-five per cent of the people surveyed reported that there is a department to coordinate efforts among different initiatives on their campus. The State of the Campus Environment report found that in most of the American campuses there are campus environmental coordinators to facilitate implementation of specific environmental tasks rather than for coordinating all initiatives on campus.

According to both studies, almost all institutions are offering environmental courses and are researching sustainability issues. Both studies reveal that sustainability initiatives on campuses began to flourish about five years ago. Findings in the State of the Campus Environment report show that 56% of environmental programs in higher education institutions started five years ago. Another 16% started just a year ago and 30% commenced more than five years ago. Similarly, this study found that most of the sustainability initiatives on campus began between the years 1997 and 2001, but mainly in the period from 1999 to 2001.

Energy and water conservation initiatives were favored among people responsible for sustainability programs. Both studies found that at least 60% of the institutions have implemented some practices to use these resources more efficiently. Recycling is a popular sustainability practice in higher educational institutions. Both investigations found that more than 50% of the campuses have a recycling program for organic or inorganic materials. Finally, neither this study nor the State of the Campus Environment report inquired about the quality of performance in the initiatives, projects, or programs analyzed, in part due to the lack of accurate quantitative data.

5. Discussion

The sustainable university model presents a systematic procedure for how people responsible for sustainability initiatives within academic institutions may obtain their initial momentum to get started and to continue to advanced steps in the process of becoming sustainable. However, it is important to understand that currently, in most universities, there is a dearth
of adequate conditions for the establishment and compliance of all the phases of the model. For that reason, it is not intended to be a rigid and complex structure. On the contrary, the model is designed to be used by the academic community members as a framework for developing and implementing sustainability missions, policies, strategies, procedures and indicators that can be used in their organisations.

Implementing the sustainable university model is a process of continual improvement in environmental, social, and economic performance that should be made through incremental steps. This is also supported by Lozano, who states that sustainability in universities should be performed in small steps [26].

The implementation of the sustainable university model requires major efforts by key members of the university community. Additional funds and resources must be allocated for sustainability initiatives.

Few universities have amended their mission statements to incorporate sustainability concerns. Others have created environmental policies to foster education for sustainability while others aim their efforts in outreach, research, or sustainability on campus operations, but none of the universities studied, has all the phases of the model. In a certain way, it represents an acknowledgement that it can no longer be assumed that to incorporate sustainability into a higher education institution is an easy and direct task.

There is a growing impetus on campus for expressing sustainability dimensions in missions, plans, and policies. However, it should not be assumed that those documents will automatically result in better performance. Until the lack of sustainability policies or the existence of policies with zero enforcement on many campuses is no longer a problem, cultural awareness seems be one of the best strategies for catalyzing the implementation of sustainability initiatives.

There is a long way to go before achieving sustainability. However, all the energy, dedication, time, and resources invested by university members in universities around the world have yielded many fruits. Although little is clearly measurable, there has been progress. The circumstances underlying the issues are changing, new knowledge has emerged, more university members are aware of the damage of unsustainable practices, and values on campuses have evolved. At a minimum, more students, professors, and others university community members are committed to helping society make the transition to sustainable life styles.

Currently the proposed model is being validated by faculty in the Engineering College at the University of Sonora in Mexico using the ISO 14001 framework as an operational instrument. However, more time is needed to document the model’s effectiveness and efficacy.

Acknowledgements

We would like to thanks doctors Rafael Moure-Eraso, Kenneth Geiser and Michael Ellenbecker from the University of Massachusetts Lowell for all their input in the creation of this model. We also wish to thank all participants who were interviewed for this research.

Appendix A. Sustainable University Questionnaire

Instructions:

I hope you will enjoy completing the “Sustainable University Efforts” questionnaire, consisting of 26 questions designed in an open-answer format. Some questions request specific information, so you and your university may remain anonymous. In that case leave 1.1 and 1.3 blank.

1 Identification Data:

1.1 Name:
1.2 Role:
   (a) Undergraduate student
   (b) Graduate student
   (c) Professor
   (d) Staff
   (e) University authority
   (f) Other _________
1.3 University’s Name:
1.4 City: State: Country:
1.5 Public: Private:
1.6 Size: (0—5000 students) (5001—10,000 students) (More than 10,000 students)

2 University level:

2.1 Is the concept of Sustainable University used in your University?
2.2 If yes, is it written in an official document?
2.3 If yes, what is the concept of a sustainable university?
2.4 Is environmental or occupational responsibility mentioned in your University’s Mission?
2.5 If yes, when this was written and what is it?
2.6 Is there an Environmental Management System (EMS) program at your University?
2.7 Has the top university management established policies to support sustainable efforts?
2.8 Is there any university department to coordinate communication and resources between diverse initiatives and projects?
2.9 When did the sustainable efforts begin in your university?

3 Project level.

Some of you could be involved in several initiatives or projects; please identify each project separately.

3.1 Please describe the project(s) where you are/were participating?
3.2 What is/was your role?
3.3 How long has this project been working?
3.4 What is the strategic goal of this project?
3.5 Has the project established any policies?
3.6 If they, what are the metrics you are using to evaluate the progress?
3.7 What was your source(s) of funding?
3.8 How many persons work directly in the project?
3.9 Are students and/or other university community members involved?
3.10 Is the project indexed to any class? Graduate or undergraduate?
3.11 Are there persons or groups that are opposed to the project?
3.12 If yes, do you know why they are opposed?
3.13 What barriers have you found?
3.14 Does the initiative rely more on technology or culture awareness?
3.15 Do you have any kind of authority to establish any change?
3.16 Is there coordination with other projects?
3.17 If you know other sustainable projects in your university, please list them.

Thank you again.

References