

# **Sustainability Reporting by Universities: A Separate Category Within the Balanced Scorecard Based on Key Drivers Through a Mapping Strategy**

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*This paper presents background information on the Sustainability Concept, Global Reporting Initiative and the Balanced Scorecard. The sustainability reports of four universities are considered with the University of North Carolina's sustainability report compared with the other three universities. The goals of University of North Carolina are integrated into the illustration by adding a fifth category to the Balanced Scorecard. The procedure is critiqued as to advantages and disadvantages of the integration procedure. The key drivers are basically the "Voice of Society" that is an aggregation of the concerns of the many stakeholders that make up the civic communities at the local, regional and national levels. The mapping strategy consists of simultaneous, complimentary themes that are incorporated in at least one of the original balanced scorecard categories.*

## **INTRODUCTION**

In recent years many corporations as well as some non-profit organizations have implemented environmental and /or social management assessments with a systematic procedure. Many organizations, especially non-profit ones, have focused on a separate reporting format with no real consideration to other aspects of the organization. The Balanced Scorecard methodology demonstrated in this paper provides a format for a possible bridge between all strategic and operative levels of an organization.

## **SUSTAINABILITY CONCEPT**

The sustainability concept is relatively new and gaining wider acceptance especially for non-profit organizations. The concept refers to how organizations handle non- financial factors related to environmental, social and governance issues that potentially impact the organizations future performance, balancing the budget and value. Many view the sustainability report as a companion to financial reporting. The increased use of sustainability reporting at universities, for example, symbolizes the ever-crowding demand by stakeholders for more transparency and accountability (Burkowski, et. al., 2010).

The concept is also used synonymously with citizenship reporting, social reporting, triple bottom line reporting and other terms that encompass the economics, environmental and social/cultural aspects of an organizations performance and planning. For public and private agencies, sustainability reporting can be considered at three levels: organization-internal, policy outcomes-external and contextual or spatial outcomes-regional (Centre for Public Agency Sustainability Reporting, 2007).

## **IMA STATEMENT**

A Statement on Management Accounting (SMA) - The evolution of accountability-sustainability reporting for accountants, issued by IMA in 2008, details the evolution of sustainability reporting noting the phenomenon is still in its “infancy”. IMA observed that “while some organizations are leading the way, many are either ignoring the issues, have not yet made a start, or are trying to figure out what to do, how to do it, and how to take action in a way that adds value.” (Burkowski, et. al., 2010). Although sustainability reports lack reporting standards analogous to Generally Accepted Accounting Principles (GAAP), efforts to establish standards for sustainability reporting are ongoing.

## **GLOBAL REPORTING INITIATIVE**

The Global Reporting Initiative (GRI) has evolved to address the challenges, such as, managing different mandatory and voluntary reporting commitments including annual reporting and to provide a global framework for sustainability reporting. The GRI, an independent institution in 2002, describes its mission as the development and dissemination of globally applicable sustainability reporting guidelines, first issued in 2000. The GRI is an official collaborating centre of the United Nations Environment Programme (UNEP). It continues to build connections and associations with other organizations and recently formed an alliance with the Global Compact. The GRI’s current reporting guidelines (G3) have been voluntarily adopted by over 1,500 companies worldwide with over 950 organizations actively cite the use of the GRI in their reports (Centre for Public Agency Sustainability Reporting, 2007).

The GRI Framework consists of a central set of sustainability reporting guidelines (G3) which identify reporting principles, disclosures and performance indicators common to all organizations. Also, the GRI has developed sector supplements to provide additional guidance and performance indicators which are important for that sector but not fully reflected in the guidelines. The GRI reporting framework is illustrated in Figure 1 below (Centre for Public Agency Sustainability Reporting, 2007).

## **BALANCED SCORECARD**

The concept of the Balanced Scorecard (BSC) was first introduced by Robert S. Kaplan and David P. Norton in 1992. The basic premise of the BSC is that financial results alone cannot capture value creating activities. In other words, financial measures are lagging indicators and, as such, are not effective in identifying the drivers or activities that affect financial results. Therefore, Kaplan and Norton (1992) suggested that organizations, while using financial measures, should develop a comprehensive set of additional measures to use as leading indicators or predictors of financial performance. They suggested that measures should be developed that address four perspectives.

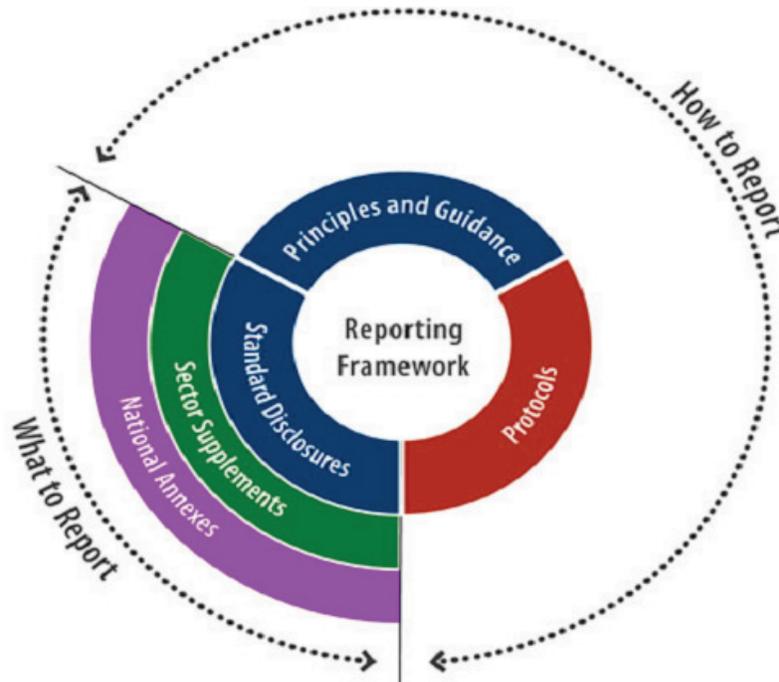
1. The financial perspective. Measures in this perspective should answer the question, "How should we appear to our shareholders?"
2. The customer perspective. These measures should answer the question, "How should we appear to our customers?"
3. Internal business processes perspective. Measures in this perspective should answer the question, "What processes must we excel at?"
4. Learning and growth perspective. These measures should answer the question, "How can we sustain our ability to change and improve?"

In essence, the Balanced Scorecard is a customer-based planning and process improvement system aimed at focusing and driving the change process. It does this by translating strategy into an integrated set of financial and non-financial measures that both communicates the organizational strategy to the members and provides them with actionable feedback on attainment of objectives.

A critical factor for an effective BSC is the alignment of all the measures in the four perspectives with the organization’s vision and strategic objectives. The BSC allows managers to track short-term financial results while simultaneously monitoring their progress in building the capabilities and acquiring the

intangible assets that generate growth for future financial performance (Kaplan and Norton, 1992). Thus, the BSC enables managers to monitor and adjust the implementation of their strategies and to make fundamental changes in them overtime (Karathanos, 2005).

**FIGURE 1  
THE GRI FRAMEWORK**



Source: GRI 2006

BSC applications focus on for profit organizations. However, a few studies of the BSC look specifically within Business schools for applications include Drtina, Gilbert, and Alon (2007) who suggested integrating measures with clearly defined strategies as a first step with various guidelines. Armitage and Scholey (2004) successfully applied the BSC to a specific master’s degree program in business, entrepreneurship, and technology. Cullen, Joyce, Hassall, and Broadbent (2003) proposed that a Balanced Scorecard be used in educational institutions for reinforcement of the importance of managing rather than just monitoring performance. Sutherland (2000) reported that the Rossier School of Education at the University of Southern California adopted the Balanced Scorecard approach to assess its academic program and planning process. Chang and Chow (1999) reported that responses in a survey of 69 accounting department heads were generally supportive of the Balanced Scorecard’s applicability and benefits to accounting programs [5]. Also, Chang and Chow (1999) indicated that in 1993 the University of California, San Diego’s senior management launched a Balanced Scorecard planning and performance monitoring system for 30 institutional functions using three primary data sources: 1) UCSD’s internal financial reports; 2) National Association of College and University Business Officers benchmarks; and 3) faculty, staff and student customer-satisfaction surveys. This exercise was conducted under the framework of the university’s vision, mission, and values. Reported benefits and outcomes to date have included reorganization of the workload in the vice chancellor’s area, revision of job descriptions with performance standards, introduction of continual training for user departments, ongoing customer assessments and increased responsiveness to communication needs through the use of technology. O’Neil

and Bensimon (1999) described how a faculty committee at the Rossier School of Education of USC adapted a Balanced Scorecard model originally developed for business firms to satisfy the central administration's need to know how they measure up to other schools of education. The format of the Balanced Scorecard adapted by the faculty included the following four perspectives: 1) academic management perspective (How do we look to our university leadership?); 2) the internal business perspective (What we excel at?); 3) the innovation and learning perspective (Can we continue to improve and create value?); 4) the stakeholder perspective (how do students and employers see us?). O'Neil and Bensimon (1999) indicated the following favorable results from the "academic" scorecard implementation:

1. Easier approach for the university to accomplish its strategic goals.
2. A systematic and consistent way for the provost's office to evaluate performance reports from various schools and departments.
3. The scorecard established common measures across academic units that have shared characteristics.
4. The simplicity of the scorecard makes it easier for academic units to show how budget allocations are linked to the metrics of excellence.

## CONCEPTUAL VIEWPOINT

The following concepts are an integral part of the paper:

- Strategy Map- describes how an organization matches its own capabilities with the opportunities in the marketplace to accomplish its overall objectives.
- Balanced Scorecard- a tool that translates an organization's mission into a comprehensive set of performance measures that provides the framework for implementing its strategy.
- Continuous improvement- the process and company philosophy that create a never-ending search for higher levels of performance within many organizations.
- The preamble to the 2003 AACSB standards for business accreditation challenges schools to engage in continuous improvement of the quality of the content, delivery, and administration of management education.

At the organization level, developing the Balanced Scorecard involves identifying several key components of operations, establishing goals for these and then selecting measures to track progress toward these goals. The number and nature of components can be expected to vary depending on the nature and the strategy of the organization, though the following four components are typical for a Balanced Scorecard:

1. The financial perspective. Measures in this perspective should answer the question, "How should we appear to our customers?"
2. Customer Perspective (How do our customers see us?). This component tracks how well the organization is meeting the expectations of its customers.
3. Internal Business Perspective (At what must we excel?). It focuses on the internal processes that the entity must perform well if it is to meet customers' expectations.
4. Innovation and Learning Perspective (Can we continue to improve and create value?). This component focuses on the infrastructure that the entity must build and sustain in order to ensure and enhance its ability to satisfy customers' expectations.

## MEASURES

The strategic directions can be developed and measured within the generic structure of the Balanced Scorecard. The following is the adaptation, including the sustainability perspective of the sample Balanced Scorecard developed by Bailey, Chow, and Haddad (1999) for a university and its strategic business units.

**TABLE 1**  
**BALANCED SCORECARD COMPENENTS**

**1. Stakeholder/Customer Perspective**

GOALS

1) Students  
Attract high-quality ethically diverse students

Develop high-quality students

Retain high-quality students

Graduate high-quality students and improve placement

2) Employers-Satisfaction with graduates

3) Faculty satisfaction and quality

4) Alumni satisfaction

5) Community Public-Enhance relationships with community, improve public image

MEASURES

Average SAT, GMAT, GRE  
High school QPA  
Market share of student enrollment  
Geographic draw area  
% minority enrollment  
Student portfolios  
GPA over time, average grades awarded  
Integration of technology into curriculum  
Financial aid offered  
Retention rate  
Student satisfaction surveys  
Tuition compared with comparable schools  
Number of degree awarded  
Number of students recruited  
Starting salaries  
Number of visits by recruiters  
Employer survey rating graduates' effectiveness  
Perception surveys  
Support of programs and initiatives

Participation in decision-making  
Encouragement for research, attendance of conferences  
Office space and computer availability  
% full time, % doctorally qualified  
Level of faculty publications/conference attendance/presentations  
Student perception of faculty quality  
Student/teacher ration  
% of budget devoted to faculty development

Increased assistance with placement  
Level of alumni giving  
Number of alumni attending special events

Employer surveys  
Outreach programs to community  
Community perception of faculty and staff  
Internships/co-op programs  
Advisory committees

**2. Internal Business Perspective**

GOALS

1) Teaching and learning excellence

MEASURES

Evaluation by external reviewers and employers  
Peer review  
Student satisfaction with teaching quality

- |   |  |
|---|--|
|   | Grade point standards  |
|   | Quality and technological level of computer labs and libraries                             |
|   | Presentation capabilities  |
|   | Degree of deployment of technology in learning experience                                  |
| 2) Curriculum/program excellence            | Degree to which curriculum is up-to-date with educational, business, and commercial trends |
|   | Reviews by advisory boards   |
|   | Periodic review of each program  |
| 3) Quality and currency of faculty          | Faculty credentials, development plans, appraisals   |
|   | Contacts with business and industry  |
|   | Utilization rate of multimedia in classrooms   |
| 4) Efficiency and effectiveness of services | Degree cycle time  |
|   | Teaching load policy management  |
|   | % of students completing program in 4 years  |
|   | Analysis of use of space   |
|   | Student satisfaction   |
|   | Placement services and opportunities   |
|   | Availability of internships/co-ops   |
|   | Allocation and use of equipment and supplies   |

### **3. Innovation and Learning Perspective**

#### GOALS

- 1) Teaching and learning innovation and faculty development

#### MEASURES

- Number of innovations incorporated into classroom  
 Level of equipment  
 Quality of instruction/advising/mentoring  
 Number of ongoing instructional development programs  
 Number of new initiatives/courses/programs  
 Formally approved curriculum changes  
 Seminars presented  
 Expenditures for teaching enhancement  
 Number and quality of faculty publications/presentations  
 Attendance at conferences  
 Honors and awards received by faculty  
 Innovation versus competitors

- 2) Quality of facilities

- Adequacy of classrooms, equipment, computers, library resources  
 % of budget for improved facilities  
 Time required to service, replace, allocate  
 Reports of the implementation of decentralization efforts for sites  
 Evaluation of strategic planning results

- 3) Specific strategic decision implementation-decentralization of campuses

### **4. Financial Perspective**

#### GOALS

- 1) Fund raising

#### MEASURES

- Total funds raised  
 Alumni/business funds generated  
 Size/growth of endowment

	Number of donors
	Growth rate of annual fund
	Number and amounts of grants and contracts received
	Level of unrestricted funding
2) Revenues from operations	Tuition revenue growth
	Nontuition revenue as% of annual budget
	% of funds from tuition that stay internally
	Contribution analysis
3) Human capital investment	Class size, student/faculty ratio
	Faculty turnover rate
	Salaries relative to peer group
	Dollars/faculty
	Program for release time and sabbaticals
4) Financial management-Budgeting	Balanced budgets and increased budgets
	Funds totally accountable
	Efficiency and effectiveness of budget allocations spent
	Effectiveness of monitoring supplies and equipment
	Number of dollars for each revenue generating activity
	Cost per "credit hour production" relative to benchmark

## 5. Sustainability Perspective

### GOALS

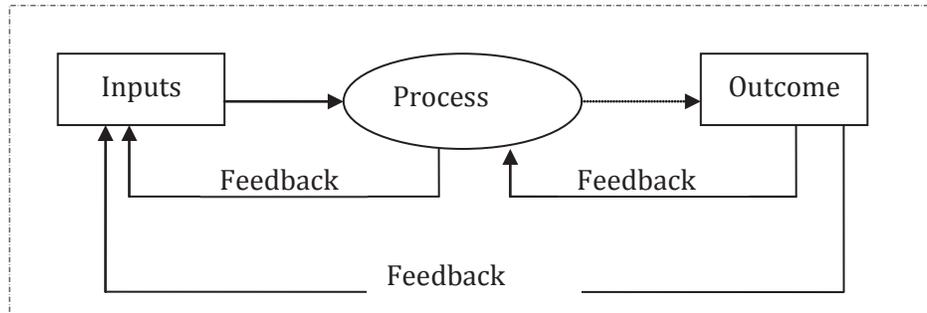
- 1) Greenhouse gas reduction
- 2) Energy
- 3) Transportation
- 4) Academics and research
- 5) Purchasing goods, services and food products
- 6) Communication
- 7) Storm Water management and domestic
- 8) Waste reduction and recycling
- 9) Public Service and engagements
- 10) Globalization/Outreach
- 11) Grounds/ Historic Preservation
- 12) Housekeeping services
- 13) Wellness

### MEASURES

- No. of new alternative technologies applied to decrease emissions
- LEED equivalency
- Green Buildings
- Campus Shuttle System
- No. of cars commuting to the campus
- No. of research initiatives
- Changes in curriculum No. of multi and cross-cultural programs
- No. of apprenticeship and internships for graduate and undergraduate students
- No. of purchasing contracts for green goods and services
- No. of programs developed
- No. of new initiatives/ projects
- Signs at appropriate places
- No. of approaches used/techniques designed
- Water conservation
- Use of conserving technologies
- No. of storage systems installed
- Tonnage changes
- No. provided
- No. of students participating
- Documentation of changes
- Ratings by type of building usage
- Changes in the number of visits to the infirmary

The inputs are transformed into outputs as a result of a defined set of related steps or operations called a process. Generally the inputs represent resources from both the internal and external environments, including the products or outputs from other subsystems of the school or university including students, physical environment and organizational infrastructure. The outputs generated by the system include the service or value addition generated by the process. The outputs can be assessed using outcomes-related metrics. The purpose of the feedback loop is to facilitate continuous improvement through the entire transformation process. The basic model is shown in Figure 2 below:

**FIGURE 2  
TRANSFORMATION PROCESS MODEL**



### **AN INTEGRATED FRAMEWORK APPROACH**

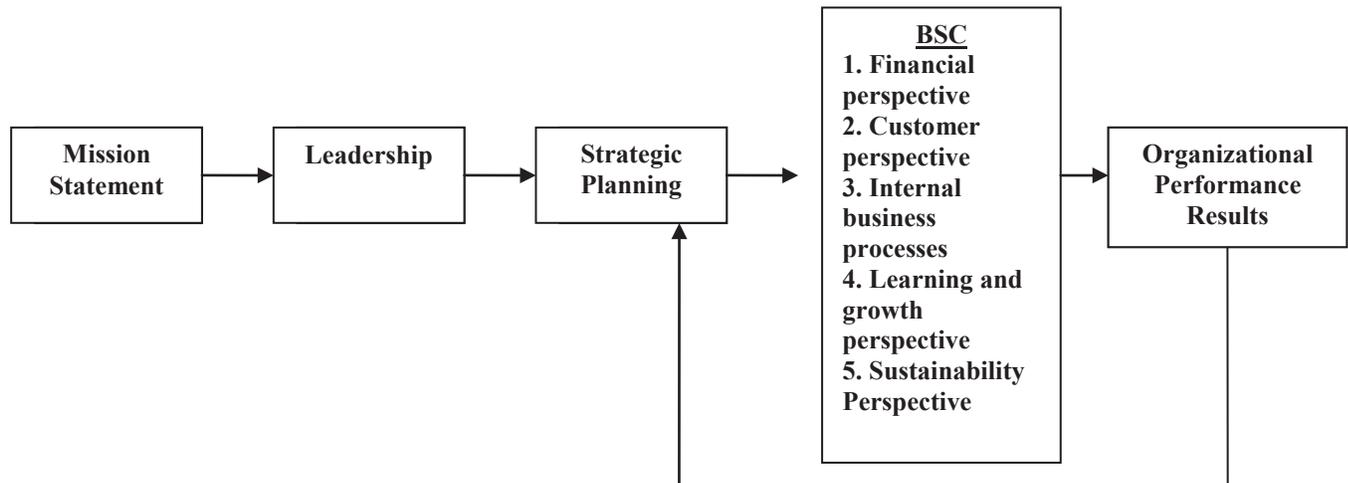
The integrated framework approach within the expanded balanced scorecard would start with the overall strategy based on the mission statement. The mission statement would be integrated with resources such as faculty including their perspectives of teaching, research, and service. A comprehensive strategy would include measures or metrics including sustainability with the five perspectives outlined. The content within the perspectives would be viewed on a continuum of improvement over time. The framework can be further developed by considering other standards for measurement and application within the BSC and consideration of actual data provided by a university.

The balanced scorecard strategy map provides a framework for the five categories to illustrate how strategy links intangible assets to value-creating processes. The objectives of the five perspectives are linked together by the cause-and-effect relationships. Aligning objectives in these five perspectives is the key to value creation and sustainability and hence, to a focused and internally consistent strategy (Kaplan and Norton, 2004).

The framework would provide a systematic perspective for long-term planning and decision making. A generic architecture to describe the framework is shown in Figure 3. The measures or metrics could be further developed into a BSC strategy map as illustrated by Kaplan and Norton (2004). Each measure would be considered in a chain of cause-and-effect logic that connects the desired outcomes from the strategy with the drivers.

Continuous improvement within an environment including relationships and challenges will lead to the planned or expected outcomes. The measures or metrics illustrated in this paper may then be tied to multiple goals. The important concept is that each measure or metric align with the organization's strategy based on the mission statement.

**FIGURE 3  
GENERIC ARCHITECTURE**



### INTEGRATION OF SUSTAINABILITY REPORTING WITHIN THE BSC

One can argue that the Balanced Scorecard needs another perspective in addition to financial, customer, process and learning and growth to present the environment by simply adding an environmental perspective to a balanced scorecard. It can cause two problems:

- It can mean you lose the drivers of sustainable activity.
- It can also cause you to look at sustainable activities in isolation rather than as a part of what everyone does (Excitant, 2003-2010).

Sustainability or environmental strategy is a theme of the organization's strategy that spans the existing balanced scorecard perspectives. It is considered a vertical theme of the organization's strategy map (Excitant, 2003-2010). However, the proposed procedure is not to integrate the metrics into the existing balanced scorecard of an organization. The goals of the University of North Carolina have been added as a separate category (Sustainability Perspective) to the goals and measures of Table 1. The selected universities in Table 2 indicate that only Princeton University identified specific goals. There are many similarities among these universities as compared to Princeton University. The University of North Carolina has the most detailed report as indicated in table 2 under the other areas section.

Princeton University issued an updated sustainability report in 2009. The report used benchmarks developed in 2007 by the Princeton Sustainability Committee. The report objectives included:

- To report on progress toward sustainability goals.
- To describe the evolving nature of the goals.
- To illustrate the comprehensive nature of the Princeton University approach (Princeton, 2009).

The disadvantages of a separate category include:

- Required review of all metrics within the balanced scorecard
- Lack of possible integration of metrics
- Lack of avoidance of duplication of effort
- Attention to boundaries and overlap
- Possible weighting of the sustainability metrics with the overall metrics of the organization
- Lack of greater efficiencies recognized and implemented to more effectively utilize resources

- Lack of identification of saved resources that affect a balanced budget
- Lack of a synergistic approach to the management of the organization

The advantages of a separate category include:

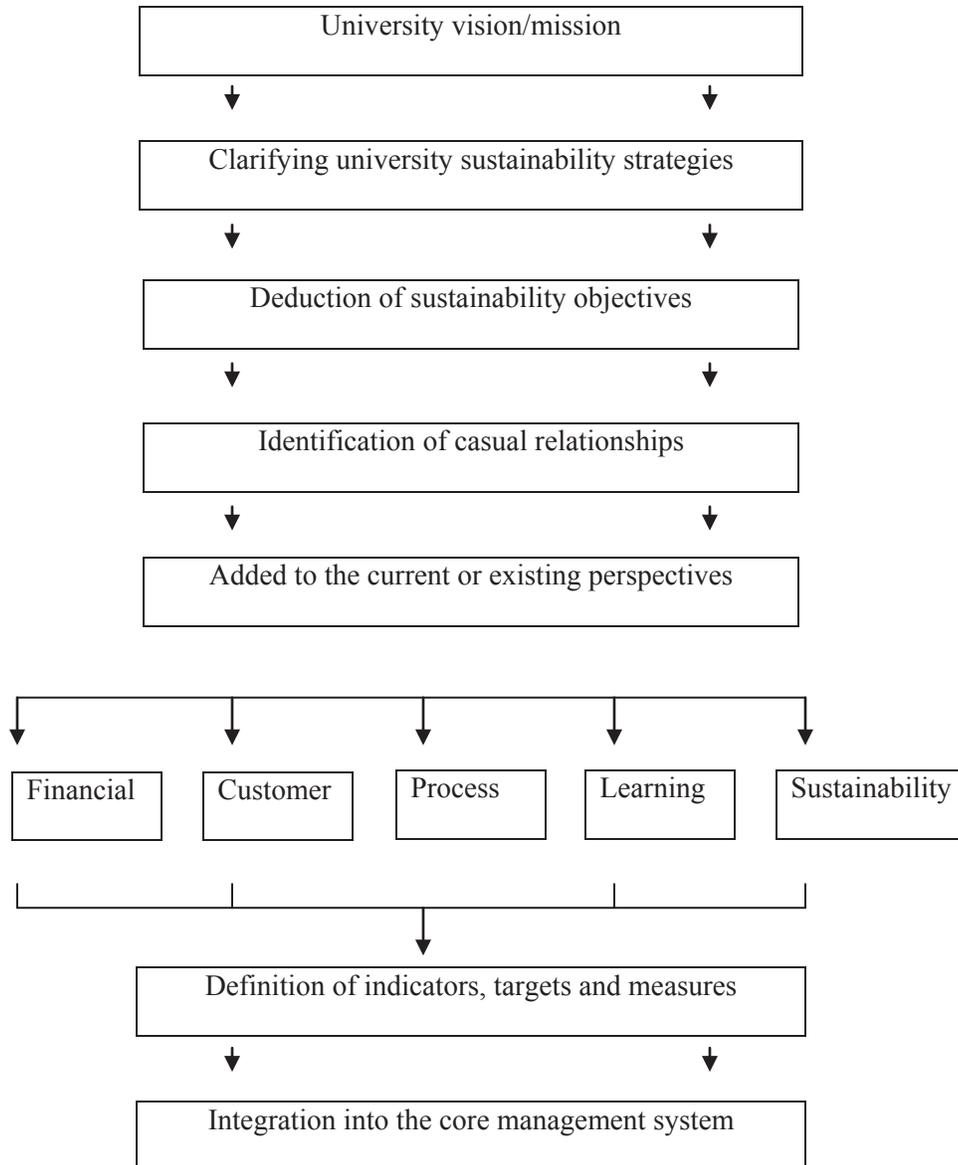
- Emphasis or focus on the sustainability goals
- Duplication of effort avoided
- Lack of conflict over boundaries
- Proper weighting of sustainability metrics with the overall metrics of the organization
- May effectively utilize reserves
- No proper identification of what resources were actually saved
- Proper reporting of sustainability achievements
- May question established strategies, structures, and processes
- Loss of power or independence by social managers

**TABLE 2  
COMPARISON OF UNIVERSITIES**

<b>GOALS</b>	<b>PRINCETON UNIVERSITY</b>	<b>UNIVERSITY OF NORTH CAROLINA</b>	<b>UNIVERSITY OF MARYLAND</b>	<b>CLARK UNIVERSITY</b>
<b>GREENHOUSE GAS REDUCTION</b>	<ul style="list-style-type: none"> <li>• Utility Emission Reduction</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Climate Change (Reduce Greenhouse Gas Emissions)</li> <li>• Energy</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon Neutrality (Mitigating Emissions from Power and Operations)</li> <li>• Energy</li> <li>• Conservation</li> <li>• Transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Greenhouse Gas Inventory</li> <li>• Renewable Energy</li> </ul>
<b>RESOURCE CONSERVATION</b>	<ul style="list-style-type: none"> <li>• Storm Water Management and Domestic Water Conservation</li> <li>• Solid Waste and Green Cleaning</li> <li>• Purchasing Good, Services and Food Products</li> </ul>	<ul style="list-style-type: none"> <li>• Water and Storm Water Management</li> <li>• Food Purchases</li> <li>• Waste Reduction and Recycling</li> </ul>	<ul style="list-style-type: none"> <li>• Storm Water Conservation</li> <li>• Water Conservation</li> <li>• Green Cleaning</li> <li>• Waste Management</li> <li>• Dining</li> </ul>	<ul style="list-style-type: none"> <li>• Waste and Recycling Paper Use</li> </ul>
<b>RESEARCH, EDUCATION AND CIVIC ENGAGEMENT</b>	<ul style="list-style-type: none"> <li>• Research and Education</li> <li>• Civic Engagement</li> <li>• Communications</li> </ul>	<ul style="list-style-type: none"> <li>• Academics and Research</li> <li>• Public Service and Engagement</li> <li>• Globalization</li> <li>• Outreach</li> </ul>	<ul style="list-style-type: none"> <li>• Curriculum Sustainability</li> <li>• Education and Research</li> <li>• Engaging Local and Global Communities</li> </ul>	<ul style="list-style-type: none"> <li>• Curriculum</li> </ul>
<b>OTHER AREAS</b>		<ul style="list-style-type: none"> <li>• Green Buildings</li> <li>• Grounds</li> <li>• Historic Preservation</li> <li>• Housekeeping Services</li> <li>• Wellness</li> </ul>	<ul style="list-style-type: none"> <li>• Green Buildings</li> </ul>	

To assure success, the following steps may be followed:

**FIGURE 4  
DEFINING THE STEPS**



Source: Bieker, 2003

Figure 4 represents specific steps as compared to the generic architecture of Figure 3. The broad participation of employees in the development process from different levels of management as well as an attitude of being open and willing to learn, a skillful project manager, and a good placement of the balanced scorecard within the management tools and processes are continually important to success. The culture within the organization will need to change to achieve success (Bieker, 2003).

## CONCLUSION

The integration procedure of the sustainability perspective metrics as a fifth category within the balanced scorecard offers a possibility for organizations to translate sustainability visions and strategies into action plans with the resulting reports providing a basis for assessment and further directed action. In addition, the integrated framework provides high potential for the integration of environmental and social aspects and objectives into core management of the organizations.

## REFERENCES

- Bieker, Thomas (2003). "Sustainability management with the Balanced Scorecard" International Summer Academy on technology studies – Corporate Sustainability.
- Borkowski, Susan, Welsh, Mary Jeanne and Wentzel, Kristin (2010). "Johnson & Johnson: A Model for Sustainability Reporting" *Strategic Finance*, 2010.
- Centre for Public Agency Sustainability Reporting (2007).
- Clark University (2007). "An Assessment of Clark University's Environmental Impact 2007."
- Excitant (2003-2010). "Environmental Strategy and Environmental Balanced Scorecards: How do you measure sustainability using the Balanced Scorecard and an Environmental Strategy Map"
- Karathanos, Demetrius and Patricia Karathanos (2005). "Applying the Balanced Scorecard to Education." *Journal of Education for Business*. Mar/Apr 2005, 80(4), 222-230.
- Kaplan, Robert S. and David P. Norton (1992). "The Balanced Scorecard-Measures That Drive Performance." *Harvard Business Review*, 70, 71-79.
- Kaplan, Robert S. and David P. Norton (1996). *The Balanced Scorecard- Translating Strategy into Action*. Harvard Business School Press, Boston, MA.
- Kaplan, Robert S. and David P. Norton (1996). "Linking the Balanced Scorecard to Strategy." *California Management Review*, Vol. 39 No. 1, 54.
- Kaplan, Robert S. and David P. Norton (1996). "Strategic Learning and the Balanced Scorecard." *Strategy and Leadership*. 24, 18-25.
- Kaplan Robert S. and David P. Norton (2001). *The Strategy-Focused Organization*. Harvard Business School Publishing Corp, Boston, MA.
- Kaplan, Robert S. and David P. Norton (2004). *Strategy Maps*. Harvard Business School Publishing Corp, Boston, MA.
- Kaplan, Robert S. and David P. Norton (1997). "Using the Balanced Scorecard as a Strategic Management System." *Harvard Business Review*, January/ February, 75-85.
- Princeton University, (2008). "The Princeton University Sustainability Plan". February 19 <http://www.princeton.edu/reports/sustainability-plan-20080219/>.

The University of North Carolina at Chapel Hill 2009 Campus Sustainability Report. (2009).  
<http://sustainability.unc.edu>

University of Maryland Campus Sustainability Report: 2010. (2010).  
[http://www.sustainability.umd.edu/documents/2010\\_Campus\\_Sustainability\\_Report.pdf](http://www.sustainability.umd.edu/documents/2010_Campus_Sustainability_Report.pdf)