The Triple Bottom Line: Portable Applications and Best Practices for Sustainability in Academic Libraries

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Abstract
Triple Bottom Line Accounting (TBLA) refers to a method of measuring the economic, environmental, and community service impacts of an organization rather than the traditional practice of measuring just the financial bottom line. This chapter explores TBLA from a historical point-of-view; offers examples in higher education and discusses the implications for academic libraries. It concludes with ideas for the implementation of TBLA in libraries.

Introduction
In 1994, John Elkington coined ‘triple bottom line’ (TBL) as a new term to advance his sustainability agenda. He wrote: “Sustainable development involves the simultaneous pursuit of economic prosperity, environmental quality, and social equity. Companies aiming for sustainability need to perform not against a single, financial bottom line but against the triple bottom line” (Elkington, 1998, p. 397).

Elkington’s definition intended to go beyond previous constructions of sustainable development (SD) and corporate social responsibility (CSR) to encompass an approach that emphasizes economic prosperity, social development and environmental quality as an integrated method of doing business.
This definition implies a shift away from the emphasis of organizations on short-term financial goals to long-term social, environmental, and economic impacts. The approach is intended to be holistic, from the development of the vision, mission, and values of a company, to its management practices, including accounting and reporting.

Triple Bottom Line Accounting (TBLA) or sustainability accounting focuses on the value to society that is created or destroyed by an organization’s activities or business. Richardson (2004) identifies two high level components of the TBLA framework. First is the restatement of traditional accounts to highlight financial flows that are sustainability related. Second is additional accounting undertaken to show the financial value of economic, environmental, and social performance upon external stakeholders. Richardson highlights the danger inherent in accounting for only those items that can be reduced to monetary value and the difficulties of converting environmental practices and performance into financial values, much less the extension to the sphere of social performance and impact. She also stresses that financial valuation of economic, environmental, and social bottom lines places these factors into silos that allows them to be traded-off against one another. Richardson argues for moving beyond this thinking to a systemic approach that focuses upon qualitative processes such as diversity, learning, adaptation, and self-organization rather than defining and setting of financial, environmental, and social performance targets to be achieved and perhaps traded-off against one another.

In terms of implementing TBL, Adams, Frost, and Webber (2004) determined that there are no generally or widely accepted accounting standards or metrics to measure environmental or social performance. Mintz (2011) acknowledges that while managers’ attention to the social and environmental impacts of their organizations has increased, it is difficult to develop standard accounting measures similar to those in financial accounting. He recommends that organizations develop Key Performance Indicators (KPI) or quantifiable measures linked to their own missions, goals, and stakeholder expectations. Rogers and Hudson (2011) caution that while businesses need to internalize
their social and environmental impacts; they also need to instill the realities of the economic environment into their environmental and social policies.

Critics of TBL include Norman and MacDonald (2004) who question whether the paradigm of TBL is anything but a marketing ploy. They argue that, prior to the TBL model, the belief in attaining CSR had already led to a broader movement sometimes referred to as Social and Ethical Accounting, Auditing, and Reporting (SEAAR), producing “a variety of competing standards and standard-setting bodies, including the Global Reporting Initiative, the SA 8000 from Social Accountability International, the AA 1000 from Accountability, as well as parts of various ISO standards” (p. 247).

Despite criticisms of TBL and Elkington’s original definition, the TBL concept continues to be important in thinking about sustainability and its application to management in both for-profit and public spheres. In this chapter, the focus is upon TBL and sustainability applications, and their importance in higher education and to academic libraries.

**Sustainability in Higher Education**

Kelly (2008) writes that sustainability in higher education has usually focused on energy, but it is not a single issue. Sustainability, he argues, should not be confused with incremental technology approaches to managing the environment or making the existing campus or consumer culture greener but rather should be viewed as a question of culture: what gives meaning and purpose to human beings. He concludes that universities should become sustainable learning communities, where everyone is an educator and a learner (Kelly, 2008).

Sherman (2008) suggests that sustainability should be viewed as a way to think critically about individual and collective roles in ecological, economic, and social systems and move away from prescriptive lists of what we should do. He advocates for inclusion of sustainability in the curricula of all disciplines, fully integrating it into every aspect of a student’s education. To do this, he promotes sustainability as a big idea, which he defines as a concept, theme, debate, paradox, question, theory, or
principle central to a course of study. For all three areas: social, economic, and environmental, his definition of sustainability coalesces around the concept of limits and future need. The biggest idea according to Sherman (2008) is that sustainability reveals interconnectedness across space and time, involving a study of what matters for the future.

Sustainability and its inclusion in all aspects of higher education has been increasing in prominence since 2000. Organizations, such as the Sustainable Endowments Institute, track and measure sustainability initiatives in colleges and universities. The organization’s College Sustainability Report Card (Sustainable Endowments Institute, 2012), issued from 2007 to 2012, profiles the sustainability efforts of 300 colleges and universities in the United States and Canada. Other organizations like the International Sustainable Campus Network (ISCN) have established sustainability goals to which many institutions of higher education aspire. Founded in 2007, the ISCN provides, “a global forum to support leading colleges, universities, and corporate campuses in the exchange of information, ideas, and best practices for achieving sustainable campus operations and integrating sustainability in research and teaching” (ISCN, 2013). In 2010, the ISCN, in partnership with the Global University Leaders Forum (GULF), developed the ISCN-GULF Sustainable Campus Charter. Signatories to this document, of which nearly half are United States universities, set three principle goals:

- Buildings and their sustainability impacts
- Campus-wide planning and target setting
- Integration of research, teaching, facilities, and outreach (ISCN, 2013).

Other institutions, such as Holme Lacy College (HLC), have conducted audits that measure their TBL impacts. Using the Royal Institution of Chartered Surveyors (RICS) project appraisal tool for sustainability (RICS, 2001), HLC measured environmental, social, and economic impacts of the college to interrelate the three and encourage systems thinking (Dawe, Vetter, & Martin, 2004). Through this method they looked at the institution’s ecological footprint, calculating transportation, building energy
use and waste; surveyed internal and external stakeholders for the social issues section; and gathered economic data on the impact of the institution locally and regionally based upon income and expenditures. This review formed the basis for the creation of ecological footprint targets for the institution but met with mixed success as the acknowledgement of intuitive versus data-driven judgments conflicted at times with economic needs (Dawe, Vetter, & Martin).

Other colleges and universities are establishing units that focus on implementing sustainability initiatives. The Center for Regional Sustainability (CRS) at San Diego State University fosters research and establishes collaborations across the university and with partners from business, government, and education to generate solutions that will enhance the natural environment, economic vitality, and social equity in the San Diego County, Imperial County, and northern Baja California region (SDSU, n.d.). It draws on scholars, students, community members, businesses, and NGO’s to identify key challenges that need attention, set goals for achieving progress toward a sustainable region, establish benchmarks for meeting those goals, and report on progress. The model provided by SDSU is an example of a number of plans being developed by higher education institutions. Whether incorporated in a sustainability audit, as a scoping review of positive and negative impacts of the social, economic, and environmental status quo, or as a question of culture or curriculum, sustainability is a topic of discussion in academia today.

**TBL or Sustainability in Academic Libraries**

The literature of Library and Information Science (LIS) contains relatively little on TBL or sustainability. Much of what is available focuses on the planning of new libraries as green buildings and efforts to conserve energy and recycle resources (e.g., Barnes, 2008; Cunningham, 2012; Krige & Kriazis, 2010). In 2011, *Library Journal* launched a series acknowledging new library buildings that demonstrate environmental, social, and economic impacts. The 2012 organizations to receive the designation of New Landmark Libraries (NLL) are all academic. At the top of this list is the Goucher [College] Athenaeum, which is Gold Leed-certified, offers services and space for the campus community as well as members of
the general public, and operates a 24-hour restaurant (Schaper, 2012) combining environmental, social, and economic impacts from its opening day.

Among other LIS works which look beyond library buildings, Link (2000) asks librarians to understand the ecology of knowledge and review the issues related to social, economic, and environmental sustainability. The author provides some of the early concepts of TBL, highlights examples of sustainability at the Michigan State University Libraries, and encourages librarians to participate actively in institutional initiatives. Link states that assessment is a critical component for long-term sustainability success.

Jankowska and Marcum (2010) discuss the challenges to sustainability planning faced by academic libraries which they attribute to the development of blended models of maintaining traditional print materials, increasing electronic resources, and providing new Library 2.0 services. The authors question whether this hybrid can be socially, economically, or environmentally sustainable. They point out that academic libraries do not appear to be establishing sustainability indicators to the degree found elsewhere in higher education and advocate for libraries to establish a framework of indicators to help assess their impacts and progress.

Jankowska and Marcum (2010) refer to the maintenance of the print and electronic collections simultaneously as one that poses challenges in terms of the environment (printing, electricity, etc.), the social (duplicate workflows that may be problematic to staff), and economic (the cost of maintaining print and electronic collections). Other authors have addressed this issue and present it as a major challenge to the sustainability of academic libraries. Since the 1980s, serials expenditures and commitments in academic libraries have steadily grown to become the major part of the materials budget, and in many cases, have overtaken the funding for other types of materials, such as books and media. Walters (2008) describes this trend as one that poses a serious long-term problem in that "it reduces the economic sustainability of the library as a whole" (p.578). He suggests that academic
libraries refocus on the priority of book collections in undergraduate libraries to move away from the unsustainable model of ever-increasing journal cost commitments. Marcum (2008), addressing this issue, advocates for a renewed emphasis on consortial collection development to ensure the ongoing sustainability of library collections.

Whether employing the framework proposed by Jankowska and Marcum (2010) or another method, it is vital that academic libraries develop new models of sustainability and community-impact accounting in general and for collection management in particular. Currently libraries appear to graft new methods of service and information resource provision onto traditional approaches without monitoring their effects on the environment or the priorities of their users. To remain viable and engage in leadership in academia, libraries need to measure their economic, environmental and community impacts and develop new models that enable them to support the three areas effectively.

Examples of TBL-based Applications and Best Practices for Academic Libraries

Academic institutions already employ a wide variety of best practices which when pulled together could contribute to TBL-based applications. Many of these have risen from the prestige of having LEED certified buildings, recycling programs, inclusive planning processes, and budget and resource councils.\(^1\) When attempting to integrate the best TBL applications and practices into their operations, related to social, environmental, and economic impacts academic libraries could:

- Perform a comparative analysis, benchmarking against comparator libraries, the levels of employees' skills, salaries, wages, and workloads, to determine if labor practices are fair and sustainable within the library to set targets for compensation equity (social and economic impacts).

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\(^1\) Keene State College (KSC) in New Hampshire is a case study in all of these practices. Although KSC has not implemented an overt TBL practice, it has LEED-certified buildings, an inclusive annual planning process tied to strategic planning and goals, a budget and resource council for economic efficiencies, and a recycling program that placed 97th out of 293 schools in the per capita classic competition category of Recyclemania and third in New Hampshire, with 13.93 cumulative recyclable pounds per person.
• Gather and report on quantitative data about the use of library resources by outside groups (e.g. local businesses or the general public) and obtain qualitative data about how the library has affected community members' lives, information needs, and research projects (social impact).

• Begin an incentive program for all students, faculty, and staff to implement ideas related to environmentally sustainable practices (e.g. waste reduction or energy conservation). Recognition in campus media outlets and on a plaque in the library would serve as a reminder that environmentally sustainable practices are not only implemented but also valued in the academic library (environmental impact).

• Determine KPIs through strategic planning for social, environmental, and economic impacts by using a tool such as the RICS for the library as a whole. Base library evaluation at all levels on these key indicators in regard to resource efficiency and effectiveness (environmental, social, and economic impacts).

• Conduct an audit of the areas library staff frequent within the building. Underutilized spaces may be identified which could then be re-purposed for innovative new uses, saving the cost of a physical renovation. For example, an underused staff lounge might function better and turn into a profit-generating space by repurposing it as a student café (social, environmental, and economic impacts).

• Create an inviting environment by displaying works of art created from recycled materials on library walls. This will increase traffic into the building as people come to view the art, and create an aesthetically pleasing space. Once an environment for displays is established, the library could leverage it to solicit donations of more artwork or funding for maintenance and preservation (social, environmental, and economic impacts).
• Implement print management to contain printing costs and hold individuals financially-accountable for waste. This would reduce the carbon footprint for paper and toner delivery, reduce recycling, and encourage usage of what is needed, not what is possible (environmental and economic impacts).

• Convert print holdings to electronic to save paper and library space that can be repurposed. This allows access to library information anytime from anywhere (social and environmental impacts).

• Install timer lights in all rooms to reduce electricity usage and increase savings (environmental and economic impacts).

• Implement power saving measures for all computers by purchasing thin clients for online public access computers in the library to reduce energy consumption and save money (environmental and economic impacts).

• Conduct business with "green" and "fair trade" vendors for purchasing transactions whenever possible (social and environmental impacts).

• Encourage telecommuting and videoconferencing to reduce travel to work and to meetings (social and environmental impacts).

• Install low flow stools in all restrooms to reduce the amount of water used per flush and sensor-activated faucets that automatically switch on and off based on the proximity of a person to the faucet (environmental and economic impacts).

• Perform annual maintenance on HVAC building systems, making sure that full advantage of balanced air flow is achieved, filters are clean, values are functional, and humidity is controlled. This will reduce reliance on air conditioning and strain on heating and cooling systems, not only maximizing the functionality of the systems but also avoiding costly repairs that routine maintenance could prevent (environmental and economic impacts).
• Report upon the social and financial returns achieved through library-based jobs and job training for employees, measuring the economic impact of these jobs on the community (social and economic impacts).

**Strategic Planning Models**

Much of the literature on strategically incorporating TBL into an organization concentrates on for-profit institutions; however, many of the general principles might translate well to an academic library. Rigby and Taber (2008) suggest four steps to increase an organization’s sustainability advantage. The first is to determine the vision for the organization. They urge leaders to ask what TBL means to their particular enterprise. This is an important place to begin because environmental issues vary according to geographic location and type of organization while social issues evolve and change over time (Papmehl, 2002).

The second step that Rigby and Taber (2008) suggest is to assess where the organization is at the starting point. Many organizations may have begun to incorporate environmental and social concerns into their *modus operandi* but have not formally acknowledged or assessed them. Step three urges organizations to implement new strategies that evolve from environmental and socially-conscious values while the fourth step encourages constant assessment of outcomes.

Wirtenberg (2008), who studied the qualities of nine sustainable companies, has developed the *Sustainability Pyramid* comprised of “seven core qualities associated with implementing sustainability strategies and achieving triple bottom line... results” (p.16). The foundation level consists of corporate values consistent with sustainability, management’s visible support of sustainability efforts, and the placement of those efforts as central to the strategic plan. The middle level, which Wirtenberg calls *traction*, includes developing sustainability metrics and aligning formal and informal organizational systems around sustainability goals and values. The top of the pyramid or the collaborative integration level is comprised of the core qualities of systems integration and stakeholder engagement.
Siegal and Longworth (2009) echo and extend these steps and core qualities in their advice to CEOs on incorporating corporate social responsibility into organizations. They recommend that leaders develop green initiatives before claiming them publicly. They cite examples of corporations that have claimed to have gone green while only having made surface changes which had no long-term effect and which hurt those organizations’ credibility when revealed to be an unsubstantiated claim. The authors urge leaders to achieve stakeholder engagement in taking steps towards sustainability as well as to identify and focus on those efforts that maximize the organization and have the greatest impact. Finally, they suggest that assigning someone in the organization the role of chief sustainability officer might assist the process of implementing and maintaining corporate social responsibility in organizations.

**Metrics**

Much of the literature on developing TBL metrics discusses the difficulties of creating meaningful measures. Financial accounting standards are common, but measuring the impact of sustainability and corporate responsibility are not as simple. Papmehl writes, “While generally accepted accounting principles (GAAP) guide financial reporting, no standardized metrics exist for measuring an organization’s environmental and social costs and benefits” (p. 22). Not only is there no universal standard for calculating TBL, there is no accepted standard for the measures of the social and environmental categories (Slaper, 2011). However, several approaches to measurement have been suggested. One is the incorporation of sustainability and social responsibility efforts into the balanced scorecard approach (Hubbard, 2009; León-Soriano, Muñoz-Torres, Chalmeta-Rosaleñ, 2010). Another is to develop types of measures for each category that reflect particular impacts relevant to a given institution (Marsh, 2010; Slaper, 2011). Searcy (2009) provides guidance to managers setting metrics this way by proposing a series of questions that might assist them in developing a sustainability performance measurement system. Pourdehnad and Smith (2012) advance the idea of organizations developing a means to track and learn from TBL-related management decisions, much as commercial
aviation tracks and learns from crashes, to develop benchmarks for measuring social and environmental impacts.

As a library begins the process of making the strategic changes to support sustainability and social responsibility efforts, a simpler approach to developing TBL metrics might be to benchmark efforts in these areas at the start of the planning process and set outcomes for each of the goals. An example of such a metric might be to reduce the amount of printing done in a library in a year by a specified amount and to measure the outcome based on the boxes of paper and number of print cartridges purchased. Other metrics that tie directly into the previously suggested best practices would be reduction of water, heat, and electricity usage, which are all metered services, so not only would lower costs be captured, but usage of these resources would also be reduced. As with the strategic planning process discussed above, TBL metrics for academic libraries will also need to be locally defined, because of the unique geographic, cultural, environmental, and social concerns faced by every organization.

Conclusion

To effect innovation and implement TBL in academic libraries, library leaders need to engage in two different but integrated processes: change management and change leadership. The former refers to project management aspects of the proposed innovation. Change management involves the study and direction of the practical aspects of embarking on a new venture, such as changes in finances and accounting, personnel distribution, and new ways of doing business (Griffith-Cooper & King, 2007). Most organizational leaders handle this part of the process well. In fact, it is common for a leader to expect change to occur successfully through the communication of the project design and implementation (Brenner, 2008).

Change leadership refers to a set of techniques and principles related to influencing acceptance while reducing resistance among the people in the organization (Griffith-Cooper & King, 2007). This part of the process is often overlooked by those in leadership positions due to their overemphasis on the
rational and cognitive aspects of an innovative venture. This oversight may be the principle reason why change initiatives fail (Brenner, 2008). Brenner suggests that it is important to build and launch a change campaign from an organization's strategic platform. By doing this, a leader signals to employees that a change like TBL is related to the already-agreed-upon values of the organization.

Leaders too often rely on top-down communication and do not factor in the need to answer questions and incorporate the input of all members of the organization. Communication about sustainability initiatives is no exception and must straddle the line between telling people what to do and urging them to do the right thing. If communication is not straightforward and honest, the message could be heard as “greenwashing” or doing something just to look environmentally savvy (Bolch, 2008, p.59). Wirtenberg (2008) suggests that leaders engage in authentic conversations with their employees to build a sustainability culture. She also emphasizes two fundamental elements to moving to a culture of sustainability in business and other enterprises. The first is to integrate sustainable values, strategies, principles, metrics, and practices into the core business plans of the company and the second is to develop leaders throughout the enterprise that wholeheartedly support the sustainability initiatives.

Quinn and Dalton (2009) offer recommendations for leadership behavior based on their study of leaders in organizations with a history of sustainability practices. The first of these focuses on the importance of the way the leader sets the direction and suggests that a positive, enthusiastic introduction elicits stronger buy-in from stakeholders. Quinn and Dalton also report that leaders successful in establishing sustainability initiatives tend to use the language of the particular organizational environment (e.g., an academic library) when communicating about new initiatives.

Initiating and implementing TBL in academic libraries will require leadership throughout the organization as well as a strong and grounded belief that TBL, which integrates economic, environmental, and social performance, is integral to the sustainable future of libraries. Making the environmental impacts in the construction of new academic library buildings a high priority is a vital step
in this process. However, it is equally important for academic library leaders to consider their overall social, environmental, and economic impacts on their communities, from planning to assessment, as a way to demonstrate their value. Incorporating TBL practices is likely to be a unique experience for each library, but with the models from other industries, it should be possible to adopt TBL as a priority of the organization.

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