Factors Preventing U.S. Adoption of Triple-Bottom-Line Sustainability Frameworks and Performance Indicators in Museum Strategic Planning

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Factors Preventing U.S. Adoption of Triple-Bottom-Line Sustainability

Frameworks and Performance Indicators in Museum Strategic Planning

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A Thesis in the Field of Sustainability

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Abstract

This thesis investigated the potential factors preventing the adoption of triple-bottom-line (TBL) strategies and indicators in U.S. museums. Previous research has examined what makes museums sustainable or proposed indicators to measure performance, but none have examined the drivers behind the lack of adoption of these indicators.

Using comparative case studies and structured interviews, I examined what factors are preventing museums in the United States from adopting TBL strategies and indicators, and whether it is feasible for U.S. museums to adopt TBL sustainability action plans using the existing Global Reporting Institute version 4 (GRI4) framework. My hypotheses were that, compared to similar institutions, in U.S. museums TBL strategies and indicators have not been adopted because leaders do not link institutional reputation to TBL; that lack of accountability for executive boards causes lack of attention to TBL; that a majority of private funding encourages greater adoption of TBL performance metrics than public funding, and that the lack of external regulations or guidelines for TBL performance metrics causes lack of attention to TBL. Samples included nonprofit museums listed in Guidestar and nonprofit institutions comparable to museums, higher education institutions, that were indirectly or explicitly using, or implementing multi-dimensional performance metrics or management strategies.

Findings in this study indicated that the lack of adoption is related to structural issues. Universities, which are similar to museums, have successfully adopted TBL reporting practices based on the existence of a framework developed through extensive testing, piloting, and stakeholder engagement. However, U.S. museums lack either

voluntary or regulatory TBL frameworks. In the rare cases of adoption of TBL strategy in U.S. museums, it is due to the influence of the organizational leader. Executive boards served to support, and not drive, adoption. The influence of funding sources, whether public or private, is still undetermined due to the relatively small amount of cases in this study.

Private funding did appear to have a strong positive influence in one case, which may or may not be representative. Mission may be a soft influence, where organizations that can tie notions of sustainability more directly to their mission, such as natural history museums and gardens, are practicing TBL strategy. Organizational capacity, or size, may also be a factor in utilizing TBL performance measurement on strategy, but in the absence of a sector-wide framework, compared to universities which do have such a framework, definitive conclusions were not possible. Museums in the United States are challenged financially because their business model, although more advanced than its original model, is highly constrained, and makes it difficult for museums to access capital markets. Museums in the U.S. operate within a historic context in which the country's nonprofits became part of a "welfare state" from which they have yet to emerge. I propose a feasible, but challenging, TBL framework that is appropriate for U.S. museums and based on the existing STARS framework for universities and Sustainability Index for public gardens. The proposed framework should include best-practice indicators from GRI4 and also science-based targets for environmental and greenhouse-gas emissions goals. However, the museum sector would ultimately need to develop this framework.

Dedication

I am indebted to the arts for so many childhood joys, for my career, for inspiring

the topic of this study, and for the opportunity to borrow the great composer and

humanist Leonard Bernstein's insightful words to describe what I believe to be the

necessary response to our global condition,

A great project needs a plan and not quite enough time.

Acknowledgments

This project is the work of many, both distant and near. Thank you to the founders of the Sustainability and Environmental Management program at Harvard University, Dr. Jack Spengler and Mr. George Buckley, for their insights and scholarship. Their activism inspired me and I learned so much from them.

Warmest thanks to my professor and academic advisor, Dr. Mark Leighton. I am lucky to be the recipient of Dr. Leighton's exquisitely honed insights and guidance. To my thesis advisor, Andrew Tirrell, thank you for your academic comradeship and insightful guidance in this project. Thank you, Anna Dagoba, Harvard librarian. Thank you, Chul Rae Kim, for your encouragement over the years and generous support. Thank you to Judith McMichael for reading my draft with a keen eye. To Bill Moggridge, former director of the Cooper Hewitt, Smithsonian Design Museum, I owe my thanks for his generous and enthusiastic support of my sustainability projects at the museum and for posthumously planting the seed of this research.

My final thanks and gratitude extend to those who agreed to participate in this study. Ultimately, this work was a collaborative one that could not have existed without their participation. When asked how my thesis was going I could always answer affirmatively that it was a wonderful experience. I was fortunate to have had the opportunity to speak to colleagues on a national level about the state of our professional practice, and to offer my own insights into this discussion.

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Chapter I

Introduction

Corporate Sustainability Reporting (CSR) measures the environmental, social, and economic impacts of an organization. When an organization quantifies this "triple bottom line," (TBL) it can respond with a comprehensive approach for improving its performance by managing risks and opportunities in each of the three pillars. Many of the world's leading corporations have applied CSR in their strategic plans and operations, resulting in better management of their resources and more explicit engagement of their stakeholders.

Nonprofit museums have many of the same needs and priorities as commercial entities. For example, in the U.S., museums generate $50B of direct and indirect business, support 726,000 jobs and contribute $12B in federal, state, and local tax revenue to the economy annually (American Alliance of Museums, 2018). In other parts of the developed world, the museum community acknowledges the importance of TBL as an important management tool and necessary link to meeting the United Nations Sustainable Development Goals (UNSDG), yet U.S. museums have not adopted triple-bottom-line performance strategies, and most museum leaders do not value TBL metrics (Pop & Borza, 2016).

Research Significance and Objectives

To address this problem, I investigated factors specific to U.S. museums that may be preventing them from adopting TBL strategies and indicators.

Previous research has employed surveys or literature reviews to understand

attitudes among museum leaders toward sustainability, or proposed methodologies

and indicators to measure a museum's TBL performance. My research built on

previous findings by exploring factors that may explain why museum leaders do

not value TBL as an important management tool. If museum leaders do not

understand the importance of TBL, even the most perfect set of indicators is of no

use.
        With a better understanding of these potential barriers to TBL planning, museum

administrators will have a path toward more sustainable strategies within their own

institutions and in the museum sector. Museums will also be able to measure their

progress towards global Sustainable Development Goals.

    My research objectives were the following:

- To understand what factors support or impede the adoption of triple

bottom line sustainability planning in museums in the U.S.

- To propose a path forward for U.S. and global museums to measure their

impacts using existing best practice

- To inform local, state, national, and international policy regarding best

practice in museum administration and compliance with UNSDG

Background

From the introduction of the first set of TBL indicators in 2009 to the present, museums

globally have struggled with their adoption, despite consensus outside of the U.S. of the

usefulness of this holistic management strategy and the need for government,

commercial, and cultural institutions to comply with UNSDG.

Triple-Bottom-Line Reporting Practices

The concept of sustainability in three dimensions emerged from the 1992 United

Nations Conference on Environment and Development in Rio de Janeiro. Agenda 21of

the Conference "calls on countries, as well as international, governmental and non-

governmental organizations, to develop indicators of sustainable development that can

provide a solid basis for decision-making at all levels. Agenda 21 also calls for the

harmonization of efforts to develop such indicators" (United Nations, 2007).

The Global Reporting Initiative (GRI) provides organizations with a voluntary

framework to comply with the UNSDG (Appendix 1). Many in the commercial sector

have adopted TBL reporting, or CSR. CSR measures risks and opportunities related to

the environmental, social, and economic impacts of an organization and requires that the

results are verified by a third party. This triple bottom line approach quantifies impacts

and improvements, is transparent, aims to use resources as effectively as possible, and

tacitly acknowledges the role of stakeholders in the success of an institution.

If museums are to make adequate progress meeting sustainable development goals, using

the existing global best-practice standard is the most efficient pathway. GRI intends that

organizations use the framework "regardless of their size, sector, or location" (Global

Reporting Initiative, 2015). The GRI reporting process is flexible, allowing for

stakeholder input in identifying which core indicators are most relevant to an

organization. Organizations can also create their own indicators. Therefore, this

framework is flexible enough for museums to adopt it. Museums are members of the

nonprofit community, and therefore have "…an obligation to assess and report

sustainability performance to account for their positive and negative environmental, cultural, economic, and social impacts in the communities they serve precisely because of their promise to serve the public good" (Jones & Mucha, 2014).

According to the GRI, organizations that disclose their performance are able to "better manage themselves, producing benefits such as increased credibility, efficient use of resources, and improved employee/employer relationships, regardless of sector, size or geographic location" (Lamprinidi & Kubo, 2008. p. 326).

In 2003 GRI included a set of performance indicators for public institutions. By 2010 they found that global adoption of indicators was uneven, and that the indicators used by public institutions were more varied and less standardized than those used by private organizations. For instance, Lamprinidi and Kubo (2008, p. 327) reported:

> The uptake of sustainability reporting varies considerably. In Australia and New Zealand, public agency sustainability reporting has been steadily increasing over the past three years partly due to the work of the former Centre for Public Agency Sustainability Reporting based in Australia. In other parts of the world, progress in public agency sustainability reporting has not had the same consistent level of increase. Progress made in the U.S. has been limited. In the UK and the Netherlands, there are a small number of reporters. In Canada, Hong Kong and other countries, fewer public agencies reported.

Museum Sustainability

Museums have a responsibility to manage their wealth in all its forms, including collections, staff, other stakeholders, and a myriad of other resources for current and future generations. But as the saying goes, you can't manage what you don't measure. A nascent consensus has developed outside the U.S. around museums assessing their triple-bottom-line impacts as a key component of a successful management strategy (Adams, 2009; Graham-Taylor, 2003; Pietro, Mugion, Renzi, & Toni, 2014; Pop & Borza, 2016;

Pop & Sabou, 2013). International museums and sector policy makers understand the need to allocate resources more effectively, due to changing or reduced funding, overburdened staff, and the sheer cost to maintain appropriate environmental conditions for collections, as a few examples (Museums Association, 2008; Pencarelli, Cerquetti, & Splendiani, 2016). Museums need to think in the long term, but few do (Museums Association, 2008; Worts, 2011). Many recognize that in order to be sustainable, or to maintain longevity, they must go beyond embracing environmental sustainability and include economic and social sustainability into a holistic, triple-dimensioned management strategy (Adams, 2009; Graham-Taylor, 2003; Pencarelli et al., 2016; Pietro et al., 2014; Pop & Borza, 2016; Pop & Sabou, 2013; Worts, 2011).

The Canadian Museum Association defined a museum as being sustainable "if it assessed the impact of its activities on the environment, on the quality of life of its stakeholders and on the economy" (Pop & Sabou, 2013). Museums have an opportunity to "create long term value according to a multi-dimensional and multi-stakeholder approach" (Pencarelli et al., 2016). Culture has also been proposed as a fourth pillar (Adams, 2009; Stylianou-Lambert, Boukas, & Christodoulou-Yerali, 2014). TBL sustainability can also be seen as larger than the sum of its parts, essentially a reshaping of a museum's culture into one where it uses resources effectively and emphasizes the social aspect of sustainability equally (Pencarelli et al., 2016). Sustainability reporting can lead to "internal and external organizational change. Data collection processes, for example, can be valuable tools in facilitating internal organizational change" (Lamprinidi & Kubo, 2008). It is the museum community outside of the U.S. that is leading the discussion towards TBL sustainability assessment, although it is unclear how

successfully museums are implementing the handful of museum-specific TBL

performance indicator frameworks that some have proposed.

The Evolution of TBL Indicators and Frameworks in Museums Outside of the U.S.

In 2003, Museums Australia was the first to propose written guidelines urging

museums to apply TBL performance metrics to their overall performance (Adams, 2009).

The guidance cautioned "the current reliance on economic growth statistics alone as the

basic measure of prosperity and progress, implicitly devalues the importance of our

natural and social capital, including natural resource wealth and environmental quality"

(Graham-Taylor, 2003). The Ethics Committee of the Museums Association, a major

professional association based in London providing guidance and support to museums,

galleries, and historic venues, issued a white paper on sustainability in museums in 2008

proposing TBL sustainability principles for the museum community (Museums

Association, 2008). Given that performance metrics for museums, and in particular TBL

performance metrics for museums are a relatively new idea, those in the international

museum community that propose performance indicators advocated for further

development and testing of the indicators. Adams, proposing a pilot set of TBL

sustainability indicators for Australian museums, admits that the "methods to progress

towards and measure sustainability are still under debate" (2009, p. 5)

According to Adams, due to the expense of acquiring and maintaining collections,

"museums are inherently unsustainable organizations" (2009, p. 11) that "fall prey to the

common conception that sustainability is only about 'being green'" (p. 12) and is external

to the essential missions of museums (Davies, 2008, as cited by Adams, 2009). In 2003,

the West Australian Premier released a regional sustainability strategy for government agencies that included elements they must develop in the following ten years such as a Sustainability Act, Code of Practice for Government Agencies, and a survey of sustainability reporting. Based on these impending requirements, one government-supported museum, Western Australia Museum, developed its TBL action plan. They were the exception among large Australian museums at the time. Adams noted that based on her review of annual reports of large institutions in the U.S. such as the Smithsonian Institution, the Field Museum of Natural History in Chicago, and the American Museum of Natural History in New York, none of these organizations were using TBL indicators. To fill this void, Adams developed the first set of TBL sustainability indictors for museums, noting hopefully that perhaps other museums could be "encouraged" to report TBL progress if a set of indicators existed.

Pop and Sabou (2013), reacting to reduced government funding to museums, proposed a sustainable development index based on cost per visit. While this indicator provides a relatively straightforward way for museums to take a pulse on their revenue streams versus cost of programs and to compare their performance to other institutions, it does not satisfy the strict intent of the sustainable development goals.

Italian researchers argue that to be sustainable, museums must consider "economic and social sustainability . . . defined as the possession of sufficient resources to maintain the existence of an organization, and achieve their goals in the future, ensuring a certain flow of visitors" (Pietro et al., 2014, p. 5745). They proposed a model for museums to better engage audiences and improve the number of visitors, which they consider key to long-term organizational health for museums. Most museums do

struggle with attracting and being relevant to existing and new visitors. However, the proposed model represents only one component of an overall triple-bottom-line strategy for organizational sustainability.

From Romania, Pop and Borza (2016) have built upon Adams' performance indicators and developed a framework to evaluate sustainability in museums regardless of size, type, or management, so that museums can both understand their level of sustainability and compare their performance to others in the sector. Their study builds on the work of Nielsen, who defined the sustainability of museums as their "relevance to . . . both the community and its visitors" (Pop & Borza, 2016, p. 2). They propose specific factors related to museum sustainability, a set of 33 TBL-based indicators, and a corresponding model based on these indictors for measuring and comparing performance among museums. The authors obtained data through interviews with sector leaders in Romanian museums and a literature review. One proposed factor, the size of the museum (based on size of staff, amount of space, and collection) has both positive and negative impacts on sustainability. Another proposed factor, type of museum, did not necessarily influence a museum's sustainability. Industry leaders perceived that those museums skilled in marketing and management strategies used in the private sector had an advantage in financial sustainability, even if the type of museum was not necessarily popular.

Pop and Borza (2016) also proposed a model to quantitatively measure museum sustainability, including indicators that balance the inherent differences in sizes and types of museum, to "reflect relative values…and allow comparisons between individual museums" (p. 15). In this approach, the authors expand on previous TBL metrics

proposed for museums. Implicit in their model is the underlying assumption that TBL

strategy would be at the heart of an overall management paradigm for the institution

using the model. The authors admit that most museum leaders are not placing value on

TBL frameworks, however, and suggest that different factors may be involved in

measuring the sustainability of museums.

The Evolution of TBL Indicators and Frameworks in U.S. Museums

Unlike international museums and policy makers, those in the U.S. have not

embraced TBL frameworks for museums, nor proposed TBL sustainability action plans

or metrics. In their study examining how U.S. nonprofit sector leaders view corporate

social responsibility, Waters and Ott (2014) state, "Little is known about the impact of

corporate social responsibility on organizations from the nonprofit sector" (p. 1).

Moreover, existing research "has failed to thoroughly examine the role of the nonprofit

organization and the relationship between corporate social responsibility activities and

the mission of the nonprofit organization . . . there is a need to examine how nonprofit

organizations view their corporate social responsibility activities and programming as

they relate to the mission of the organization" (Waters & Ott, 2014, p.2). Museums

gravitate towards sustainability in principle and may be in favor of sustainable practices,

but their perception is that sustainable practices simply apply to general initiatives

related to environmental impacts (Waters & Ott, 2014).

The American Textile History Museum

As a requirement for their Business Sustainability class, which focused on triple-

bottom-line strategies for business, graduate students from Bentley College prepared a

sustainability action plan for the American Textile History Museum in 2008 (Spira, n.d.). The plan included a balanced scorecard analysis. This method is a framework for businesses to link their operations to mission, and to incorporate stakeholder perspectives into performance measures. The plan developed by the students proposed ways for the museum to capitalize on savings through environmental measures, such as using less energy and water, and improve financial performance through public outreach and partnerships. In particular, the plan suggests promoting the museum's environmental efforts as part of marketing outreach (Avendano, Hayes, Lee, & Raposo, 2008), but without underscoring how environmental initiatives were tied to organizational mission. In 2016, after two decades of financial struggle, the museum closed its exhibition galleries to the public and began the process of finding new homes for its collection (American Textile History Museum, 2016). The sustainability plan contained new and innovative approaches to organizational efficiencies for the museum, but failed to address collections, exhibitions, and education programming, which are the defining attributes of museums. Further research is necessary to understand to what degree, if any, the museum's administrators adopted the proposed sustainability plan, but the exercise underscores the complexity of adopting the corporate CSR model to museums and their specific culture.

Factors Driving Corporate Sustainability Reporting

In contrast to typical museums, many public companies in the U.S. have adopted TBL strategies. The top management of companies drives this adoption, including the CEO, board, and Chief Sustainability Officer, and other factors such as financial incentives and pressure from external stakeholders.

Fabrizi, Mallin and Michelon (2014) examined the role of the CEOs' personal incentives in driving CSR in a sample of 597 U.S. firms. CEOs have an important influence on CSR strategy and investment of resources into CSR projects, based on a mix of monetary and intangible incentives. CSR has taken on global importance due to publicity generated by pressure on companies from external stakeholders such as shareholders, government, and media. Due to "corporate scandals . . . firms are under increasing pressure to be both profitable and socially responsible" (p. 313).

Correspondingly, CEOs use CSR to promote their organizations' brand image and improve their reputation. A sense of ethical obligation may motivate companies to employ CSR from a sense of ethical obligation, to be good members of the global community and not deplete resources for future generations, or to be seen as legitimate by stakeholders.

Because shareholders in North American companies expect financial growth, CEOs of North American companies typically benefit from meeting shareholder expectations for short-term profits. Results of the study suggest that CEOs are less motivated to support CSR projects when their compensation is tied to performance rewarded by short-term profit, or bonuses. They may also believe that CSR could reduce profits. CEOs support CSR when starting their careers in a company, perhaps due to "the need to gain legitimacy toward a broad group of stakeholders" (Fabrizi et al., p. 321). CEOs established in their careers may be less susceptible to expectations for short-term profit. Other factors that tend to promote CSR are size and type; larger companies with higher profiles and those in "socially or environmentally sensitive industries" are more apt to suffer public censure and loss of legacy if companies do not act ethically. Finally,

support for CSR in companies is higher when at least 33% of the board members are not affiliated with the company or are on the company's executive team.

By creating a specific executive role for sustainability strategy, or "chief officer of corporate social responsibility," a company signals its commitment to CSR practices to external stakeholders. Weingarten, Lo, and Lam (2017) note that the executive management team in a company is the "main driver of corporate strategy" (p. 478). They find that a company can improve financial performance by appointing a CSR executive. This benefit increases if the appointed executive is a woman with a related CSR background.

Shaukat, Qin, and Trojanowski (2016) find that a board's composition and governance influence their CSR strategy, and these more effective strategies lead to improved environmental practices. "Firms with more CSR-oriented boards (independent directors, women directors as well as directors possessing financial experience sitting on the audit committee) are more likely to develop a proactive and comprehensive board CSR strategy (i.e., one which combines internal organizational competencies with external reputation building measures)" (p. 582). Following GRI standards and reporting structures is part of the path to improved environmental practices.

In their analysis of factors that support or impede CSR practice in U.S. and mainland Chinese companies, Wang, Lam and Varshney (2017) organized 23 variables into sets of factors—those that drive, prevent, or influence CSR practices—and ranked the factors according to how important they were in proportion to others. The highest ranked factor was "business motivation," which included the variable "employee satisfaction" as most important, followed in descending order by variables such as

stakeholder relationships, leader's values, financial performance, company reputation, and risk management. A large portion, 84% of the respondents in the sample, were from mid-level or lower administrative positions rather than senior leadership, which may explain why employee satisfaction ranked as the highest variable in this factor. This may also explain why leader's values ranked relatively highly, indicating that leaders are important in influencing internal company priorities. "Leader's values" also implies that something inherent in the leader is necessary to influence organizational culture to support CSR.

For companies choosing to practice CSR, leadership from CEOs and boards plays a clear role in driving support for CSR funding and strategies. Company leaders are linking CSR not only to improved financial performance but also to company reputation due to potential risk to their organizations' reputations if they do not acknowledge and mitigate their impacts to society and the environment.

Possible Factors Preventing TBL Adoption in U.S. Museums

Despite what seemed to be obvious pathways to adopt a TBL framework, U.S. museum have not adopted this type of framework. Relevant factors preventing adoption may include the indifference of museum leaders to TBL strategies and indicators in relationship to their reputations, the structure of museum executive boards, whether funding is public or private, and whether external regulations or standards governing TBL implementation and practice exist.

Museum Leaders and Perceptions of Performance Measurement

Compared to many companies, the top managers of typical U.S. museums do not support TBL strategies, potentially because they do not see value in TBL frameworks in measuring organization performance; nor are they linking the reputations of their organizations to TBL performance as corporate leaders do. This may be a major factor preventing U.S. museums from adopting TBL frameworks.

To some extent, both U.S. and international art museums are reexamining their traditional performance metrics (Anderson, 2004; Zorloni, 2010) and struggling to define meaningful metrics. A global survey in 2006 indicated that "for most stakeholders in the museums sector measuring museum performance is still elusive [and] there is a large amount of variation within the museum community with regard to how advanced museums are in the areas of performance measurement and evaluation" (Zorloni, 2010). In a 2010 study, the major art museum directors interviewed considered high levels of artistic quality, innovation, reputation, and global partnerships to be among the most important indicators of success for their organizations. According to the study, leaders perceived the benefit of sharing their metrics, although traditionally they have not done so. Transparent governance in "museum operation and accountability is critical for the efficient functioning of a modern museum" (Zorloni, 2010, p. 11). The study names the Indianapolis Museum of Art Dashboard as an example of excellence in the transparent sharing of sensitive financial information, among other metrics, with the public. At the time of the writing of this study, however, this dashboard is no longer available on the IMA website. Museums do not typically practice transparency in financial management,

although they claim to value it. In contrast, TBL performance metrics require transparency. Moreover, the metrics that museum leaders consider vital can conflict with using museum resources such as funding or staff effectively. The author notes that standardized "data collection in the museum sector . . . would help the sector respond to the increasing demand for accountability from stakeholders, for more professional nonprofit management, and the competition for funding" (Zorloni, 2010, p.13).

According to Shaukat, Qin, and Trojanowski (2016, p. 583), "the business case for CSR rests on the premise that firms can do well by doing good." Companies receive pressure from external stakeholders to behave ethically, causing company leaders to explicitly link their corporate reputations to CSR. In contrast, nonprofits, including museums, are mission-driven, rather than profit-driven, enterprises. Museum directors have no corresponding external pressures to conform to societal notions of goodness because they lead organizations that many assume, a priori, to be doing good. Therefore, museum directors are not motivated to link their reputations with triple-bottom-line strategies like CSR.

Museum Governance in the U.S.

The governing body of a museum is its board, which, together with its director, "set the direction of the museum, develop its long-range plan, and secure the resources needed to fulfill its mission. The board approves the policies that govern the museum's operations" (Association of Art Museum Directors, 2011). In companies that have adopted CSR, top leadership, including boards, are key in driving TBL strategies and are responsive to how CSR influences external perceptions of company reputation. In

contrast, museum boards are not similarly influenced, nor are they as financially or administratively accountable, or visible to external stakeholders.

Epstein and McFarlan (2011) outlined important differences between the boards of for-profit and nonprofit organizations. For-profits rely on metrics such as profit and loss and cash flow, and if they are a publicly traded company, their market performance.

Their funding sources come from revenue generation and, for public companies, market capitalization. For-profits also rely heavily on short-term financial performance measured by income, profit and loss statements, and earnings per share. Because they are paid retainers, fees for attending meetings, and stock, for-profit board members are heavily invested in the financial health of the organization.

In contrast, for nonprofits, mission, not market performance, is paramount.

Moreover, the activities that relate most closely to their mission may not recoup their cost. For nonprofits, there are "literally no analogies" (Epstein & McFarlan, 2011, p. 32) to the types of financial metrics used by for-profits. Because of this crucial difference, it is particularly difficult for nonprofits to track performance against mission and they "desperately need performance measures to achieve overall long-term goals" (p. 32), whereas they typically balance their focus on meeting immediate fundraising and budget goals. Moreover, although nonprofits may focus heavily on cash flow and meeting annual budgets, shortfalls "just don't have the same impact on internal and external perceptions of performance as a missed EPS (earnings per share) number does for the for-profit" (p. 33).

Board membership is voluntary, and the expectation is that members contribute financially to the nonprofit, through direct means and cultivating other financial

supporters, partnerships, and community support. According to the authors, the boards

of both for-profit and nonprofit organizations have audit, governance, and executive

committees. CEOs are accountable to the executive and governance committees, which

evaluate the performance of the CEO. The CEO governs the nonprofit board, or, in a

museum, the director, and an unpaid chair that typically does not play an executive role

in the organization. The nonprofit board chair has less visibility both internally and

externally than the CEO or director, and if his/her tenure is shorter than those of the

CEO or director, has less direct knowledge of the daily operations than the director.

The mechanisms for both CEO and board accountability are either nonexistent or

much weaker than those of for-profit boards and CEOs. Because external accountability

in the form of stakeholder pressure is a key driver of CSR in companies, understanding

the levels of accountability in nonprofit governance structures is likely an important

factor in the lack of adoption of CSR-type frameworks in U.S. museums.

Museum Funding in the U.S.

The type of funding a museum receives, whether public or private, may also be a

factor influencing the adoption of TBL strategies in U.S. museums. Bozeman (1987)

proposes that all organizations are public to varying degrees, based on where they fall on

the continuum of either economic or political authority. It would seem intuitive that

government, with the highest level of political authority to require accountability, would

be influencing museums positively either through legislation or funding in the direction

of responsible compliance with environmental goals, at a minimum.

The U.S. federal government has issued the only sustainability standard for

reporting environmental performance. The Smithsonian Institution, which receives the

highest amount of public funding of all federally funded museums in the country (Rosenstein, 2010), chose to adopt the reporting standard. Under certain conditions, federal funding can influence a museum's choices for capital expenditures or programming, for example (Rosenstein, 2010). However, there are also barriers and lack of incentives for public agencies themselves to engage in sustainability accounting, including a preference not to be transparent and to report only "good news," which downplays any negative environmental impacts of government operations; inaction if there is no obligation to report; and the absence of the financial and reputational incentives that motivate the business community to practice sustainability reporting (Lamprinidi & Kubo, 2008). It is possible that the federal sustainability reporting requirements were an anomaly related to the leadership of President Barack Obama and his influence over policy at the time than to the nature of the funding source itself. Given these contradictions and uncertainties, public funding likely has a weak influence over the adoption of TBL frameworks for U.S. museums.

Alternatively, because privately funded companies have adopted TBL frameworks and strategies for their organizations, museums receiving a majority of private funds may have more incentive or influence to adopt similar frameworks. Museums with a majority of private funding may have cultures that encourage innovation and openness towards new concepts such as TBL strategies. As an example, the Van Abbemuseum, a contemporary art museum in the Netherlands, conducted an experimental workshop with business and museum leaders to develop an increased sensitivity for Sustainable Development Goals among cultural institutions. This experiment included developing a language to connect museum values to those of

sustainable development (Ernst, Esche, & Erbslöh, 2016). Private funding may give museums more room for innovation and therefore have a positive effect on the adoption of TBL frameworks.

Current U.S. Policies and Regulation Regarding TBL in Museums

With the exception of the Obama administration's 2009 Executive Order 13514 for federal agencies, there are no TBL frameworks or guidelines for U.S. museums. Executive Order 13514, which emphasized reporting on greenhouse-gas emissions, required federal agencies to develop and update sustainability action plans and "prioritize actions based on a full accounting of both economic and social benefits and costs" (Executive Order 13514, 2009). In parallel with the Paris Agreement, adopted in December 2015, Executive Order 13693 rescinded Executive Order 13154 and mandated that reporting focus on greenhouse-gas emissions (Executive Order 13693, 2015). Various performance metrics exist (National Endowment for the Arts, n.d.) , but are voluntary and neither standardized nor widely known in the museum industry. The American Alliance for Museums (AAM), the major professional association for the museum sector in the United States, reflects that "internally, staff, volunteers, and board members may also be asking whether operations and programming reflect sustainable values, be they environmental, economic, social . . . but can we go so far as to say that we are willing to set up and adhere to field-wide standards?" Currently AAM policy guidance focuses on operational sustainability, green initiatives or "environmental sustainability," generally to the exclusion of social, cultural, or economic dimensions (American Alliance of Museums, n.d.). A recent report on U.S. museum board leadership

from the American Alliance of Museums (2017) notes that "the vast majority" of museum boards neither assess their performance nor do they "monitor . . . the impact of local, state, and federal policy on the organization's mission, delivery and resources" and a minority "educate . . . policymakers on behalf of the organization, the museum field, or the nonprofit sector" (BoardSource, 2017, p. 5).

CSR is also voluntary, but companies have incentives such as reputation, stakeholder relationships, or profitability which encourage participation. In addition to the lack of incentives for compliance with voluntary standards, the lack of regulations may be a factor explaining why museums are not adopting TBL frameworks.

In sum, globally, museums have struggled with the adoption of TBL performance frameworks and strategies. Although CSR is a voluntary standard, companies have successfully adopted this TBL framework to burnish their reputations and create operational efficiencies and cost savings. In contrast, museum directors and boards do not perceive value in TBL strategies and lack the oversight that external stakeholders provide for companies. Funding sources may influence the ability of museums to embrace new concepts or business models such as the use of TBL metrics. In addition to the lack of incentives, museums in the United States also lack regulatory oversight that could stimulate greater adoption of TBL frameworks.

<div align="center">Research Questions, Hypotheses, and Specific Aims</div>

My research considered two related questions. First, what factors are preventing museums in the United States from adopting TBL action plans with performance indicators? Second, is it feasible for U.S. museums to adopt TBL sustainability action plans using the existing Global Reporting Institute version 4 (GRI4) framework?

Several factors could impede the adoption of policies based on TBL performance metrics in museums or the implementation of such policies, which I proposed as hypotheses. These hypotheses assumed a lack of reporting that matches my 25 years of experience in museum administration, an assumption I expected to test. My explicit hypotheses were that, compared to similar institutions, the following are true in U.S. museums:

- Hypothesis I: Lack of TBL adoption is caused by failure of institutional leaders to link institutional reputation to TBL.

- Hypothesis II: Lack of accountability for museum executive boards causes lack of attention to TBL.

- Hypothesis III: Museums with a majority of private funding have greater adoption of TBL performance metrics than those with public funding.

- Hypothesis IV: External regulations or guidelines for TBL performance metrics do not exist and therefore cause lack of attention to TBL.

Specific Aims

To test my hypotheses, my specific aims were the following:

1. Examine assumption that U.S. museums in general do not TBL report.

2. Develop a rationale for the selection of cases including museums and institutions similar to museums as a comparison.

3. Design a protocol for the collection of data and identify how to analyze data within and between cases.

4. Analyze data, validate what factors are either preventing or promoting adoption of TBL indicators, test rival explanations, and iterate analysis with new cases and/or data.

Based on existing GRI4 indictors, propose a set of indictors appropriate for U.S. museums.

Chapter II

Methods

This chapter describes the data, criteria for case selection, interview structure and questions, and the methods of analysis used in this study. To test my hypothesis that several different factors may be preventing or encouraging the adoption of TBL sustainability as part of an integrated management strategy in museums, I analyzed different types of nonprofit museums and institutions comparable to museums using the comparative case study method.

Additionally, I proposed a triple-bottom-line performance metric framework for use by U.S. museums and a pathway forward to implementing the proposed framework.

I collected data for comparative case studies from primary and secondary sources such as interviews, planning documents supplied by case study subjects, and publicly available annual reports and strategic plans.

Criteria for Case Selection and Sample Selection

The target sample population for comparative case studies included nonprofit museums (Type 1) and nonprofit institutions comparable to museums (Type 2) in the United States that are on a continuum of indirectly or explicitly using, adopting, or implementing multi-dimensional performance metrics or management strategies. Type 1 institutions included museums as defined by the U.S. Institute for Museum and Library Services (IMLS):

Museums include, but are not limited to, aquariums, arboretums, art

museums, botanical gardens, children's or youth museums, general museums (those having two or more significant disciplines), historic houses or sites, history museums, natural history or anthropology museums, nature centers, planetariums, science or technology centers, specialized museums (limited to a single distinct subject), and zoological parks (Institute of Museum and Library Services, 2015).

With exceptions noted below, I invited Type 1 institutions of varying sizes and mission types to participate in the study. Additionally, I invited only those institutions with collections, as specified in Part IV, line 8 of Form 990, to participate. Owning and maintaining a collection is the central defining characteristic of a museum as an organization. Unlike galleries or auction houses, which sell art and collectibles for profit, museums are under the obligation to preserve the collection for the public's future enjoyment. The care and display of a collection carry significant cost burdens for museums and, due to industry norms around selling collection items, they cannot leverage the collection for financial gain even if the collection is worth many millions of dollars. The nature of a collection also defines the mission, or discipline, of a museum.

Organizations classified as museums by the IMLS include gardens, aquaria, and zoological parks. Although technically considered museums, these organizations differ from other types of museums in that they have living collections. This study included public gardens because a triple-bottom-line framework exists for gardens. Due to limitations on the scope and time available for this research, this study excluded aquaria and zoological parks. It also excludes nature centers because they typically do not have collections.

Type 2 institutions include higher education institutions, or HIEs. HIEs are comparable to museums in that they are mission-driven organizations dedicated to education and research, serving communities, and having multi-faceted operational requirements including the care of collections. A robust TBL rating system exists for

HIEs. Additional Type 2 institutions are HIE museums. The university museums selected

for interviews were formerly independent, as a way to compare them more equally to the

Type 1 museums in the study, which are independent museums. An exception is M9,

which has a parent organization.

I selected case studies for museums (Type 1) from Guidestar, a database

containing information from publicly available tax records for roughly two million

nonprofit organizations in the United States. Guidestar rates profiles for each

organization according to the level of transparency achieved by reporting organizations.

The Bronze level includes basic information about the organization including a mission

statement. The next highest level, Silver, includes all information in the Bronze level plus

an audited financial report. The Gold level includes Silver requirements and adds

"charting impact" questions related to goals, strategies, capabilities, indicators, and

progress. The highest level, Platinum, includes the requirements for Gold and

additionally requires reporting on outcomes, results, and performance metrics.

To obtain potential cases, I selected all the Gold and Platinum reporting museums of any

mission type in Guidestar, eliminated revoked, defunct, merged, or parent organizations

and museums without collections from the list, and reviewed each resulting profile. The

goal was to identify museums of any size, type, or location in the United States using

TBL or TBL-like benchmarking, performance measurement, or planning strategy.

Evidence of potential TBL-like performance measurement or strategy started at a

minimum with the willingness of organizations to engage in higher levels of transparency

as shown by their Platinum or Gold badges, to include information about their board

oversight and governance and staff diversity in their profile, or to include indicators and

information about how they were measuring their progress. Specifically, words or phrases such as "key performance indicator, balanced scorecard, qualitative and quantitative, risk management, outcomes, financial sustainability, social sustainability, strategy map, uses data to inform programmatic investments, staff training and development, stakeholders" could indicate that organizations were engaging in some form of TBL practice. For additional clues to their approach to sustainability and how, or if, they were integrating sustainability into their organizational strategy, I also reviewed the websites for each potential case. I searched for "sustainability" on the individual websites to see what associated records resulted from the search. For this study, I did not consider temporary programming such as exhibitions or public programs related to sustainability as evidence of higher-level organizational sustainability. Finally, I searched for recent annual or strategic plans on each website and searched those for the term "sustainability" and reviewed them for language that might indicate that the museum was focusing even indirectly on at least two of the three elements of multi-dimensional sustainability.

I then created a database of all potential museums for case study and characterized each museum according to its level of observed or potential TBL practice, based on evidence from its Guidestar profile or its website. The key was as follows:

Level 1:   TBL. The organization is practicing TBL strategy.

Level 2:   TBL-like, potentially. The organization is measuring performance using models such as balanced scorecard or key performance indicators (KPIs).

Level 2+:   The organization received a Gold rating for transparency and is using traditional or business-as-usual (BAU) metrics such as attendance or some

more advanced metrics compared to other institutions.

Level 3:	The organization received a Gold rating for transparency but is using BAU metrics or has incomplete profile.

Level 4:	The organization has a lower (Silver or Bronze) or no transparency rating in Guidestar.

Level 5:	Separate from their profile in Guidestar, the organization's website or documents indicated elements of TBL-like strategy and/or performance measurement. Sustainability programming did not count.

The first museums selected for interviews were those categorized with 1, 2, or 5 designations indicating some level of integrated sustainability practice, whether explicit (1 or 5) or implicit (2 or 5). I selected museums characterized as 2+, 3, or 4 as a comparison to the first set of 1, 2, or 5 museums and matched for most recently reported yearly income on IRS Form 990. Income is a proxy for organizational resources. A subsequent site search in Guidestar for the term "sustainability" yielded an industry-specific integrated sustainability index developed for public gardens, a type of museum. To clarify, I used the number designations above to select organizations for interviews. I characterized organizations as Y/N/Partial, Implicit or Explicit based on whether or not I found organizations to be practicing TBL strategy based on the evidence from interviews. Whether or not an organization is practicing TBL strategy does not reflect negatively on any other sustainability practice or initiatives that exist at the organization.

I selected case studies for universities and colleges (Type 2) using the STARS database of the Association for the Advancement of Sustainability in Higher Education (AASHE). The Sustainability Tracking, Assessment and Rating System (STARS) is

AASHE's framework for institutions of higher learning to measure and report on their TBL performance. According to AASHE, "Transparency is a key component in communicating sustainability claims" (Association for the Advancement of Sustainability in Higher Education, 2018). STARS rates reporting organizations on a scale from 0 to 100, including Platinum, Gold, Silver, or Bronze levels. All STARS profiles are TBL. Potential cases included institutions of various sizes using the STARS framework that also had museums which had formerly been independent before joining the university. For the sake of comparison to other museums in this study, independence was a similar background variable.

Structured Interviews

Finally, for Type 1 organizations, I conducted in-person or phone interviews with the directors of each museum. In the case of public gardens, I also conducted an interview with the administrator of the organization responsible for the TBL certification framework for gardens and the directors of public gardens who were using this framework, called the American Public Gardens Association Sustainability Index. For Type 2 organizations, I interviewed a senior leader of the organization responsible for the TBL reporting framework for colleges and universities, the American Association of Sustainability in Higher Education (AASHE), and sustainability or museum directors in universities using AASHE's Sustainability Tracking, Assessment and Rating System (STARS). Interview questions related to each of the four hypotheses that were proposed to be barriers or aids to the adoption of TBL practices, to a rival hypothesis regarding organizational mission, and to any particular aspect of the organization's TBL practice,

performance measurement, or governance that needed to be clarified. Appendix 2 includes the entire list of interview questions. For the sake of brevity, the narrative includes only the major interview questions and their rationales.

Interviews with Type 1 and Type 2 organizations were roughly coded to understand larger categories, themes, or concepts emerging from the interview and put into a matrix. I defined "adoption" as an institution explicitly incorporating all three TBL concepts or attributes into policy documents and annual or strategic reports that highest levels of administration ratified. I included organization size and discipline as rival or alternative factors potentially affecting adoption outcomes. For Type 1 institutions, I defined size as the most recently reported yearly income on IRS Form 990, since income is a proxy for organizational resources. For Type 2 institutions, I defined size according to endowment as reported in each university's most recent STAR profile.

Type 1 and 2 Interview Questions, Related to Hypotheses

I based interview questions on the factors that were potentially impeding or supporting the adoption of strategy based on integrated TBL performance metrics in museums or comparable organizations. Below I relate the interview questions to the four hypotheses and discuss the rationales upon which the interview questions were based.

Hypothesis 1: Leadership Perceptions Regarding TBL

Compared to comparable institutions using integrated sustainability strategy, Hypothesis I proposed that a major factor in the lack of adoption by museum leaders was due to their not connecting their organizational reputation to triple-bottom-line concepts

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or frameworks, and therefore not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy. Quantifying TBL performance in museums other than gardens is subjective because there are currently no existing standards or guidance. Unlike universities, a class of professional sustainability officers does not exist for the museum industry. To understand their perceptions of integrated sustainability in relationship to organizational reputation, I combined responses to six separate questions asking how leaders of Type 1 and Type 2 organizations perceive sustainability and whether or not they are including TBL components in their descriptions of sustainability:

Question 1 gave directors the opportunity to articulate their definition of sustainability and whether it includes TBL components. If responses to question 1 did not include all three aspects, then I asked question 2 to probe more deeply. Questions 3 and 4 helped determine if directors perceive sustainability to be an asset to their organizational reputations, what directors perceive to be pressures to satisfy the expectations of their boards or other influential audiences, and whether they find sustainability is beneficial in this regard. Question 5 intended to ask whether directors are using any TBL components to represent organizational health, specifically beyond business-as-usual metrics such as attendance. Question 6 asked if directors are using any TBL-like metrics to benchmark or measure organizational progress, aside from business-as-usual metrics.

The interview questions for Type 1 Museums and the Type 2 University Museum (UMuseum) were as follows:

1. How do you define sustainability as it relates to your organization?

2. Do you see a linkage between sustainability being about the environment

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only or also about financial health, social benefits?

3.   Do you see sustainability as something that enhances, hinders, or does nothing for your organization's reputation?

4.   How do you think your external audience including, board members or donors, perceive sustainability?

5.   Do you include sustainability in describing your organization's progress or goals?

6.   What metrics do you use to measure organizational success?

The interview questions for M9, which is an exception because it uses CSR in its strategy, were the same as those for other museums with the following exceptions: questions 2 through 5 below replaced question 2 because the existence of TBL/CSR signified that the director understands and values the triple bottom line:

2.   Why did you choose CSR for your strategic planning?

3.   Do you consider a museum to be both business and mission driven?

4.   How do you think CSR is different than other types of strategic planning?

5.   Did you find resistance to using the terms "CSR" and "triple bottom line?" How do you think they apply to nonprofit museums?

This additional question for UMuseum targeted whether or not the museum director was aware of the parent university's participation in STARS:

7: Are you familiar with the university's STARS reporting?

The interview questions for the Type 1 Public Garden (PG1) for Hypothesis I were as follows:

1.   Can you please define "public garden?" Do you consider a

garden to be a museum? (to establish self-perception of gardens as museums;

also asked of PGFramework)

2. How do you define sustainability as it relates to your organization?

3. What led you to start using the Sustainability Index? (corollary to #2 for

museums because SI and STARS are based on the TBL.

4. Do you see the Sustainability Index / STARS as something that is tied in any

way to your organization's reputation? (corollary of #3 for museums)

5. Which constituents— leaders, staff, boards, students, faculty, administration,

funders— have the most influence, in your opinion, in motivating your organization to

report? (corollary of #4 for museums)

6. Do public gardens using the Sustainability Index include it in describing

organizational progress or goals? (corollary of #5 for museums; #6 for museums is moot

because the Sustainability Index contains TBL metrics)

7. Does your organization have a sustainability director or manager or similar

position? (universities have professional sustainability officers, so the question targets

whether or not gardens do also);

The interview questions for Type 1 Public Garden TBL Framework

(PGFramework) were as follows:

1. Can you please define "public garden?" Do you consider a garden to be a

museum? (to establish self-perception of gardens as museums)

2. How did the Sustainability Index come about? (corollary for #1 and #2

museum questions targeting whether leader perceptions of sustainability include TBL

components)

3.   How do you know about the triple bottom line? What decisions led to the use of a triple bottom line reporting system? (corollary for #1 and #2 museum questions targeting whether leader perceptions of sustainability include TBL components)

4.   Do you see the Sustainability Index as something tied in any way to an organization's reputation? (corollary for #3 museum)

5.   Which constituents—leaders, staff, boards—have the most influence, in your opinion, in motivating gardens to report? (corollary of #4 for museums, audience perception of the importance sustainability)

6.   Do gardens using the Sustainability Index include it in describing their progress or goals? (corollary of #6 museums)

The interview questions for Type 2 University STARS Framework were as follows:

1.   Can you please describe why AASHE was formed? (corollary to #2 for museums)

2.   How do you know about the triple bottom line? What decisions led to the use of a triple bottom line reporting system? (corollary to #1 and #2 for museums)

3.   Do you see STARS reporting as something tied in any way to an organization's reputation? (corollary of #3 for museums)

4.   Which constituents – students, faculty, administration, funders – have the most influence, in your opinion, in motivating universities to report? (corollary of #4 for museums)

5.   Do campuses using STARS include it in describing their progress or goals? (corollary of #6 for museums)

6.   Why colleges and universities? What about them as organizations made the

creation of AASHE possible? (Probe question)

7. Do you get complaints from STARS users about measuring the intangible? (to compare STARS reporters and their use of qualitative indicators in comparison to museums)

The interview questions for Type 2 University Sustainability Office were as follows:

1. What led or motivated the university's decision to start reporting in STARS (corollary to #2 for museums)

2. Does the university see their STARS rating as something that is tied to the organization's reputation? (corollary to #3 for museums)

3. Do you think that your audience—students, faculty, administration, funders, board, other external audiences—think about sustainability as part of your reputation? (corollary to #4 for museums)

4. Do you have a sense who's driving or motivating the university to report? (corollary to #4 for museums)

5. When the university first started using the STARs rating system was multi-dimensional sustainability kind of a foreign idea or did it make sense? How did you guys think about that? (probe question to understand if STARS users understood the TBL when first reporting)

6. Did you have any obstacles to overcome when you started using the Stars rating system? Has reporting gotten easier or harder? (probe question to understand how STARS users experienced the process of reporting)

7. Do you think your STARS work has any effect on how other divisions are

managed within the university, so in particular cultural organizations like the museums that you have on campus, is there a trickle-down effect? (probe question to understand if university museums were connecting to STARS)? Do you integrate your STARS metrics into any overall institution-wide strategic plans? (probe question to understand if strategic planning used STARS metrics)?

Hypothesis II: Regulatory Environment For TBL Performance

Hypothesis II proposed that museums with boards lacking voluntary or regulatory TBL frameworks are not practicing TBL strategy. Questions related to Hypothesis II targeted whether voluntary or regulatory frameworks that require triple-bottom-line metrics or reporting exist for Type 1 and Type 2 museums.

The interview questions for Type 1 museums were as follows:

1.   Are there any voluntary frameworks encouraging them to report on finance, social or environmental impact?

2.   Are there any other federal, state, or local regulations requiring organizations to report on finance, social or environmental impact?

Type 1 organizations and Type 2 organizations with TBL frameworks, PG Framework PG1, UFramework and USustoff were asked whether they were aware, in addition to the voluntary TBL framework, a regulatory TBL framework existed:

1. Why do you think that there are voluntary reporting frameworks like the Index/ STARS but not are there any other federal, state, or local regulations requiring organizations to report on financial, social and environmental impacts?

Hypothesis III: Governance and Accountability for Museum Executive Boards

Hypothesis III proposed that if museum boards lacked oversight, their museums would not be practicing TBL strategy. Questions related to Hypothesis III targeted the level, sources, and types of accountability required of museum boards that could influence whether or not museums were using TBL strategy.

The interview question for Type 1 and Type 2 museums was as follows: Tell me about your board leadership practices: how is your executive board governed?

The interview questions for Type 1 gardens and Type 2 were as follows: What role do you think your garden/college/university boards have in the decision to report in the Sustainability Index/STARS? Are there any external pressures on their own performance? Do they care about public opinion, or do they have rules and regulations they have to conform to?

Hypothesis IV: Private and Public Funding

Hypothesis IV proposed that the source of funding, whether public or private, may influence accountability and whether or not a museum would be using TBL strategy. Questions related to Hypothesis IV targeted the sources of funding and the hypothesis that museums that are largely privately funded have greater adoption of TBL performance metrics or strategy than those with public funding.

The interview questions for Type 1 and Type 2 museums and gardens were as follows:

1. What is your insight into how funding types might affect management decisions? Number the next one too?

Do you perceive a difference between public and private funding in terms of expectations about how your organization uses the funding?

The interview question for Type 2 UFramework and USustoff was as follows: Do you think that different types of funders, such as private as opposed to government funding, effect the decision of campuses to report?

Rival Hypothesis, Mission

In addition to Hypotheses I through IV, an alternative hypothesis proposed that a museum's mission may have an effect on whether or not the museum was practicing TBL strategy. An interview question related to this rival hypothesis was meant to understand if the organizational mission for Type 1 museums and gardens affected their adoption of TBL strategy: How do you think sustainability relates to your mission?

I asked Type 2 organizations if they perceived that their organization mission had affected their use of TBL strategy or reporting.

Cases Compared By Organization Type

I drew three sets of comparisons between the following groups of cases (Figure 1):

- Type 1 organizations practicing TBL strategy and Type 1 organizations practicing implicit or partial TBL strategy, to understand the differences or similarities among museums in relationship to the practice of TBL strategy

- Type 1 organizations and Type 2 organizations

- TBL frameworks for both Type 1 and 2 organizations to understand what aspects of each framework is most appropriate for the museum industry.
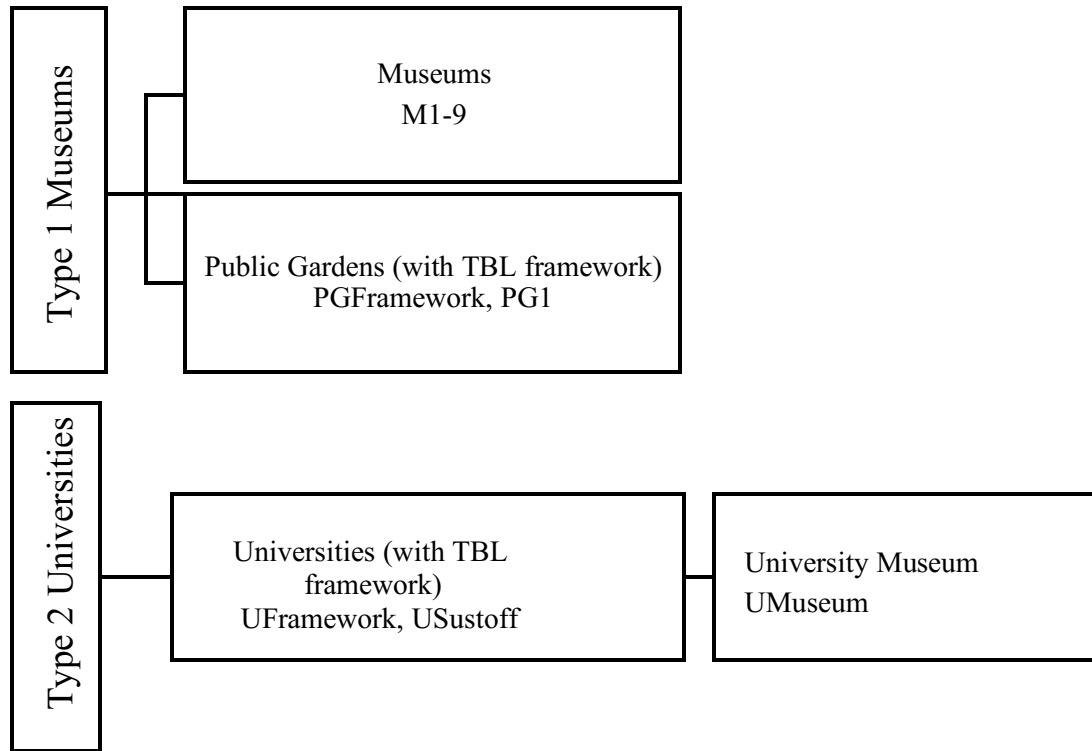
Figure 1. Case comparisons based on type of organization

TBL Indicators

> To refine the existing STARS and Sustainability Index frameworks for museums, I assessed the existing STARS and Sustainability Index standards and suggested ways for museums of different sizes to modify the standards to suit their organizations.

Chapter III

Results

I review case responses related to each hypothesis for Type 1 and Type 2 organizations. The type of organization, its discipline, and location are summarized in Table 1. Type 1 cases included art, children's, natural history and living history museums, plus a public garden, and a public garden association. Type 2 cases included a university sustainability office, a university museum, and an association for sustainability in higher education. To present the results more clearly, an ID number identifies each organization rather than using their specific name. The cases outlined below include the ID, discipline, and location within the U.S. to provide a specific focus for the analysis. Details of each case are in Appendix 3.

Table 1. Type 1 and Type 1 cases examined in this study.

Type 1 Cases I.D.	Discipline	Location
Museum - M1	Art	Washington (state)
Museum – M2	Children's	Massachusetts
Museum – M3	Art	Ohio
Museum – M4	Art	Maine

Museum – M5	Children's	Pennsylvania
Museum – M6	History	Massachusetts
Museum – M7	Science, natural history, art	Wisconsin
Museum – M8	Natural history	Ohio
Museum – M9	Natural history	Pennsylvania
TBL framework for public gardens – PGFramework	Public garden association	Pennsylvania
Public garden – PG1	Public garden	Pennsylvania
Type 2 Cases I.D.	**Discipline**	**Location**
TBL framework for colleges and universities – UFramework	University association	Pennsylvania
University sustainability office – USustoff	University sustainability office	California
University museum – UM1	University museum/ decorative arts	Washington D.C.

In the following section I summarize the important findings from interview responses related to the four hypotheses, for all Type 1 and 2 cases.

Interview Responses for Type 1 Organizations

Type 1 organizations were comprised of museums and public gardens, including their TBL- administrator, PGFramework. For each organization, I review responses relevant to all four hypotheses, listed below:

- Hypothesis I: Lack of TBL adoption is caused by failure of institutional leaders to link institutional reputation to TBL.

- Hypothesis II: Lack of accountability for museum executive boards causes lack of attention to TBL.

- Hypothesis III: Museums with a majority of private funding have greater adoption of TBL performance metrics than those with public funding.

- Hypothesis IV: External regulations or guidelines for TBL performance metrics do not exist and therefore cause lack of attention to TBL.

M1: Art Museum

Hypothesis I: The director of M1 defined sustainability explicitly in terms of financial resources, operational sustainability, and relevance to community, and implicitly acknowledged local and regional, short- and long-term effects of climate change, such as vulnerability to sea-level rise and flooding. He acknowledged that there were several bottom lines and the environment was one of them, but the museum was "not there yet" in terms of operational sustainability (Shainin, personal communication,

December 22, 2017).The director saw financial sustainability as enhancing the organization's reputation, including transparency about "program goals . . . and business model" (Shainin, 2017). He said the board considers financial and operational sustainability only.

According to the director currently the museum uses thirteen "traditional" metrics for measuring organizational success, such as number of visitors, store sales, program attendance, and working capital. The museum is developing other key performance indicators (KPIs) (Shainin, December 22, 2017).

Summing up results for the first hypothesis, findings for M1 indicate that the director did not explicitly define sustainability using all three TBL components; neither the director nor the board linked organizational reputations to triple-bottom-line concepts or frameworks and was not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director described that there were no voluntary frameworks requiring triple- bottom-line metrics or reporting for museums, but there were state laws regarding nonprofit governance. M1 self-reports in Guidestar at a Platinum level of transparency.

Hypothesis III: The director stated that the state requires the board to adhere to state laws for nonprofits. The board also works with American Alliance of Museums (AAM) guidelines, but those are "fairly removed" (Shainin, 2017). The M1 museum board is "very responsive to community feedback . . . it's a small town . . . part of what we have to do is become more responsive and quickly . . . . So the board has a more active role to bring" (Shainin, 2017).

Hypothesis IV: M1 is largely funded by private contributions. The director described relationships with private donors as beneficial: "You want to get their advice, you want to get their input. Not only because you want their renewed support, but also because they have connections, they have wisdom they've acquired. And they are also donating to other institutions. . . . Being responsive to a community with very sophisticated donors who look at what is the best state of practices, so we often have communication about that, well are you doing this, are you doing that, can I look at this information. And that's a good relationship, that's a relationship you want."

Alternative Hypothesis, Mission: The director of M1 describes sustainability as being "critical" to the museum's mission. If the collection must last centuries into the future, then the organization must also be similarly maintained.

M2: Children's Museum

Hypothesis I: The director of M2 defined sustainability explicitly as having multiple lenses including financial, climate change, relevance to community, staff retention and growth. The director linked sustainability to the organization's reputation in terms of strength and viability and organizational sustainability. She said the board wanted financial sustainability, and donors wanted the organization to be able to "execute at a very high level . . . and sustain the growth and development funded by their generosity" (C. Charnow, personal communication, December 29, 2017). She also said visitors wanted a secure, safe and enjoyable visit for their children.

To measure performance, the director described using S.M.A.R.T. goals, which are specific, measurable, attainable, relevant, time based. Each goal of the strategic plan she developed with staff had SMART goals. The museum distributes responsibility for

meeting goals across the organization. Reporting has evolved and the organization has internalized goals, which is "key to our success . . . and people's individual goals are reflected in their annual work plan" (Charnow, 2017). The director did not feel they could measure intangibles yet, but they are leaders in research for age 0-3 early learning and are working with the department of Brain and Cognitive Science at the Massachusetts Institute of Technology to develop a study to determine whether they were "moving any needles on a visit." In addition, they had "intangible data from leisure and entertainment on what exhibits excite you" (Charnow, 2017).

Summing up results for the first hypothesis, findings for M2 indicate that the director did define sustainability using TBL components; neither director nor audience linked organizational reputations to triple-bottom-line concepts or frameworks; and, as inferred from the interview and website, the organization is not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: M2 receives grants from the Massachusetts Cultural Council, which the National Endowment for the Arts funds. The Council requires "robust data reporting" on finances, facilities, and programming. M2 self-reports in Guidestar at a Platinum level of transparency.

Hypothesis III: The director of M2 described board governance as "robust," "really active," and "very accountable" (Charnow, 2017). The board holds the director accountable by the board for the goals contained in the strategic plan.

Hypothesis IV: The director of M2 described their funding as roughly one-third earned income, one-third grants, and one-third individual giving. Unrestricted funds were

"treasured" and necessary to support a third of their attendance, which is free. Grants from foundations are obtained for research and exhibit and program development but are "completely restricted . . . and federal grants are restricted even further," The director also noted the "changing nature of philanthropy and what big donors are looking for now . . . something it's hard even for schools to produce . . . I've had to grow the level of staff with academic background able to do this thinking and research" (Charnow, 2017).

Alternative Hypothesis, Mission: The director of M2 related sustainability to their mission as follows: "It's not like you put in your mission statement the word sustainability . . . It's really about lifelong learning, joy, learning about the world around us. But I really have to say I think sustainability has to be part of every dialogue . . . the preoccupation of everyone in the museum is future sustainability, whether our business model is robust enough to really withstand the rigors of the future" (Charnow, 2017). The director noted funding challenges including affording a living wage for staff, but that their mission as a children's museum created opportunities for new streams of earned income, such as a program for college students to "play" at the museum which proved financially successful.

M3: Art Museum

Hypothesis I: The director of M3 defined sustainability explicitly as sustaining mission and relevance through resources such as staff, campus energy efficiency, financial, and intellectual property (i.e., programs).

The director linked the organization's reputation to its longevity and significance to community "aspirations" (B. Kennedy, personal communication, January 9, 2018).

Regarding audience perception, I inferred that the board also perceived that fiscal stability, staff, and energy efficiency were all beneficial, given their support of the director.

The director described using the "competing values model" to create teams with complementary skill sets. The director's philosophy is that measuring progress is a process. An upcoming board meeting will discuss evaluation. Other ways to measure performance include "mystery shopper," and accompanying survey, social media mentions, and qualitative and quantitative evaluations of exhibitions. Grant compliance has "built in evaluation."

Summing up results for the first hypothesis, findings for M3 indicate that the director defined sustainability using TBL components; the director and audience linked organizational reputation to implied triple-bottom-line concepts or frameworks, and from the interview I inferred that M3 was not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M3 reported that no voluntary or regulatory frameworks that required triple-bottom-line metrics or reporting existed for his museum, except for the Ohio Arts Council Grant the museum had received, which had stipulations regarding organizational sustainability.

Hypothesis III: The director reported that the board did not necessarily have external pressures, but that board members were from backgrounds that are familiar with different kinds of business models for museums and partnerships and thinking strategically. The museum follows AAM and AAMD standards and norms, but the director believed that "It's about taking responsibility, not seeking to transfer [it], and I

find that our board resonates strongly with that" (Kennedy, 2018). The board oversees the director's performance.

Hypothesis IV: The museum was founded with a private endowment and offers free admission. The director described the museum as "independent . . . for the people of Toledo, independent means accepting responsibility for your destiny . . . not like the government has to look after us" (Kennedy, 2018). The director, who has worked for two public national galleries in Ireland and Australia, compared public funders as being "connected for a period of time then they change quickly, whereas donors on the private side tend to have profound stickiness, lifelong funders. So there is a relationship that has service and engagement" (Kennedy, 2018).

Alternative Hypothesis, Mission: The director described the relationship of sustainability to their mission as an art museum as being relevant to their community, that "in a media-saturated age we are an institution that can help people understand what they see" (Kennedy, 2018).

M4: Art Museum

Hypothesis I: The director of M4 defined the components of sustainability explicitly as environmental, holistic, related to carbon footprint, sound fiscal policy, endowment, community, artistic vision, and diversity. He linked sustainability to the museum's reputation in that the "audience is not connecting it, but culturally he and his staff and colleagues do see their brand as being conscious of sustainability" (M. Bessire, personal communication, January 18, 2018).

The local community is "progressive . . . about the environment . . . if we were out of whack they would be concerned" (Bessire, 2018).

For M4, sustainability is not necessarily a part of describing goals. The museum measures performance by using "a lot of data, it guides our decisions but doesn't make the decisions because the data, particularly in the nonprofit or the museum world, is not something to live by" (Bessire, 2018). Indictors include attendance, social-media mentions, a peer analysis of similarly sized museums, and national and local wage analysis for competitive pay.

Summing up results for the first hypothesis, findings for M4 indicate that the director did define sustainability using TBL components; the director and audience linked organizational reputations to environmental sustainability but not triple-bottom-line concepts or frameworks; and, inferred from the interview and website, was not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M4 reported no voluntary or regulatory frameworks that require triple-bottom-line metrics or reporting existed for his museum but suggested that the museum would get feedback from the community in terms of meeting expectations regarding issues related to the environment, finances, and artistic vision. The museum adheres to the requirements for AAM accreditation and occasionally applies for NEA or NEH grants which require detailed levels of reporting.

Hypothesis III: The director reported that the board did not necessarily have external pressures, but that the board contained experienced members and meetings were held regularly to support long-term strategic planning. An executive committee oversees the director's performance, and senior staff undergo 360□ performance reviews because "the more vulnerable you are and the more transparent you are, the stronger you are"

(Bessire, 2018).

Hypothesis IV: The majority of funding for M4 is private. The director noted that while donors were "very smart donors, they are very accountable, they're paying attention if not more so than the government with the regulations that they may impose . . . to how well you're running your business" (Bessire, 2018). The source of funding, whether public or private, would not make a difference in how the museum uses the funds. "It's tough out there and if you mess up people will know. . . . Our whole philosophy is being more transparent so I think we would be just as equally transparent to anybody who we're reporting to" (Bessire, 2018). The fundraising environment is challenging due to the fact that there are only four major companies with over 2,000 employees doing business in Maine, so their fundraising focusses on individuals, families, and membership. M4 does not receive city or state funding, which can be beneficial for operating funds, such as a city paying for the maintenance of the museum building.

Alternative Hypothesis, Mission: In the words of the director, "Sustainability means so many things to so many different people and I think it's become a word used too freely . . . without definition of what the organization is or what the community believes sustainability is. . . . " (Bessire, 2018). The director defines sustainability in relationship to organizational and financial sustainability. In particular, the director perceives that not connecting to as wide and inclusive an audience as possible would be a risk to the museum.

M5: Children's Museum

Hypothesis I: The director of M5 defined the components of sustainability explicitly as financial, staffing, energy efficiency, and the environment—"We work with

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children so we're constantly thinking about the future" (J. Werner, personal communication, February 16, 2018) —and in terms of healthy buildings, which have social and financial impact working together to save operating money, which is scarce. Regarding reputation, the director linked sustainability to the museum's reputation as a critical part of its mission. The museum's "board is used to it . . . [it's] part of the DNA of the museum" for building projects (Werner, 2018).

Sustainability is not a component of describing goals or management strategy. Results are expressed as what they can "actually measure," such as consumption or finances, but "harder things . . . how people feel in your building? Do workers feel healthy? etc." (Werner, 2018) are not measured.

Summing up results for the first hypothesis, findings for M5 indicate that the director did define sustainability using TBL components; the director and audience linked organizational reputation to environmental sustainability but not triple-bottom-line concepts or frameworks; and, as inferred from the interview, the organization is not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M5 reported that no regulatory frameworks that require triple bottom line metrics or reporting existed for the museum, but the museum reports on financial sustainability for county or other government grants they received, and they also reported on environmental impacts, although it was not required. The museum also reports in Guidestar and the Culture and Data Project. Typically, these voluntary frameworks require reporting on financial sustainability, but not environmental or social impacts.

Hypothesis III: A governance committee assesses the board. One board member has LEED accreditation and is a driver in encouraging the board and the museum to achieve LEED certification for its construction projects.

Hypothesis IV: M5 receives general operating funds from Allegheny County, which distributes tax funds to arts organizations, and obtains federal funding for research and projects. The museum's department of learning and research provides the program evaluation required by private foundations and public funding. As the director explained, "Every source of money has their own guidelines rules and regulations . . . everybody has something they want you to report on or to do, and you have to make sure that . . . your organization aligns with the funder's guidelines and rules" (Werner, 2018).

Alternative Hypothesis, Mission

The director perceives the museum's mission being linked directly to sustainability, which includes considerations of financial health, commitment to staff, environmental impacts and energy efficiency.

M6: History Museum

Hypothesis I: The director of M6 defined the components of sustainability explicitly as organizational sustainability related to the museum's mission as a New England farm village dating from the 1830s, incorporating into daily operations the practices and values of nineteenth-century life rural life including recycling, preserving food, and working in a community. The director ties environmental and social impacts to financial efficiencies, such as the installation of a solar field to reduce the museum's carbon footprint and operating expenses and opening a charter school to utilize staff skills

in the winter season and to increase revenue.

The director linked sustainability to the museum's reputation in terms of organizational sustainability, which attracts the confidence of visitors and donors, and he museum considers outdoor programs through the lens of environmental impacts.

The museum's board values organizational sustainability, while staff is more focused on sustainability because "they are trained on how to embrace how life was lived in that period where sustainability was really key" (J. Donahue, personal communication, February 16, 2018) while visitor perceptions of sustainability are "mixed" (Donahue, 2018).

The director of M6 did not explicitly describe using sustainability as part of assessing performance goals. The museum measures performance using traditional metrics such as admissions, fundraising, and earned income. The director noted that it was important to keep performance metrics aligned with organizational priorities in order to keep the focus on the priorities and not get bogged down in too many measurements.

Summing up results for the first hypothesis, findings for M6 indicate that the director did define sustainability using implied TBL components; the director and audience linked organizational reputations to organizational and environmental sustainability but not triple-bottom-line concepts or frameworks; and, as inferred from the interview and website, the organization was not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M6 reported that no voluntary or regulatory frameworks that require triple bottom line metrics or reporting existed for the museum. The museum participates in a monthly survey of admissions data shared with museum directors by the

New England Museums Association, which serves as a benchmark for audience growth or decline. The museum also participates in the Cultural Data Project under the auspices of the Massachusetts Cultural Council. There are regulatory frameworks for the public charter school; and for the museum, there are some requirements related to water or underground fuel tanks.

Hypothesis III:: The director reported that the board had some external pressures on its performance, such as state laws regarding the management of the endowment or federal requirements for independently audited financial statements. The museum also complies with industry standards for collections care. The director reports to the board and receives an annual performance review. The board focuses on organizational sustainability much more than on environmental sustainability, which it does not consider a key component of organizational strategy.

Hypothesis IV: Funding for M6 is private. Public funding is for very specific projects and the museum receives a small amount of unrestricted money from the Massachusetts State Cultural Council. The director has held elective office and is "close with people who are involved in government right now, so I think this institution, under me, has been . . . very targeted" about requesting public funds (Donahue, 2018).

Alternative Hypothesis, Mission:: The director describes the museum's mission as intertwined with the tradition of conservation and connection to community once prevalent in the 18th century New England agrarian landscape. The director strives to weave this sense of mission into the museum's operations.

M7: Science, Natural History, Art Museum

Hypothesis I: The director of M7 defined the components of sustainability explicitly: "It's not environmental sustainability . . . it's really been for us . . . collection (and) financial accountability as a cultural organization . . . a cultural institution is not a business per se, but you do need to be surrounded by people who understand basic concepts of finance and basic sources of revenue to offset expense" (B. Lemke, personal communication, February 22, 2018).

The director linked sustainability to the museum's reputation through the collection, communicating effectively to the public what it takes to care for a collection and the ability of the museum to find experienced conservation staff.

The director related performance to sustainability in terms of communicating financial strength and the goals and strategies required to achieve financial stability. The museum measures performance using traditional metrics such as visitation, volunteer hours, membership, and fundraising, and also social-media presence. Brown County requires the director to tie S.M.A.R.T. goals to department performance. According to her, "There's no normal with cultural institutions anymore, and what may work one season may not work the next season. So we try to find certain formulas that work and try to replicate certain things" (Lemke, 2018).

Summing up results for the first hypothesis, findings for M7 indicate that the director did not define sustainability using TBL components; neither the director nor audience linked organizational reputations to triple-bottom-line concepts or frameworks; and the organization was not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M7 reported that no voluntary or regulatory frameworks that require triple bottom line metrics or reporting existed for the museum. The museum is accredited by AAM and the Neville Public Museum Foundation, which raises private funds for programming, and reports to Guidestar.

Hypothesis III: Governance is a public-private partnership between the county government and a private foundation, each having a board. The director reports that the boards have external pressures in terms of financial accountability.

Hypothesis IV: Sources of funding are public from the county for staffing and operations, private funding for programs from the Neville Public Museum Foundation and earned income. The director is required to account accurately for both public and private expenses. From the public side, the concern is overspending, which can lead to ineffective over scrutiny, and there is extensive tracking and paperwork. Expenditures of private funds undergo a full annual audit. County funding decreased to the point that over six years the museum lost roughly 50% of county staff positions. The director's approach to spending both types of funding is a "community-first approach" (Lemke, 2018).

Alternative Hypothesis, Mission: The director stated, "The mission is why we exist; the vision is what we you know need to be doing to move forward, value and then cultural" (Lemke, 2018). The director did not use the word "sustainability," and instead used the term "preservation" in its mission statement because of the museum's priority to preserve the collection. The term "preservation" is also more relevant to M7's community.

M8: Natural History Museum

Hypothesis I: The director of M8 defined the components of sustainability explicitly as being related to biodiversity and conservation, which were a "key part of our mission" (S. Winner, personal communication, February 23, 2018). Implied social impacts included educating the public about environmental impacts, which were "hard to measure" (Winner, 2018). The director did not specifically include finances.

The director links sustainability to the organization's reputation because of perception regarding mission and the museum being a "key resource for this region" (Winner, 2018). The museum's audience is "passionate about natural areas" and the museum's programs. The museum has "a lot of support from the state of Ohio . . . because conservation and the love of nature are very apolitical topics in Ohio." (Winner, 2018).

In terms of communicating and measuring organizational progress, the museum's strategic plan includes science education, inspiring passion for nature, the protection of natural diversity, fostering health, and leadership to a sustainable future. The museum is developing KPI's to measure performance in these areas.

Summing up results for the first hypothesis, findings for M8 indicate that the director did not define sustainability using TBL components; neither the director nor audience linked organizational reputations to triple-bottom-line concepts or frameworks; and the organization was not utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M8 reported that no voluntary or regulatoryframeworks that require triple-bottom-line metrics or reporting existed for the museum. The museum

does obtain grants from family foundations supporting health and from the George Gund Foundation, which supports green building and environmental issues (George Gund Foundation, n.d.). In terms of philanthropy, the director perceived that "a lot of prominent people and foundations are getting behind this" (Winner, 2018), suggesting that "you're going to see funders who are not going to fund certain institutions if they are not thinking about . . . impact . . . funders are starting to say, 'What are you doing here, and how are you going to be making a difference in this area?' " (Winner, 2018)

Hypothesis III: The director reported that the board did not have external accountability but was "very active" regarding sustainability and conservation. The museum's Natural Areas Program owns and conserves about 9,000 acres in northern Ohio. The board does not allow natural gas pipelines on these lands regardless of eminent domain; however, there are trustees from "extractive industries . . . but they are also worried about conservation issues" (Winner, 2018).

Hypothesis IV: Funding for M8 is largely private, with roughly 3–8% of its budget covered by government funding, depending on the year. The director reported that the museum received "generous" support from city and state funding sources, noting that the state legislators were "here all the time and . . . are passionate about [the museum]" (Winner, 2018). The director also noted the significant decline in federal funding for the sciences under the current administration.

Alternative Hypothesis, Mission: M8's main strategic plan goals relate to science, education, and health, the protection of natural diversity, and leadership to a sustainable future. The director concluded, "Sustainability is really part of each of those pillars" (Winner, 2018). The museum plans to develop KPIs.

M9: Natural History Museum

Hypothesis I: The director of M9 defined sustainability explicitly in terms of environmental and financial sustainability which would enable the museum to carry out its mission into the future. He included social responsibility as a component of sustainability. Specifically, financial sustainability "allows maintenance and growth" (E. Dorfman, personal communication, April 4, 2018). Describing the rationale for proposing in the most recent strategic plan that the museum develop a corporate responsibility, triple-bottom-line framework, the director responded that the museum as an organization was both business- and mission-driven:

> We borrowed a lot of our language in general from the corporate sphere because it's my belief that the [museum, M9], and in fact every museum, should be run with the same robustness and same kind of models as a corporation, as a for-profit entity. . . . We need robust systems and processes just like a corporation. We are in a sense more mission-driven rather than profit-driven obviously, [but] we need to be as robust as a for-profit entity and understanding a concept like the triple bottom line through a corporate lens is every bit as important to us as it is for a for-profit organization. . . . We have to be as nimble as a business as we are as a mission-centric organization. . . . We are a 501(c)3 and we have to maintain [those] legal requirements, [but] we also have a responsibility as a business to keep the doors open. . . . Part of our mission, if you consider that our mission is to take our 22 million objects and steward them into perpetuity . . . clearly means a sound financial model. . . . Our corporate goals encapsulated in the strategic plan .
> . . should be the same as any best-practice run organization in the private sector; the difference is how we came up with the vision and mission . . . through . . . community liaison (Dorfman, 2018).

The director linked sustainability to the museum's reputation in terms of credibility with audiences, who anticipate that the museum will "live up to our message . . . they're deeply intertwined. The idea of environmental sustainability and business sustainability for us are . . . two sides of the same coin" (Dorfman, 2018).

The museum's audiences link sustainability to the museum's reputation as a

source of credible information for topics related to environmental issues such as living in the Anthropocene, sustainable development, climate change, and pollution. The director described the museum's audience as educated about environmental issues and "discerning," and perceived that it was necessary for the institution to be a good role model in this regard.

The strategic plan contains explicit references to triple-bottom-line sustainability as part of describing progress. A revenue-generation plan includes corporate sustainability. The annual business plan includes deliverables derived from the strategic plan, including a sustainability policy containing operational goals. The museum has a parent organization that pays for building maintenance. The museum does not have authority over the parent organization, thus developing KPIs for building maintenance is a challenge.

Summing up results for the first hypothesis, findings for M9 indicate that the director defined sustainability using TBL components; the director and board linked organizational reputations to triple-bottom-line concepts or frameworks; and M9 was utilizing TBL metrics to measure performance or incorporate TBL metrics or concepts into organizational strategy.

Hypothesis II: The director of M9 reported that no voluntary or regulatory frameworks that require triple bottom line metrics or reporting existed for the museum. The museum won the 2015 Green Workplace Challenge awards for Water, Sustainability and 2013–2015 Legacy Award.

Hypothesis III: The director reported that the board did not have external accountability, including to public opinion, but did conduct an annual self-review. The

museum's board of trustees is advisory, compared to that of the parent organization, Carnegie Museums of Pittsburgh, which has a fiduciary board of trustees. The museum's board of trustees ratified that current strategic plan. The director described the museum's board as having "a lot of influence over what happens at the museum" (Dorfman, 2018).

Hypothesis IV: The museum receives mostly private funding from an endowment, contributions, and earned income, and a small amount of government funding for research grants. Public funds require detailed reporting and, according to the director, "everything is monitored and justified." Private funding is "often unrestricted . . . or they want to see the physical results. They want to be able to go in and see it and view it and enjoy it and bring their family and friends to it, whatever it might be. Government doesn't care about that at all, but they want a detailed accounting of it financially. So, the onus us on us is no less strong, but it's a different kind of reporting" (Dorfman, 2018).

Alternative Hypothesis, Mission: For M9, financial and environmental sustainability are "intimately intertwined" with their mission and "integrated throughout everything we do" (Dorfman, 2018).

PGFramework: TBL Framework for Public Gardens

Hypothesis I: The director of the association that administers the TBL framework for public gardens, the Sustainability Index, defined public gardens as "living museums" with curated and managed collections. The director also defined sustainability for public gardens explicitly as "operational excellence" based on social, community, economic, and environmental components (C. Sclar, personal communication, March 14, 2018). The director characterized public gardens both as businesses and as mission-driven organizations as described in the rationale for the framework:

"   Having a well-run business that hits the triple bottom line . . . made sense to anyone from a political or socio-demographic perspective . . . when you had true operational sustainability, it hit all the marks. . . . Our gardens are much better thought of as business enterprises . . . mostly small business enterprises but large business enterprise(s) as well . . . they're very dependent on revenue and their motivations to sustain themselves aren't always what people would think of as a more traditional or philosophical botanic garden. . . . We care about plants, we care about the environment, but we also realize that if we're not meeting our budget targets that we won't be in existence and then those plants will be lost. [The framework contains] twelve attributes . . . they're all operational sustainability practices that allow gardens to chart their own sustainability journey from . . . good to better to best in any one of those twelve categories" (Sclar, 2018).

Champions from the staff, leadership, or boards of a public garden can drive the decision of a public garden to use the Sustainability Index and towards "greater transparency" (Sclar, 2018). Public gardens tie the Sustainability Index to their reputation as a "business advantage" for garden leadership to demonstrate "aspirations toward growth [and] excellence". It is also a draw for audiences, who, besides supporting the garden's mission by attending a program, can experience other activities. "You're not just coming to see a concert, we have a concert that features local food and connects you to your sources of local food. . . . It can promote different aspects of inclusion and diversity and cultural well-being [to] have a garden be viewed in that capacity" (Sclar, 2018).

Additionally, the Sustainability Index can enhance a garden's reputation and visibility as a driver of tourism in a local city or regional economy as a sign of organizational excellence (T. Rosenbluth, personal communication, February 28, 2018). Finally, the Index motivates public gardens to report or not, based on whether their peers are using, or not using, the index (Sclar, 2018).

The director noted that public gardens used the Sustainability Index to describe organizational progress or goals in ways ranging from basing strategic plans on the Index to focusing on a particular attribute such as water use, which can vary dramatically

depending on the region in which the garden is located. The Index is meant to be used incrementally, with users first identifying the attributes they believe they can measure and over time measuring performance in all of the three pillars.

Hypothesis II: The director reported that there were currently no federally mandated accreditations for public gardens (or museums), but that a professional standard would be useful for the industry, including for continuing education and for gaining credibility.

Hypothesis III: Governance structures for public gardens vary, but in general, boards do not have external accountability. The director stated, "Usually, the board is serving as more of a kind of overseer . . . of . . . strategic planning and . . . funding and . . . important programs, adding that it would be up to the director of the garden to convince the board to use a triple-bottom-line strategy (Rosenbluth, 2018). It is important to note that the director of PGFramework originated the framework while working in management at a former employer, Longwood Gardens, formerly owned by Pierre Samuel DuPont. The director and board of Longwood Gardens supported operational sustainability and safety initiatives from within the organization, which eventually became the Sustainability Index. The garden's board included members of the DuPont family, and at the time, the DuPont Corporation itself was "thinking about the importance of sustainability" (Sclar, 2018). The board and director, by supporting the business case for the framework, played an important role in supporting the initiatives that led to the creation of the triple-bottom- line Index.

Hypothesis IV: According to the director, while "an organization's blend of revenue will no doubt influence how it prioritizes its resources, "those funding sources

would not necessarily influence a public garden's decision to use the Index. Depending

on their mission and funding sources, whether public or private, gardens might use the

Index differently, for example:

> The United States Botanic Garden might be really focused on water use efficiency and water reduction. . . . They might also very much be concerned with plant biodiversity . . . or community diversity since they're . . . the garden of the Congress of the United States. . . . On the other hand, a particular college and university garden may be motivated by . . . technological innovation or by a strong sense of the liberal arts, or it may be, like Arnold Arboretum of Harvard University . . . motivated by principles of business excellence. So everybody taps into it differently (Sclar, 2018).

Moreover, the Index is designed so that public gardens can focus on as many of the

twelve attributes as they wish to start, the eventual goal being to complete all twelve.

Alternative Hypothesis, Mission: Sustainability relates to the mission of public

gardens in general because, as living museums, they are connected to nature where, as the

administrator describes it, "it's open spaces, you're interacting, you can see more clearly

the impact when natural disturbance happens . . . and connection to wildlife and

pollinators and food sources which . . . human beings more tangibly identify with and

care about" (Rosenbluth, 2018).

PG1: Public Garden

Hypothesis I: The director of PG1 defined sustainability explicitly in terms of the

relationship between "people, plants, health, planet, and beauty . . . and that leads us to . .

. looking at the interaction between the built and natural environments" (R. Piacentini,

personal communication, March 20, 2018). PG1 does not use the Sustainability Index

because it has progressed with several significant environmental and social sustainability

initiatives, such as net zero energy buildings and a healthy work environment for staff

and visitors, prior to learning about the Index. PG1 contributed guidance to the Sustainability Index while in development but chose instead to use the Living Building Challenge as a standard.

The director of PG1 connected sustainability to the garden's reputation through their green building projects and operational sustainability initiatives, such as eliminating the sale of "junk food and soda" in their café to highlight the connection between human and environmental health (Piacentini, 2018).

The director received support from the board for several successful green building projects, particularly after the garden gained a local reputation for them. This support led to the approval to proceed with a building that met the Living Building Challenge, "the world's most rigorous" construction standard resulting in buildings which generate as much energy and water as they use, avoid toxic materials, and create indoor environments that are good for human health (International Living Future Institute, 2018).

The Director of Facilities of PG1 also serves as the head of the garden's sustainability program, including an additional staff member who manages employee wellness and the work environment. Additionally, Studio Phipps serves as a consulting service for "sustainable building projects and landscapes" (Piacentini, 2018).

Hypothesis II: PG1 uses the Living Building Challenge and Well Building Certification, which promotes science-based design for building interiors, as voluntary for healthy environments for staff and visitors (International Well Building Institute, 2017).

Hypothesis III: The director reported that the board did not have external

accountability or pressures. Board members are "ambassadors" for the garden and in that capacity receive community feedback, which is typically positive commentary on the garden's sustainability initiatives.

Hypothesis IV: PG1 is predominantly privately funded through earned income and receives public funds from regional sales taxes. The director explained that the annual public funding was approved based on the garden being seen as a regional asset and "to make sure that we're doing the things that are good for the community in general here in Allegheny County" (Piacentini, 2018). Attendees of programs and events participate based on personal preference.

Alternative Hypothesis, Mission: For the director of PG1, promoting sustainability, human and environmental health are key components of the mission statement and organizational purpose. The garden incorporated these components into a philosophical approach to the physical campus and its operations that explores "the interaction between the built and natural environments" through the lens of the interrelationships between "people, plants, health, planet and beauty" (Piacentini, 2018).

Interview Responses for Type 2 Organizations

Type 2 organizations included an association for sustainability in higher education, UFramework, a university sustainability office, USustoff, and a university museum, UMuseum.

UFramework: TBL Framework for Universities

Hypothesis I: The TBL performance measurement framework for higher

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education, STARS, was based on the principles of the Bruntland Commission and the practices of CSR and GRI, frameworks with a "strong social component" (C. Pelton, personal communication, February 26, 2018). The STARS framework emerged in universities and colleges from a sense of ideology and activism related to concerns about climate change and the role of "sustainability in higher education and in education for sustainable development . . . to have the biggest impact . . . on students. . . on research . . . [and to] share best practices," and because campuses are like "small cities" with multiple stakeholders (Pelton, 2018). Additionally, universities had a need for professional guidance for campus sustainability officers, which had emerged as a new profession. Many users of the STARS framework, familiar with the environmental aspect of sustainability, had difficulty integrating the financial and social dimensions of sustainability into their reporting.

Developing the framework took three years, through a process of collaboration, piloting, and peer-to-peer learning opportunities where, for example, the concept of "why community partnerships are important to sustainability, or this is why poverty or diversity are sustainability issues" were articulated (Pelton, 2018). Currently, AASHE offers STARS users support such as technical advisory groups and feedback forums to enable practitioners to improve reporting skills over time. Users of the STARS framework receive ratings based on scores that serve as incentive to either report or not report; users may desire to compete with other campuses or may not compete because they do not want to risk their reputation. For campuses that report, the process of reporting in STARS "incentivizes continuous improvement internally" and also works as "an engagement tool . . . it's also designed to open up conversations on campus" and foster continued peer-to-

peer learning about the concepts of integrated sustainability (Pelton, 2018).

Many universities and colleges promote their STARS rating to enhance their reputations. In some instances, prospective students may decide to attend schools with good sustainability reputations, which encourages school administrators to rely on STARS ratings as evidence of their performance in comparison with other campuses (Pelton, 2018). Many university presidents have chosen to report in STARS as a "legacy issue" (Pelton, 2018).

Administrators can have enormous impact in influencing universities and colleges to report in STARS. Administrator buy-in can also facilitate the collection of data.

However, the impetus to report in STARS typically starts with a staff or faculty champion or even graduate students. The rating framework serves as a guideline for discussion and an "incentive for everybody to kind of rally around . . . it's hard otherwise; sustainability is just such an all-encompassing concept . . . what are the parameters, how do you talk about it . . . a tool or rating system . . . seems to be an important trigger . . . this is what I can ask people to do" (Pelton, 2018).

Campuses are using STARS to describing their progress or goals, and institutions are beginning to use their STARS metrics and targets as a basis for strategic plans or creating separate sustainability strategic plans.

STARS users struggle with measuring qualitative metrics such as engagement, according to the administrator. Solutions can include referencing qualitative metrics developed by other institutions; using existing "policies or practices with [evidence of] impact" (Pelton, 2018). As more people get on board and the more these solutions are addressed by different organizations and then shared across the industry, reporting will

become simplified.

Hypothesis II: STARS, a voluntary TBL framework, emerged out of "good will" and the desire on the part of the academic community to make a difference in fighting climate change. Over the course of roughly eight years, it has evolved to become embedded in university and campus operations. Reporting in STARS has become a large part of the job duties of campus sustainability officers. Competition has also incentivized campuses to use STARS.

Hypothesis III: College and university boards do not generally have a role in the decision of a campus to report in STARS, as it is "under their radar . . . Some of these institutions are so big, the boards are pretty removed . . . I would not be surprised if they weren't all that aware" (Pelton, 2018).

Hypothesis IV: The effect of both private and public funding can affect the decision of a campus to participate in STARS: "Larger public institutions tend to have more resources in a way that a lot of the smaller sort of private institutions don't, and that can be a real barrier for some people, because STARS is really comprehensive and you know it takes some work to do it. And if you've got a sustainability office or you've got people who do that work, you know it's a lot easier than if you got involved one volunteer trying to coordinate the whole process. . . . Exceptions are those smaller private schools where it's already part of the mission, it's just a natural fit and they do it, but those are sort of the exception." Regardless of sources of funding, smaller campuses with "capacity issues" appear to struggle at times with the comprehensive nature of STARS reporting (Pelton, 2018).

Alternative Hypothesis, Mission: The director of UFramework connects

sustainability to the mission of colleges and universities in that they are "activist"

organizations with the potential for widespread impact through education, research, and

their own operations.

USustoff: University Museum Sustainability Office

Hypothesis I: USustoff reported that the campus sustainability committee made

the decision to report in STARS. The committee includes staff, faculty, and students,

based on the desire to "measure and track progress" using a "comprehensive assessment

of campus sustainability" and to contribute to building a national "established set of

campus sustainability data." Additionally, the committee selected the STARS framework

because it was "developed by universities for universities . . . [and] it was a rating system

as opposed to a ranking system" (N. Katz, personal communication, March 4, 2018).

USustoff reported that the campus did link its STARS rating to its reputation in

terms of sustainability, and described that a separate, STARS Platinum-rated university

included mention of the rating in its employee benefits package.

USustoff reported that external audiences did link sustainability to the campus's

reputation. For instance, there was anecdotal evidence from prospective and admitted

students that the information they received on campus sustainability tours factored into

their decision to apply. A 2017 national survey by the Princeton Review found that for

63% of students and 56% of parents, a school's environmental practices factored

strongly, very much, or somewhat into the decision to attend the school (The Princeton

Review, 2018). However, USustoff noted that there were gaps in overall campus

awareness of the office's work.

As previously discussed, the campus sustainability committee of USustoff

selected to report in STARS for several reasons. Additionally, the university created an executive sustainability committee in the past year to support higher level prioritization and funding of sustainability goals on campus. This committee and the university president will review future STARS reports prior to their being published. In this case, the executive level is not driving the reporting process per se but is enabling and supporting it. Finally, as previously discussed there is some evidence to suggest that the reputation of a campus for its environmental practices may be a market driver for prospective students.

Regarding the implementation of STARS, the campus sustainability committee did explicitly focus on the integrated nature of sustainability, although they described it as "ecology, economy, equity" rather than "integrated" (Katz, 2018). The director of the campus sustainability office had learned about the triple bottom line while obtaining his MBA, and he described the term "triple bottom line" as "the language used for that integrated approach within business" but not necessarily outside of business (Katz, 2018).

The process of complying with STARS requirements is challenging when reporters gather data for the assessment for the first time, particularly data on academic programming related to sustainability. Although an academic inventory is time-consuming in any circumstance, the reporting process gets easier over time. The parent university system requires that the university track data related to environmental operations such as greenhouse-gas emissions and water use and report it to the parent university system. The university includes this data in its STARS reports.

Currently, campus museums do not appear to contribute directly or participate explicitly in campus STARS reporting. One campus art museum offers sustainability

programming in collaboration with the sustainability office.

Currently, the university does not incorporate STARS metrics into campus strategic or master planning, partially due to the campus not previously having completed overall strategic planning in general. But the metrics are "established as university goals through our UC sustainable practices policy," or in "long range development plans" (Katz, 2018). The STARS checklist is a useful communication tool for informal education related to sustainability having several dimensions, such as diversity.

Hypothesis II: There are no federal, state, or local regulations regarding integrated sustainability, but there are requirements that USustoff report on different components, such as planning for resilience and climate adaptation for cities, including transportation, emissions, and waste.

Hypothesis III: Generally, university boards do not appear to have an influence on STARS reporting, other than as previously described, where the executive sustainability committee engages in prioritizing projects.

Hypothesis IV: USustoff is a public university and also receives private funding. The director of the sustainability office does not tie participating in STARS to any particular type of funding but connects the mission of a public university to being a "good steward" of resources, employing "responsible business practices" that reduce waste and save money, and to "contribute to addressing these major challenges that are facing our state and the world" (Katz, 2018).

Alternative Hypothesis, Mission: Sustainability is part of the university's mission as it relates to teaching and research and contributing to global thought leadership and problem solving. The officer stated, "It's important to practice what we teach, so if we're going to be teaching about sustainability in the classroom, we believe it's important to demonstrate those practices in our operations" (Katz, 2018).

UMuseum: University Museum

Hypothesis I: For UMuseum, the organization defines sustainability as the "institutional fiduciary responsibilities to be preserving for generations," collection care and preservation, maintenance of physical spaces, and environmental concerns (J. Wetenhall, personal communication, March 30, 2018).

The director of UMuseum linked sustainability to the reputation of the museum in terms of financial stability in balance with "ambitions . . . and aspirations of growth . . . which can put sustainability in peril" (Wetenhall, 2018).

The director did not link the audience's perception of organizational sustainability to the reputation of the museum because audiences may prefer programming that would harm the long-term financial sustainability of the museum, and it is up to museum leaders to keep the museum on a financially sustainable path regardless of public perception.

The director described his responsibility as keeping the museum financially sustainable but did not include sustainability in describing the museum's progress; the term "sustainability" connoted for him "the equivalent of castor oil, it's good for you but people don't like the taste . . . that's why you hire great professionals to run the place, they know how to keep you healthy, it's you [that] just don't want to hear it all the time" (Wetenhall, 2018).

The director reported he had a "hard-to-measure" metric for the museum's success, which he described as "a qualitative component" represented by the energy audiences might feel when they visit the museum: "life, people coming and going and excited about what's going on . . . a rich and diverse array of programs" (Wetenhall,

2018). This might be measured by the number of visitors, the diversity of programs, or the demographic diversity of visitors, but they do not capture the "dynamic of an institution" (Wetenhall, 2018). Additionally, he posited that the reputation of a museum was another qualitative measure of success, which "does not appear on a balance sheet, and business-based financial measures will miss it almost every time. And we know that great museums have magnificent reputations . . . certain museums . . . are revered . . . and become known as must-see destinations . . . because they do great work and they have great collections" (Wetenhall, 2018).

`The director was not familiar with the George Washington University's STARS reporting but was aware of an overall "mandate to participate in the health of the university community at large" and had collaborated with the university's office of sustainability and academic programming related to sustainability. It is possible that the university collects data on the museum and may include that information in its reporting.

Hypothesis II: The director reported two voluntary frameworks, LEED certification and AAM accreditation. The AAM program includes criteria for financial, environmental, and reputational sustainability.

Hypothesis III: The museum, formerly independent, was merged into an overall parent museum embedded within the university. The museum has 501(c)3 status and its own board, which has advisory and some fiduciary responsibilities, including ensuring that the university maintains its agreement with the museum. For example, the board oversees the collection, which is on indefinite long-term loan to the university, and also ensures that the museum receives its earmarked funding. The museum created the merger due to having outgrown its original facility, as well as concerns over the costs for

maintaining the facility and the loss of audience due to changing neighborhood demographics.

Hypothesis IV: Regarding funding source, the director stated, "It's all a relationship—be it a donor, an institution or a foundation or an individual or something . . . the goal is to share ambitions, and we put forward the project and we do everything in our power to fulfill . . .what we promised. So, I don't know that the source of funding really affects that . . . that's kind of like a contract, you give your partner what they need until such time as they can go forward. So, it may be a little more difficult to work for a government grant or something . . . we make that calculation when we decide to apply." UMuseum receives "plenty of" government funding, including IMLS grants "just like any other university museum" (Wetenhall, 2018). The museum has robust partnerships such that it is able to provide programming beyond its actual budget.

Alternative Hypothesis, Mission: The director of UMuseum connected sustainability to the mission in terms of thought leadership, training and supporting future textile and museum specialists, and providing applied learning experiences much like a "teaching hospital" (Wetenhall, 2018).

Chapter IV

Discussion

The data confirmed Hypothesis I. Museum directors who perceive the importance of TBL strategy are using it when compared to those museums that are not using TBL strategy, in particular because they conceive of their organizations as both businesses and mission-driven.

For Hypothesis II, I found that results depended on context: because gardens have a voluntary TBL framework does not mean it will they will use it. Whereas none exists for other types of museums, yet one museum was using TBL strategy.

Hypothesis III, accountability for museum boards, is not a driver but can act as a support when directors choose to apply TBL strategies.

Results for Hypothesis IV regarding funding type are inconclusive. A rival hypothesis, organizational size, may have some effect on TBL reporting for museums and gardens where fewer resources may result in lack of TBL adoption, in part because of perception of the effort required to report. The second rival hypothesis, organizational mission, may be a context that supports a museum's use of TBL reporting or strategy in particular when a driver exists such as leadership perception that TBL strategy is important.

I also found that semantics indicated how museum directors applied explicit or implicit TBL concepts within their organizations. Museums have continued to evolve as nonprofit organizations, requiring ever more capital to compete, yet this reality sits uncomfortably with their roots in the U.S. as recipients of philanthropic welfare.

Comparing Results Related to Each Hypothesis for Type 1 and Type 2 Organizations

I compare results between Type 1 and 2 organizations for each of the four main hypotheses and two rival hypotheses.

Hypothesis I: Comparing Reponses for Type 1 and Type 2 organizations

In the Type 1 cases examined, my findings for Hypothesis I indicated that the director's perceptions about sustainability determine how the organization practices sustainability. This influence may even extend to cases where a TBL standard exists but the organization does not use it because the director does not perceive it to be useful, as in the case of public garden PG1. For the sake of this analysis, to be considered to be practicing a TBL approach to measuring performance or strategy it was necessary for the museum director to articulate a holistic definition of sustainability, link all three components to reputation and to performance measurement in questions 1 through 6.

Additional evidence to support the level of TBL practice was in some cases found in strategic plans or other publicly available documents.

I have roughly characterized Type 1 organizations responses to Hypothesis I into two groups: those practicing TBL strategy, and those who are not practicing TBL strategy but using some or all of the components of TBL implicitly.

Type 1 organizations practicing TBL strategy – museums and public gardens. Based on this characterization, M9 was practicing TBL strategy and PGFramework provided a framework for public gardens to measure progress and utilize TBL components for organizational strategy. Significantly, compared to other Type 1 museums that not

practicing explicit TBL strategy, both the director of M9 and the director of PGFramework conceived of their respective organizations simultaneously as businesses and mission-driven. The director of M9 chose CSR principles for the museum strategy because "it's the same as any other business and that is, we have our mission" (Dorfman, 2018). Similarly, the director of PGFramework described gardens as "living museums" which "typically operate as small businesses" (Sclar, 2018). Both M9 and PGFramework used the term "growth" in relationship to organizational and financial health.

For M9, audiences linked museum reputation to credibility based on the perceived symbiosis between environmental mission and financial health. Public gardens tie Sustainability Index to mission and audience expectations related to mission. It is also tied to organizational management and best business practice and to the local tourism economy. In this way, the Sustainability Index embodies reputational advantages for gardens that are similar to those for companies using CSR.

Strategic planning documents for M9 explicitly incorporated the terms "sustainability," "environmental sustainability," "triple bottom line," "corporate responsibility," "CSR framework incorporating people, funding, and the environment" "business planning," and "institutional framework (supporting) sustainable development" to frame, measure, and communicate organizational progress. PGFramework is intended ultimately to be a triple-bottom-line framework for measuring organizational progress, although public gardens are not necessarily using all twelve attributes currently. Some gardens have progressed beyond reporting their progress on attributes and have incorporated TBL metrics into strategic planning documents (Sclar, 2018).

Type 1 organizations practicing implicit or partial TBL strategy. Compared to M9 and PGFramework, M1-8 and PG1 do not characterize their organizations simultaneously as both business and mission-driven. The director of M7 articulated a more typical viewpoint for Type 1 museums: "a cultural institution is not a business per se, but you do need to be surrounded by people who understand basic concepts of finance" (Lemke, 2018). The directors of M1-8 and PG1 characterized sustainability in varying ways, some explicitly incorporating components of the triple bottom line and some incorporating two components but excluding others.

Taken together, I grouped these definitions of sustainability into each of three pillars: financial, environmental, and social. For M1, M2, and M4, sustainability was seen as multi-dimensional. All but two Type 1 museums named financial resources as a component of sustainability. The directors of M3, M5, and M6 named the combination of environmental and social impacts resulting in operational and financial efficiencies as an important element of sustainability. For example, LEED-certified buildings result in a healthy environment for staff and visitors and also in energy efficiency, which saves operational cost. This is similar to how the director of M9 characterized financial sustainability.

Museums in the study characterized the environmental impact component in terms of climate change (M1, M2), energy efficiency (M3, M5), carbon footprint (M4), environmental (M4, M5), healthy buildings (M5, PG1), or biodiversity and conservation (M8).

Social impacts were explicitly related to staff retention (M2, M3, M5), diversity (M3, M5), and education (M8). Many Type 1 museums suggested that relevance to

community was a key component of organizational sustainability (M1, M2, M3, M4, M7). Some emphasized mission and artistic vision as key components (M3, M4).

Similar to M9 and PGFramework, directors reported that audiences such as boards, donors, or visitors linked museum reputations to mission, financial, or organizational sustainability (M1, M2, M5, M6, M8, PG1). The directors of the museums in this study also linked their organizational reputations to transparency (M1), longevity and relevance (M3), environmental or green building practices (M4, PG1), and the collection (M7).

In contrast to M9, Type 1 museums did not include explicit references to CSR, nor did they tie TBL concepts to measuring or reporting progress or strategic planning. None included sustainability in communicating to stakeholders about performance, except for financial goals, or in the case of M8 and PG1, environmental issues or projects. Type 1 museums generally used more traditional metrics for measuring performance such as attendance, sales, working capital, programs, social-media=mentions, earned income, volunteer hours, membership, and fundraising. M2 and M7 tied performance to S.M.A.R.T. goals.

Type 2 organizations practicing TBL strategy. I compared leadership perceptions in Type 1 and Type 2 organizations practicing TBL strategy, and compare the Type 1 TBL framework, PGFramework, and Type 2 TBL framework, UFramework. The Type 2 university museum was similar to other Type 1 museums practicing implicit or partial TBL strategy; there was no trickle-down effect to the museum from the university's TBL practices.

Both M9 and Sustoff specifically chose a TBL approach because they perceived it to be applicable and valuable in describing organizational progress. However, M9 used the terms "CSR" and "triple bottom line"; and Sustoff used the terms "ecology, economy, equity." A crucial difference between the CSR strategy practiced by M9 and universities was that, unlike for museums, a TBL framework and offices dedicated solely to the administration of sustainability existed for universities. In the absence of either regulatory or voluntary TBL frameworks for museums such as M1- 9, the museum director who introduced TBL strategy was essentially acting as an organizational change agent. Moreover, the decision of Sustoff's campus to use STARS was in part driven by the desire to participate in building a national set of data for campus sustainability. DataArts has begun to build a national database for museums in the last several years, but none are dedicated to TBL metrics and not all are publicly available like STARS. For both M9 and Sustoff, external audiences linked sustainability to organizational reputation. This also appeared to be somewhat of a market driver for university campuses in terms of students selecting schools based in part on reputation for sustainability practices. However, it was not clear whether the perception of potential students was that sustainability had multiple components or only the environmental. The market driver might be even stronger if students understood that a university's policies and practices regarding diversity and inclusion also factored into a campus's sustainability reputation. Both M9 audiences and university audiences' perceived credibility and integrity to be important to an organization's relationship to sustainability. Similar to M9, prioritizing and funding sustainability goals lay at the executive level for USustoff. The campus did not incorporate STARS metrics into

overall strategic planning as in the example of M9, but both M9 and USustoff had separate sustainability policies.

Comparing PGFramework and UFramework

Both PGFramework and UFramework organized metrics around triple-bottom-line components based on the UNSDG and tailored to suit a specific type of organization such as a public garden or university. The Sustainability Index and STARS systems encouraged users to see reporting as a process of continuous improvement that develops and becomes more comprehensive over time, but UFramework was stricter regarding reporting on all three TBL components. A major difference was that STARS data are transparent and publicly available, while data from the Index must be obtained through paid subscription and are not publicly available. Both frameworks are voluntary and predicated on the basis of reporting as an ethically correct choice. Both frameworks seek to support the sharing of operational best practice. Both frameworks generate interactions such as peer-to-peer learning, emulation, and competition, which can serve as drivers for reporting. Peer-to-peer learning stimulates discussion and deepens understanding about the integrated nature of sustainability that includes three components, which is much less known than environmental sustainability, and gains buy-in for reporting. Gardens or campuses may report because they want to emulate or compete with a peer or competitor. Alternatively, they may not report because an admired peer also does not report.

Underpinning either admiration or competition is the perception that TBL reporting will enhance an organization's reputation by raising its profile or giving it an edge—for example, when a campus promotes or markets its STARS rating, or

university directors seek to demonstrate that they have made a lasting contribution to the university. For users of both the PGFramework and UFramework, the perception of the amount of work required to report was a barrier to reporting; for UFramework, that perception existed whether the campus was large or small. Both gardens and campuses struggled with qualitative metrics. Some gardens and campuses have based strategic planning documents on their TBL reports.

Type 2 Organizations Practicing Implicit TBL Strategy – Museum

Compared to Type 1 museums, leadership's perception of sustainability in UMuseum was similar to those of museums practicing implicit or partial TBL. UMuseum did not equate sustainability with TBL components although it is embedded in a university that participated in STARS reporting. In contrast to M9 and PGFramework, which connected the term "growth" with organizational and financial health, UMuseum saw growth as contradictory to long-term organizational sustainability. More case studies would be necessary to understand if this condition is widespread.

The results from Type 1 and 2 cases support Hypothesis I. Compared to Type 1 or Type 2 museums not using TBL metrics or strategy, the director of M9 explicitly linked all three components of TBL in defining organizational sustainability, linked the reputation of the organization to triple-bottom-line concepts or frameworks (check this), and used TBL metrics to measure performance or incorporated TBL metrics or concepts into organizational strategy. Additionally, in contrast to Type 1 and Type 2 museums, M9 and PGFramework characterized museums and public gardens simultaneously as both business

and mission-driven. Nine of the eleven Type 1 and Type 2 museum cases identified financial sustainability as a component of sustainability; in eight of the eleven cases, museums explicitly identified environmental sustainability as a component of sustainability, and in two of the eleven, implicitly identified; eight of the eleven cases explicitly identified the social component as part of sustainability, and implicitly in three of the cases. Some cases also acknowledged the business case for linking environmental to financial benefits. In the case of both PG1 and UMuseum, where TBL frameworks existed for public gardens and universities, neither organization was using TBL metrics or strategy. Therefore, in the Type 1 and 2 museum cases examined, results suggest that the director determined how the organization practiced sustainability in the organization depending on how the director defined and conceived of sustainability. The director used TBL metrics or strategy if he or she perceived it to be useful. The director did not use TBLstrategy if he or she did not perceive it to be useful, including a case such as PG1 where the director was aware of the TBL framework.

Hypothesis II: Comparing Reponses for Type 1 and Type 2 Organizations

For Type 1 and 2 museums with implicit or partial TBL practice, there were no reported voluntary or regulatory TBL reporting frameworks. For these museums, reporting was generally related to financial need, such as pursuing local, state, or federal grants; green building standards such as LEED, Living Building Challenge, and Well Building; or professional accreditations. Based on descriptions, Federal and state cultural council grants had stringent or detailed reporting requirements typically related to financial sustainability. Many reported in Guidestar. Some reported to the DataArts

project. AAM accredits most. M3 received a grant from the state arts council with stipulations for organizational sustainability. M4 may have received informal community feedback which was loosely related to TBL (environment, finances, artistic vision). M8 received funding from a prominent local family foundation that supported environmental issues.

Compared to Type 1 and 2 museums with implicit or partial TBL practice, Type 1 and 2 organizations using TBL reporting and strategy differed regarding the type of TBL frameworks available to them. M9 did not have any voluntary or regulatory TBL frameworks available. PG1 and USustoff had an available TBL framework.

In sum, the Type 1 and 2 cases examined suggested that Hypothesis II may be a factor in whether an organization reports if the framework is voluntary, as in the case of USustoff, but not necessarily for museums. M9 did not have a voluntary TBL framework to employ, but nevertheless used TBL strategy. In the opposite scenario, PG1 had a TBL strategy but did not use it. The university framework differed from the public garden framework in that it emphasized TBL reporting much more strongly, had peer-to-peer learning and user feedback embedded in its administration to help users understand the integrated nature of sustainability, and was transparent. It is perhaps reasonable to conclude that a more stringent, transparent TBL framework using explicit peer-to-peer learning would result in more widespread use of TBL reporting than a TBL framework that did not have these components. One limitation was that I was not able to see the garden reporters, and thus have no idea how many are using the index. In the end, unless and until there is a generally accepted TBL framework for museums, M9 will continue to be in the minority.

Hypothesis III: Comparing Reponses for Type 1 and Type 2 Organizations

For Type 1 and 2 museums with implicit or partial TBL practice, external board accountability generally consisted of adherence to state laws for nonprofit governance, federal tax laws for independently audited financial statements, and industry standards such as AAM, AAMD. Other external mechanisms for board oversight included the example of M7, governed by a public-private partnership between the county government and a private foundation. The board of UMuseum had multi-layered oversight overseen by a parent museum within a university, with its primary role being advisory to the university. For M1 and PG1, community feedback was an additional source of informal input for the board. None of these emphasized explicit TBL strategy.

The boards of all museums in the study assessed director performance. In an unusual example of accountability in museum governance, the senior staff of M4 received 360-degree performance reviews. The director of M2 was held accountable to specific goals included in the strategic plan. The director also relied on the board to support strategic guidance for the museum. The relationship between the board and museum director was one of both oversight and support. In the case of M6, the board focused in general more on organizational sustainability than environmental sustainability, but the board also supported the installation of on-site solar panels when the director made the business case for the project. The composition of the board also influenced decision-making. In the case of M5, a LEED-accredited board member was instrumental in driving the museum to achieve LEED certification for its construction projects. At times the board determined the organization's direction, at other times the director led it.

When compared to Type 1 and 2 museums with implicit or partial TBL practice, the board oversight of Type 1 and 2 organizations using TBL reporting and strategy differed. A parent organization governs the board of M9; however, the museum's own board ratified the strategic plan. For USustoff, university boards did not generally influence STARS reporting, except for the university's executive sustainability committee, which prioritized projects.

DuPont family board members helped found PGFramework. Longwood Gardens, formerly owned by Pierre Samuel DuPont, supported a group of operational sustainability and safety initiatives from within the organization, which eventually became the Sustainability Index. While not technically accountable, given that the garden's board included members of the DuPont family and that the DuPont Corporation itself was "thinking about the importance of sustainability" (Sclar, 2018), the board offered significant support for the initiatives that led to the creation of the triple-bottom-line Index. The garden's director also supported the business case for the Index.

In sum, I conclude that executive boards do not have external oversight stipulating that organizations report, nor are they driving TBL reporting or strategy for either Type 1 or Type 2 organizations. In the case of M9 and PGFramework, they were supporting TBL strategy introduced by the director or a senior administrator.

Hypothesis IV: Comparing Reponses for Type 1 and Type 2 organizations

For Type 1 and 2 museums with implicit or partial TBL practice, private funds were in general characterized differently than public funds. M1, M2, M4, M6, M8, and PG1 were largely privately funded. M3 was supported entirely by private income and received no government funding except for a grant from the state arts council, which had

stipulations for organizational sustainability. M5 and M7 received local public funding

for operating expenses and private funding for programming. UMuseum received a mix

of private as well as "plenty of" government funding, as is typical of university

museums.

Private funding meant competition for donors who expected best practices (M1),

and relationships that were long-term (M1, M3) and less subject to changeover than

funding tied to government officials (M3). Private donors held funding recipients

accountable and were attentive to the business practices of recipients (M4). Donors were

more attentive than government with requirements they attached to funding (M4). For

M3, private funding meant independence and taking responsibility, as opposed to

receiving government assistance. Philanthropists, especially younger ones establishing

family foundations, required more sophisticated data and reporting on measurable

outcomes than the previous generation of philanthropists (Charnow, 2017). Private

funding was restricted, but government funding was even more restricted and required

extensive paperwork and "counterproductive" scrutiny for potential overspending

(Charnow, 2017, Lemke, 2018). Accountability was necessary for both private and

government funding (Lemke, 2018). Directors perceived that government funding was on

the decline (Lemke, Werner, 2018). The organization received annual government

funding based on the perception that the organization is valuable to the region (Piacentini,

2018). The source of funding was not important because overall fundraising was difficult

and had constraints, and the organization had to make an informed choice about

requirements when applying for funding (Bessire, Wetenhall, 2018). All sources of

funding had restrictions and reporting requirements (Winner, Wetenhall, 2018).

When compared to Type 1 and 2 museums with implicit or partial TBL practice, Type 1 and 2 organizations using TBL reporting and strategy had a range of experiences related to funding types. M9 was supported mostly by private funds. The requirements for private and government funding differed in that government funding required detailed reporting, monitoring, and justification, but was less concerned with a project's physical presence or prestige that a private funder would expect. USustoff was part of a public university with the perception of an ethical responsibility to steward resources, avoid waste, and help solve global challenges.

In sum, there did not appear to be a clear connection between the funding type and whether an organization used TBL strategy. However, the museum business model was heavily dependent on private philanthropy and government funding and grants. Given the requirements for obtaining and reporting for both private and government grants, philanthropy could be a mechanism to lead museums to use TBL measurement and strategy. For museums, the task of soliciting for funds never ends; this heavy reliance on philanthropy also suggests that philanthropists could have significant leverage to impose TBL reporting requirements if they chose to do so. Museums "have to make sure that . . . your organization aligns with the funder's guidelines and rules" (Werner, 2018). In this way, philanthropists, visitors, and consumers of a museum's programming and services act as market forces on a museum.

<center>Rival Hypotheses</center>

In addition to the four main hypotheses, two alternative or rival hypotheses may explain why a museum would or would not adopt TBL strategy. The first rival is institutional size, and the second is mission or discipline.

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Institutional Size

      Type 1 cases included art, children's, natural history, living history, public gardens, and a public garden association of with annual budgets ranging from under $1 million to $33 million dollars (Table 2). Type 2 cases included a university sustainability office, a university museum, and an association for sustainability in higher education whose annual budgets ranged in size from $4 million to $3.9 billion dollars (Table 2). For the sake of this analysis, income is a proxy for institutional resources.

      Of the Type 1 and Type 2 museum cases examined, only M9 practiced TBL strategy, and it had an approximate annual budget of $17M. This is too little data to infer that institutional size affects TBL in the Type 1 and Type 2 museums included in this study. But a useful comparison may be made between museums and universities reporting in STARS as a group to understand a possible effect of size on TBL reporting.

Table 2. Case sizes based on annual income.

Type 1 cases	Size (annual income)
Museum - M1	$435K FY ending 2015
Museum – M2	$9M FY ending June 2016
Museum – M3	$19M FY ending June 2016

Museum – M4	$10.9M FY ending Jan. 2017
Museum – M5	$8.7M FY ending June 2016
Museum – M6	$12M FY ending Jan. 2017
Museum – M7	$2.4M 2017
Museum – M8	$33M FY ending June 2016
Museum – M9	$17M 2017
TBL framework for public gardens – PGFramework	$1.9M 2016
Public garden – PG1	$11M 2016
Type 2 Cases	Size (annual income)

TBL framework for colleges and universities – UFramework	$2.4M 2016
University sustainability office - USustoff	$3.9B 2016
University museum – UM1	$4M 2016

Table includes each of the Type 1 and Type 2 cases examined in this study and their sizes. Size is based on most recent annual budget. Line 12 of Form 990 represents the most recent annual budget of museums, the public garden, and the university museum. The university's most recent annual report budget supplied the university budget.

Endowment is a proxy for institutional size for universities and campuses. The minimum endowment size as of the writing of this study for current, unexpired STARS reporters is $141,000, and the maximum endowment is $25,572,000,000. The median endowment size is $645,000,000. For a sample of U.S. museums, the minimum budget range is under $50,000, the maximum budget range is over $25 million, and the median

budget range is $250,000 to $999,000 (Figure 2).
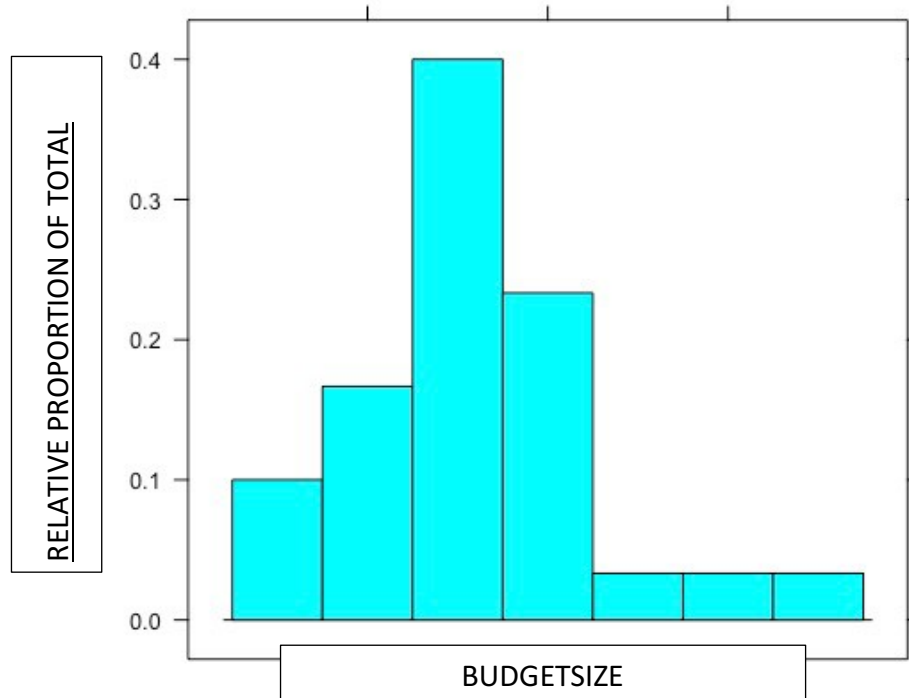
Figure 2. Size (budget) of U.S. museums. Histogram showing distribution of operating budget size ranges from variable "Budgetsize" for U.S. museums from random sample of 30. Code designates organization's annual budget by total expenses - 1=under $50K; 2=$50K-$249K; 3=$250K-$999K; 4=$1M-$4.9M; 5=$5M-$9.9M; 6=$10M-$24.9M; 7=$25M+ (coded as discrete numerical value).

Both small and large universities report to STARS. Based on its income, M9 would be in the budget range 6, which is relatively larger than most other museums in the sample, if the sample includes the true upper range of U.S. museum budgets. Size may have some effect on whether a museum may choose to use TBL, and that if a museum is relatively larger to other museums, it may be more likely to use TBL strategy.

According to PGFramework and UFramework, resources appeared to have a role in reporting for gardens and a more contradictory role for universities. For public gardens, although garden professionals created the Index and they intended it to be

practical and efficient to use, "the greatest barrier to participation (in the Index) is the amount of perceived or actual time they have to dedicate to doing it" (Sclar, 2018). If a garden is struggling with daily operations, the perception may be that taking the time to report on even one attribute may seem overwhelming. Smaller gardens described not having staff or financial capacity: "We're shining by doing only a few programs . . . we really can't afford to expand, or we're a new and emerging garden and our mission is really just tied to doing this one thing and it's hard to get them to realize the big picture" (Rosenbluth, 2018). Financial data on public gardens using the Index and their incomes were not available.

Among universities and colleges, capacity can be a barrier to reporting for both well- and less well-resourced institutions. For larger campuses, the process of compiling large, comprehensive amounts of data from many divisions and departments is a burden. For smaller institutions, inadequate staffing is a barrier to collecting adequate data.

Another barrier to reporting in STARS for some smaller institutions may be a perceived pressure, typically from senior leadership, to get a high rating. Although the reporting system is flexible and ratings meant to be a snapshot of organizational progress, smaller institutions may try to do too much too soon. As a result, it may not be seen as a process where the ability to report successfully or completely grows through practice.

Additionally, not having designated full-time staff such as a sustainability officer to coordinate and compile data is a barrier for smaller institutions. Although they may have the resources which makes reporting possible, being a larger university may also be a barrier in terms of STARS reporting, as a larger, more visible and prestigious institution may perceive that not achieving the highest possible rating is a reputational risk.

Other factors such as the lack of external regulations or industry norms for museums to use TBL strategies or leader perception about TBL appear to have a greater influence than institutional size and resources. However, size may have some effect on TBL reporting for museums and gardens where there is lack of capacity, particularly in comparison with universities with large endowments. Further study would be necessary to support this inference.

Mission

Regardless of discipline, both Type 1 and Type 2 organizations connected sustainability to their mission in various ways. Natural history museums described environmental sustainability as defining their mission to the extent that not exercising thought leadership on environmental issues could risk the museum's reputation (M8, M9). Gardens provided not only a visible and accessible link to the natural world and the interrelatedness of human and environmental health and beauty, but also to the relationship of people to the built environment (PG1).The mission of M6, which interprets life in rural New England where materials reuse and reliance on community were necessary for survival, encompasses environmental and social sustainability and is also linked to the natural world. This philosophy extended into the museum's operations, which connected environmental and financial sustainability.

Children's museums saw sustainability as a critical part of their mission because children represent the future (M5) and connected the topic to providing a healthy and safe learning environment (M5, M2) and to financial stability (M2). Art museums connected their mission with legacy and financial stewardship in terms of caring for collections

(M1, M7), maintaining physical campus, and remaining viable by attracting diverse audiences (M4). For art museums, artistic relevance to their community was key (M3, M4) so that "in a media-saturated age we are an institution that can help people understand what they see" (Kennedy, 2018).

For many museums in the study, the term "sustainability" had limitations in relationship to mission. As a term, many did no use "sustainability" in a mission statement, but it was a daily consideration (M2). It has become a very broad and diluted concept, and it was important for an organization or community to define it clearly for themselves (M4). A particular community found it more appropriate to use the term "preservation" instead (M7).

Type 2 organizations, including UMuseum, linked sustainability to mission primarily through the responsibility for education and research. A university's role as educator was viewed as a platform for large scale societal change and impacting global challenges, and the university could model what it taught in the classroom by internalizing best environmental practices (USustoff). A decorative arts museum saw its role as educator and thought leader, providing a professional pipeline for the future sustainability of the field (UMuseum).

The types of museums practicing TBL performance measurement and strategy were a natural history museum and public gardens. Their missions connected directly to the natural world, where one might conclude that they were better able to make the argument to stakeholders that TBL was relevant. However, as in the case of M8, being a natural history museum did not guarantee the use of TBL, although it could lead to very progressive environmental programming and initiatives, as in the case of the

BlueLakeGreenCities Institute at M8, which in collaboration with M8 produced a passive house for public education that the museum then sold for residential use. It may seem less direct to connect environmental sustainability to the mission of an art museum, were it not for the example of M3, which has installed a field of solar panels and is now generating 70% of its on-site energy supply through this source. It may be more direct to link social sustainability to the mission of an art or children's museum, such as the example of M2 and M4, which strove to pay living wages to attract high quality staff, or M1, whose programming outreach to underserved local schools and assisted living facilities provided crucial arts-education opportunities that would otherwise go unmet in the community. A counterexample would be a living history museum such as M6, which operated a school onsite that employed the interpretation staff in the off-season rather than requiring them to take part-time wages.

In sum, while the organizations in this study may define sustainability's connection to their mission in different ways, in practice there was no limit to the crossover in how they were actually applying sustainability within the organization, even if not explicitly TBL. There was too little evidence in this study to conclude that organizational mission itself was a driver for TBL practice, but mission may still have an important role as a context-providing ground for symbiosis between the ethical considerations of mission and sustainability. When this context meets a driver such as leadership perception that TBL strategy is important, then TBL strategy may be present.

Framing the Business Case for TBL Sustainability Strategy in Museums

Within the museum community represented in this study, there were clear philosophical differences in how leaders conceptualized their organizations. The critical

difference found between the TBL practitioners in this study, M9 and public gardens, and other study participants was that the TBL practitioners characterized their organizations as both businesses and mission-driven organizations. Whereas M7's director perceived that "a cultural institution is not a business per se," and for UMuseum, "[a museum] doesn't run like a business . . . 80% is kind of like a business, but the 20% that isn't is the most important 20% . . . it's the mission . . . those values and . . . the long-term fiduciary responsibility is absolutely fundamentally not like a business" (Wetenhall, 2018). In contrast, for M9's director felt that "every museum should be run with the same robustness and same kind of models as a corporation, as a for-profit entity . . . we need robust systems and processes just like a corporation. We are in a sense more mission-driven rather than profit driven obviously, [but] we need to be as robust as a for-profit entity and understanding a concept like the triple bottom line through a corporate lens is every bit as important to us as it is for a for-profit organization" (Dorfman, 2018). Similarly, for PGFramework, "a well-run business that hits the triple bottom line . . . true operational sustainability, it hit all the marks and some of the people who are more fiscally conservative or red-state oriented would get by the principles of efficiency that were espoused by sustainability. . . . Our gardens are much better thought of as business enterprises . . . they're very dependent on revenue" (Sclar, 2018).

Museums also differ philosophically on what growth means, as articulated by UMuseum's leader: "I think a lot of the dialogue has been wrestled away from the forces of long-term sustainability towards growth and, you know, glitter and exhibitions . . .There's been a real continuum that has been pulling away from the concept of a . . . museum for future generations, and it's important I think to wrestle that back in some

way; and also they're going to the constitution of museum boards and the desire to please a certain segment that tends to come from the business community in the interest of getting money." Compared to M9's director, who felt that financial sustainability "allows maintenance and growth"; and PGFramework's leader, who stated that "the business leader also uses [the Sustainability Index] to influence their own . . . board of the business. . . aspirations toward growth, toward excellence" (Sclar, 2018).

Semantics and TBL Adoption

The ways in which museums conceptualize organizational sustainability, as well as the words they use to describe it, are crucial to understanding the adoption of TBL in museums. TBL and CSR are terms from the corporate world, and terms that work in the corporate context did not in general resonate with leaders in this study, except with those Type 1 or Type 2 leaders who adopted TBL management strategies, such as the director of M9, who admitted that they "borrowed a lot of our language in general from the corporate sphere" (Dorfman, 2018). The director of PGFramework also perceived that there was "[a] sort of appeal of having a well-run business that hit the triple bottom line" (Sclar, 2018).

Universities using STARS adapted the TBL concept but revised terminology to resonate in an academic environment: "The definition of sustainability that we used . . . incorporated ecology, economy, equity . . . triple bottom line is generally the term used for sustainable business, but we absolutely took that [TBL] approach from the beginning" (Katz, 2018).

In this study, participants defined sustainability as financial and organizational sustainability, relevance, longevity, and stewardship. Art museum directors used the

terms community, purpose, relevance, and artistic vision; natural history museum

directors used the terms biodiversity and conservation, natural history, science, and art

museum directors used the word preservation. However, implicit in the notion of being

relevant or having an excellent reputation or prestige is that those elements make a

museum competitive. Each Type 1 organization spoke of the challenges related to

attracting vital resources such as audiences (customers), funders (income), and staff,

which, as in any business, are necessary to maintain a competitive edge. However, as an

example, only one interview for Type 1 organizations mentioned the word "competition,"

a business term. My conclusion is that semantics appear to be a barrier for museums to

adopt explicit TBL performance measurement or strategy unless they use or adapt

specific corporate terminology. The results of this study indicate that museum leaders

who adopt TBL strategies were able to explicitly articulate that the museum behaves like

a business and synthesize that concept with that of a museum being mission-driven.

While "nonprofits will never resemble businesses that can measure their success in purely

economic terms" (Sawhill and Williamson), they are businesses that can measure their

success in most effectively meeting their mission.

The following two quotes illustrate how museums may adapt the CSR concept:

"Corporate leaders understand that addressing sustainability is about managing risks and

opportunities for growth and developing solutions that respond to future demands"

(Boerner, 2015). Here the quote is repeated, with the word "corporate" changed to

"museum": "Museum leaders understand that addressing sustainability is about managing

risks and opportunities for growth and developing solutions that respond to future

demands." Many museum directors interviewed in this study were essentially operating

in a fashion reflected in the second quote—but they were doing it implicitly, rather than explicitly. Although they may not define their organizations explicitly as businesses, many utilize business practices such as creating mission statements, strategic plans, and conducting evaluation research. As noted above, the term "growth" resonated differently with some of the museum leaders in this study, perhaps because they saw it as a corporate concept. In the context of TBL strategy, growth is an example of both risk and opportunity. UMuseum's position that growth was a risk is valid if the growth is misguided and does not take institutional resources into account. But it would be an opportunity if the museum were positioned, for example, to implement a global or innovative business model, or if the growth were one of the many beneficial types of growth for museums, such as innovative programing, adopting best practices such as diversity and inclusion, partnerships to leverage programming capacity, and environmental and financial efficiencies, to name a few examples from the organizations this study. When pursued with clear intention in a way that is appropriate for the organization, a corporate concept such as "growth" can be an acceptable one for museums.

Finally, a widely held misapprehension exists that the term "nonprofit" means an organization that does not make profits or makes just enough profit to cover operating costs. This implies that profit is not a motive and, by extension, that operating the organization does not require business acumen. As defined by the IRS, the term "nonprofit" refers to a tax-exempt organization in which no individual may personally profit from earnings (United States Internal Revenue Service, n.d.). This does not mean that the organization cannot profit or that business goals cannot be present. As

organizations, nonprofits are a "peculiar American form of the welfare state" where

"private initiatives [are achieved] in the public interest" (P. Hall, 2000). They must

balance the needs of the organization with responsibility to the public within an

increasingly complex and competitive business environment. While they do not operate

exclusively to earn a profit, to be financially sustainable, arts organizations have

"diversified revenue streams, larger equity balance, greater operating margins, and larger

administrative cost ratios (Levine Daniel & Kim, 2016). Yet the market for nonprofit

capital is inefficient (Kaplan & Grossman, 2010). Because museums operate in

environments which are so much more complex than when they originated as

organizations, the incentive and need for earned income has increased even as museums

still exist as legacies of the welfare state with limited access to capital, creating an

existential friction. I speculate that this ill fit between tradition and contemporary reality

may somehow influence some museum leaders in this study to describe their

organizations in terms of duality.

The Museum Business Model

I propose a business model for contemporary museums. It reflects feedback

received from the cases included in this study and highlights the importance of a strategic

tool such as TBL strategy to consider both internal and external contexts for making

decisions and determining priorities within organizations.

According to Falk and Shepard (2006), museums in the United States

inherited the hierarchical business model once prevalent for many organizations

in the Industrial Age. In this traditional museum business model, knowledge and

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content were handed down in a linear fashion to the public by the director and curators. The number of visitors, exhibitions produced, or the size of the collection defined success. Operations, including staffing and finances, were less important. The complexity of operating a museum has greatly increased over time, but as Falk and Shepard observe, "as a community, museums have only recently begun to appreciate that they need to be more explicit about their business models, that they need to attend to the details of their business model as much as do businesses in the for-profit world." Moreover, "museums have business models just as certainly as do for-profits; it's just that they're not always aware of it" (Falk & Sheppard, 2006, p. 18).

Falk and Sheppard propose a business model for contemporary museums that, in contrast to the traditional, top-down business model that does not accommodate audience feedback, places public needs and expectations at the center, fed and supported by a museum's internal and external assets. All this rests within larger societal, political, and economic contexts. Each sphere is permeable, and information flows both ways. A 2014 study of the Montreal Museum of Fine Arts by Coblence, Normandin, and Poisson-de Haro examined how the museum achieved growth by evolving its business model while adhering steadfastly to its mission. The study proposed a business model for cultural organizations that included the following components: customer value proposition, key resources, key processes, and profit formula. I adapted and modified these two models in Figure 3, combining Falk and Shepard's assets and external context with the business-oriented terminology, adapted to museums, proposed by Coblence. This adapted model illustrates the complex interactions required to lead a contemporary museum. It reflects

and builds upon the feedback from many of the museum leaders in this study and serves

as a framework for the following discussion.
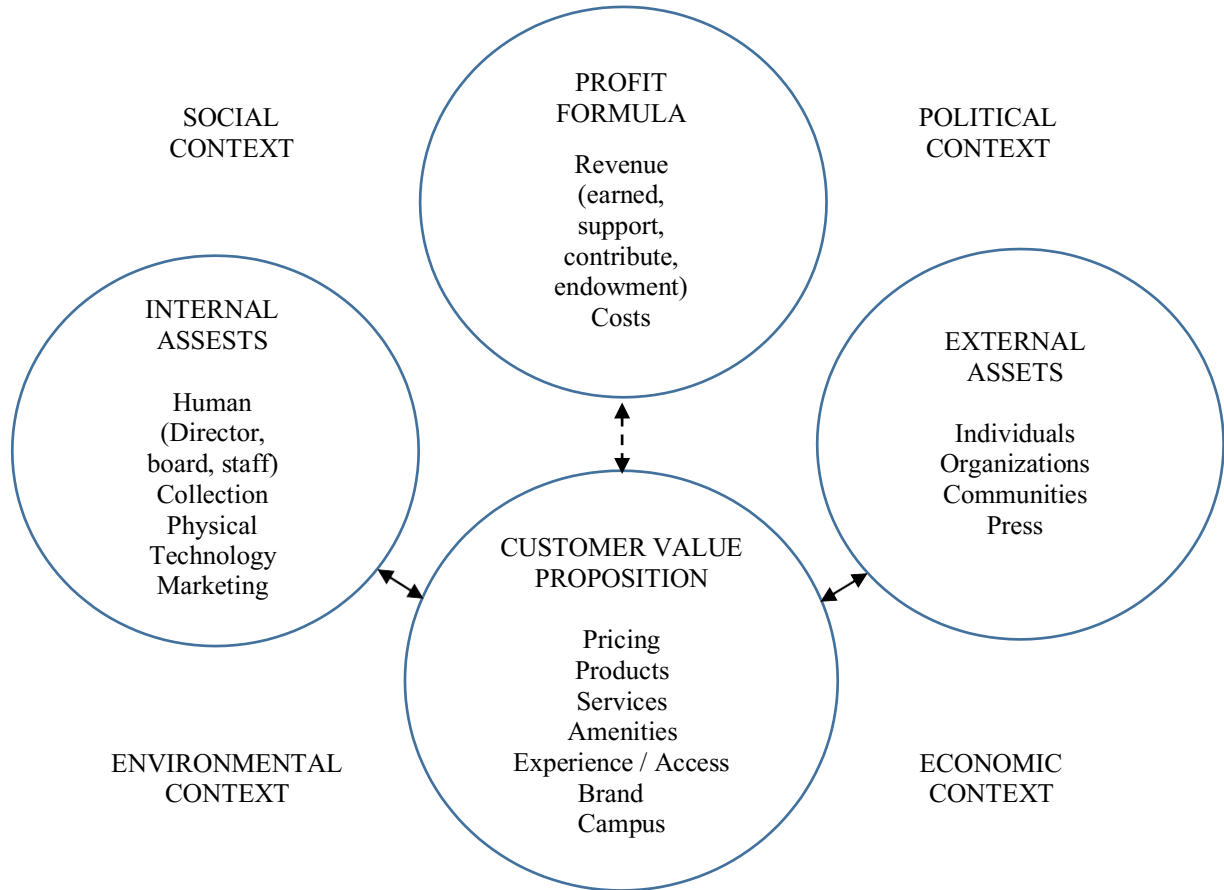
Figure 3. Business model for U.S museums. Adapted from Coblence, Normandin, and Poisson de Haro, 2014; Falk and Shepard, 2006.

In this adapted model, "customer" replaces "audience." The expanded list of

customer offerings includes pricing (free or charge), amenities (café, shop), access

(onsite, web, programs), brand (identity and prestige), and campus (character of building

or grounds). Products include exhibitions, programming, publications, experiences, and

shop products. Financial Assets becomes Profit Formula and includes typical income

streams and costs for museums. Internal Assets now includes collection, technology,

marketing, and clarification of "human" assets. Type 1 and Type 2 museums in this study universally identify the community (audience, customer) to be a central consideration and organizing principle which obliges museums to deliver programming and services and provide avenues for and respond to feedback.

The Falk and Shepard model places the audience in the center of the original model. The reality is that funds that come from audience attendance, such as admission fees, shop, café, and programming proceeds are rarely adequate to cover the cost to produce the programming and are a portion of the complex mix of revenue streams upon which museums principally rely. Therefore, as opposed to the Falk and Shepard model, the spheres related to audience and revenue are shown in a hierarchical relationship, with revenue positioned above audience and a dotted, rather than continuous, line. Compared to the private sector, the market "mechanisms for directing funds to nonprofits are much less developed" (R. Kaplan and A. Grossman, 2010). Moreover, revenue sources available to museums have inherent constraints and inefficiencies, such as restricted funds, the effort required to secure one-time gifts for separate projects and write grants, vulnerability to donor expectations, and limited staff to support development work. These constraints can negatively affect strategic decision- making by organizational leaders, who are pulled in multiple directions to satisfy "the diverse expectations of their multiple stakeholders or principals" (LeRoux & Wright, 2010, p. 579). Bringing in larger audiences does not necessarily translate into adequate unrestricted funds, in part because of the inherent contradiction that museums, expected to be as widely accessible as possible, cannot raise admission prices without limit. Yet the cost of producing exhibitions exceeds the admission price per visitor by roughly $50 (Association of Art

Museum Directors, 2016).

The ability of a museum to grow within this model would be affected by the proportion of earned or unrestricted income to contributed income or support such as grants, which are frequently restricted in their application. Higher earned or unrestricted income would be an advantage for the museums, allowing them more freedom to fund operations in addition to programming. Moreover, "nonprofit organizations work in a market where a large percentage of capital ignores the operational needs of running an organization—people, infrastructure, and technology—and instead rewards programmatic (high-visibility) activities. For many, this obsession with overhead and the resulting 'starvation cycle' that nonprofits endure is a familiar topic" (Davenport, 2015). Solutions to bringing in unrestricted funding can range from embarking on a major capital project such as a renovation, where the amount of funding is large enough that a portion can be unobtrusively funneled towards operating expenses, to monetizing content such as exhibitions or publications in innovative ways, or creating efficiencies such as leveraging social media as a form of low-cost marketing. Crowdfunding provides a potential alternative revenue stream for raising programmatic funds that museums might adapt. For example, Kiva is a nonprofit that distributes crowdsourced funds to individuals and small businesses internationally. Funders, who may contribute as little as $25, lend rather than donate and can expect repayment. The challenge of course for museums would be to return the investment to shareholders. Having another revenue stream to support the cost of programming may alleviate some of the burden of securing unrestricted funds. Crowdsourcing would also tap into an unconventional pipeline for museums to access capital.

I added an environmental context to the social, political, and economic contexts of

Falk and Shepard's original model. When combined with Falk and Shepard's 2006

model, Coblence's 2014 model illuminates the changing and evolving nature of the

contemporary museum business model. As adapted, it illustrates the triple-bottom-line

context within which museums are now operating and underscores the rationale for

museums and gardens that are applying TBL strategies to their organizations as best

practices. Taken together, museums generate considerable economic impacts, including

environmental impacts. According to the AAM, for every $100 that U.S. museums

generate, they generate $220 in economic impact from supply chain and employee

expenditures; they also "support 726,000 jobs in the United States, and directly employ

over 372,000 people, more than double that of the professional sports industry"

(American Alliance of Museums, 2018). By not reducing the scope of its direct, indirect,

and supply chain GHG emissions related to this economic activity, the U. S. museum

sector is missing an opportunity to make a potentially meaningful contribution to

mitigating climate change. Additionally, a TBL approach to performance measurement

and strategy, if practiced by more museums, may also become a component of a

museum's brand and an element to drive the market for customers, in a similar fashion to

how companies use CSR.

Other external or internal factors "such as a board or leadership-oriented vision

can trigger growth and foster the adaptation of a business model" (Coblence, Normandin,

& Poisson-de Haro, 2014, p. 130). External factors can represent risks and opportunities

for museums, such as tax code changes reducing incentives for charitable giving by

private individuals, or economic recession, which museum must evaluate for both short

and long-term planning. Some external factors generate lasting change in industry standards, such as the 2002 passage of the Sarbanes-Oxley Act, which led to IRS tax code revisions in 2008 that tightened accountability for nonprofit boards and their governance. As a result of the change in tax filing requirements for nonprofits, expectations by federal, state, and private funders has increased for transparent reporting of financial data. Nonprofits that adhere to best practices in financial management are also better able to compete for funding (Benzing, Leach, & McGee, 2011). In addition to stricter tax reporting requirements, museums were hit especially hard in the economic recession in 2008, as market losses constricted contributions from corporations and private foundations, deflated endowments, caused losses in membership, and resulted in massive cuts in state and local government funding, with "museums and nonprofits first on the chopping block" (Bell, 2012, p. 4).

Another external factor that affected museum sector standards arose from the nonprofit Guidestar, which began to address the accountability challenges in the nonprofit sector arising from "overlapping and ill-defined" lines of ownership (Frumkin & Kim, 2001, p. 22). In 1994, Guidestar harnessed the rise of information sharing made possible by the Internet to aggregate and publish nonprofit tax filings in an easily accessible, digital format. Guidestar sought to prompt nonprofits into greater transparency and accountability being demanded of businesses, government, and education because "Exemption from taxation and, in many cases, the ability to receive tax- deductible contributions create an obligation for nonprofits to be accountable to the public. Being transparent with relevant information is how nonprofits demonstrate that accountability"(GuideStar USA, Inc., 2009, p. 7). Transparency is the "release of

information that is relevant to evaluating . . . institutions"(GuideStar USA, Inc., 2009, p. 7). Initially, nonprofits strenuously resisted Guidestar's efforts to publish their publicly available tax documents, claiming that the tax returns were private information and should not be made available. Perceptions and practices related to transparency in the nonprofit industry and, in particular, for philanthropy have changed dramatically since then. It is unclear, however, how deeply transparency practices have actually permeated the museum industry.

Regarding the social context, changing demographics figured prominently as a concern for the directors interviewed in this study (M1, M2, M3, M4, M7, UMuseum). In a 2015 survey of art museums, respondents indicated that non-Hispanic whites comprised 72% of staff and also held 84% of key positions such as curators, conservation, educators, and leadership (Andrew W. Mellon Foundation, 2015). For museums to resonate with new audiences, they must create effective pathways to institutional diversity and inclusion so that the organization and its programming more closely resemble the communities they serve. From measuring the diversity of hiring for new positions to quantifying how many staff have received unconscious bias training, from how many mentors are available to historically underrepresented employees to providing internships that pay a living wage, museums can manage the risk of losing audiences by incorporating diversity-related performance measures into TBL organizational strategy.

Several museums in this study touched upon what they perceived to be a changing landscape for philanthropy, such as the expectations of philanthropists for measurable outcomes, the rise of donor-advised funds, and the competition that museums face from environmental causes or social enterprises for philanthropic investment (M1, M2, M3,

M4, M8). Recently, algorithm-based data have been proposed to predict outcomes for social impact and arts programs (Saul & Groch, 2014), bypassing traditional evaluation methods. Compared to social impact organizations, "the role of culture and museums in the transformation of society is . . . an (equally) important one" (Charnow, 2017). While the museum sector may not be as advanced as some in the social impact sector in measuring program outcomes, the use of ever more sophisticated tools by a related sector may push museums to compete by developing their own lexicon of measurable outcomes. Finally, a TBL strategy can assist museums in their strategies to maximize philanthropic and earned income. According to Daniel and Kim in their study of 4,000 visual and performing arts organizations, most arts nonprofits receive over half of their income from "commercial ventures" and investment, and the remainder from contributions (2016). This study found that when visual arts organizations (art, natural history, children's, natural history, and science museums) generate a larger proportion of their earned income from commercial activities directly or closely related to their mission, they experience better attendance and program outcomes. In part, this effect is related to the alignment of resources dedicated to mission, core competencies, and related target audiences with the commercial activity. Frumkin and Kim (2000) found that philanthropic giving, rather than being motivated by efficiency or a low ratio of administrative costs to expenses, was predicated more on identifying with organizational mission. Nonprofits that marketed themselves to potential donors by emphasizing their mission increased donor contributions. Increased efficiency in this context may be a way instead to maximize earned income. Museums can use the TBL framework to prioritize earned income endeavors that align with mission and the needs of stakeholders, as well as increase

strategic efficiency to maximize profit.

Proposing a TBL Framework for Museums

I propose a TBL framework for museums, articulate the difference between
performance measurement and evaluation and how this applies to museums and TBL
strategy, and propose a path for museums to develop a set of TBL metrics and indicators
using best practice. Finally, I outline potential barriers to the adoption of a museum
sector-wide TBL framework.

A TBL framework is a logical tool for managing the complexities of the
contemporary museum business model because it addresses holistically the risks and
opportunities in the internal and external contexts that are relevant for museums.
Museums can also use the TBL framework to prioritize earned income endeavors that
align with mission and the needs of stakeholders and increase strategic efficiency to
maximize profit. Moreover, "nonprofits that are highly effective are more likely to use
more sophisticated management tools" (LeRoux & Wright, 2010, p. 579). In its simplest
form, a TBL framework or plan, which any museum can produce, includes an
organization's most relevant material impacts and related risks and opportunities across
social, environmental, and financial dimensions. Leaders can use this assessment to
prioritize how an organization can most effectively employ resources with the greatest
efficiency, benefit, and impact. A sector-wide framework would leverage information-
sharing among organizations and lead to the standardization of metrics, including those
for qualitative "intangible" performance measures, which are challenging for museums.
The GRI framework, although intended for any organization of any size, has a high level

of administrative complexity for new users, which would put it out of the reach of all but the largest, most well-resourced museums. The GRI framework is a direct outgrowth of the Sustainable Development Goals, which, although one could argue that the goals do intersect with the work of museums, likely would not resonate with many museum leaders. Finally, GRI strongly encourages users of the GRI framework to submit their results to a process of review and transparency on a global scale, to which many museums would likely not voluntarily submit. There are many appropriate indicators included in GRI4, such as GA-LA13, Ratio of Basic Salary and Remuneration of Women to Men by Employee Category, by Significant Locations of Operation, or G4-HR5, Operations and Suppliers Identified as Having Significant Risk for Incidents Of Child Labor, and Measures Taken to Contribute to the Effective Abolition of Child Labor, which a museum could adapt in to TBL framework. At this time, however, it would not be feasible for most of the museum sector to use the existing GRI reporting framework. Instead, a combination of the existing Sustainability Index for public gardens and the STARS index for universities could be a feasible way for many U.S. museums to begin connecting their TBL impacts to measuring performance and ultimately to organizational strategy. Rather than propose an exhaustive list of metrics, which exist in overabundance, this section will outline an evidence-based path for museums to adapt elements of two existing frameworks.

The evidence from this study suggests that a TBL framework for the current museum sector would contain several specific components. The Sustainability Index is a feasible starting place for most museums. The STARS framework is aspirational, although some of its elements are logical additions to the Sustainability Index. The table

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below compares features of both of the frameworks, including suggested features from the STARS index that users could combine with the Sustainability Index for a museum-specific framework.

The director and board must first ratify the use of a TBL framework for their organization. Without a leadership mandate and support from senior leaders, including the resources necessary to complete the report, the reporting will not be successful. The framework must be flexible and feasible for museums of any size to use depending on their mission, operations, and goals. Like the STARS framework, it would

Table 3. Features of existing TBL frameworks

STARS	SUSTAINABILITY INDEX	FEATURES PROPOSED FOR MUSEUMS
Letter from institutional president establishing commitment to report	N/A	Letter from institutional director establishing commitment to report
Website has requirements and reporting criteria to satisfy minimum requirements	N/A	Website has requirements and reporting criteria to satisfy minimum requirements
Credit Development: Statement regarding rationale and intention for credits, flexibility and open source information sharing built in to reporting structure	Statement regarding rationale and intention for credits including connection to UNSDG, flexibility built in to reporting structure, peer support	Statement regarding rationale and intention for credits including connection to UNSDG, flexibility, peer support, open source information sharing built in to reporting structure

Business case for reporting	Strategic imperative for TBL strategy, business case for benchmarking	Strategic imperative for TBL strategy and business case for reporting and benchmarking
Manuals and Tools: Version 2.1 Credit	Standards, credit categories, pathway for	Manuals and Tools: standards, credit
checklist and credit snapshot: Excel spreadsheet includes various components such as credit categories, subcategories, minimum requirements, points, and necessary timeframe for completion checklist, zipped file of all available credits, supporting materials, such as how to get started, data tracking sheets, technical manual accompanies reporting tool (separate technical document for users to develop and complete report)	each of the 12 attributes from establishing a baseline, reporting, and communicating results; reporters establish their own measurements (can use list of proposed measurements); no technical manual, audit worksheets as Excel documents available to establish baselines	categories, audit worksheets as Excel documents available to establish baselines for each credit, reporting tool and technical manual, TBL KPIs to be based on existing best practice and crowdsourcing, technical manual
Reports available to public	Case studies-available to public	Reports available to public

Publicly available dashboard showing statistics on reporters organized by rating, participation over time, geographical location of reporting institutions	N/A	Publicly available dashboard showing statistics on reporters organized by rating, participation over time, geographical location of reporting institutions
Can be modified for arts nonprofits	Can be modified for arts nonprofits	
Ratings given based on points achieved	N/A	Ratings given based on points achieved
TBL required	Depends on organizational capacity, aspirational	TBL required

Comparison of features of the Sustainability Index for U.S. public gardens and STARS reporting tool for U.S. institutions of higher education.

be transparent, and reporting on all three components of TBL would be mandatory. In this way, peers would stimulate mutual learning so that ways of measure intangibles could be shared across the industry. This would also result in a uniform, standardized reporting platform. The museum framework would emphasize materiality—the actual impacts that museums make. These impacts would differ depending on the type of museum, while some metrics would be consistent across all types of museums. As previously discussed by UFramework and PGFramework, peer-to-peer learning and piloting were critical for the successful launch of STARS, particularly getting users to understand that sustainability has multiple dimensions. Unlike the Sustainability Index, which does not provide a standardized list of performance measurement metrics from

which reporters can choose, the museum TBL framework would include a credit checklist similar to that of STARS. In addition to making the process less overwhelming for beginners, a checklist would serve as a tool for communication and peer-to-peer learning: "I think it really provides dual functions for different . . . levels of universities; I think for an organization that's just starting out, an assessment program like STARS can provide kind of a roadmap . . . you can look at that checklist and say okay there's [sic] all the things I need to do to be a sustainable university, and then for a university that's further along . . . it's an opportunity to . . . track and measure your progress and share best practices with other universities" (Katz, 2018).

Case studies could emphasize the iterative nature of reporting and that it is a process that develops and deepens over time. As an example, the director of M2 described that their annual data report and strategic planning documents had evolved as the data became more complex, the questions "more philosophical and . . . more to do with the educational mission," and less operational and more aspirational (Charnow, 2017).

A pathway to implementation of a museum TBL framework would start with a pilot program and input from institutions around the country of all sizes. Disclosure and transparency would also be key for adoption of the framework. Museums must be able to benchmark themselves based on comparisons with institutions of similar mission and size. Finally, administration of the framework by a credible and authoritative existing professional association, such as the AAM, is necessary. Ultimately having a TBL strategy would become a requirement to become accredited by the AAM. Additionally. Guidestar could encourage museums to include TBL indicators and metrics in their

organizational profiles.

Measuring and Evaluating Performance

In their 2010 study on performance measurement and strategic planning for social service nonprofits, LeRoux and White found that organizational leaders using performance data aided strategic decision making, among other factors. Performance data gave leaders "insight into organizational strengths and weaknesses . . . [to] judge the performance of existing management systems and make decisions about the reorganization of these systems for the purpose of closer coordination and greater effectiveness" (LeRoux & Wright, 2010, p. 575). However, competition compels nonprofit leaders to focus on short-term priorities, such as activities that enhance reputation, rather than effective allocation of resources towards long-term priorities that are relevant to organizational mission. Nonprofits typically collect easily quantifiable data such as attendance, number of programs or activities, and the hours worked by volunteers. Carman (2007) notes in a study of community-based organizations that "community-based organizations are engaging all kinds of strategies in an effort to try to show that they are doing good work—producing reports, hosting site visits from funders, making sure they are providing the proper documentation in case files, establishing performance targets, and monitoring progress toward goals—at the expense of the one strategy that would actually help organizations to know if they are doing good work— evaluation . . . most community-based organizations are not using logic models, scorecards, or benchmarks—mechanisms that have increasingly been recognized as tools for advancing evaluation and performance measurement."

A table of evaluation activities used by nonprofits was adapted from Carmen's study (Table 4). Evaluation, as opposed to other kinds of measurement techniques typically used by many museums in this study, helps nonprofits understand if they are actually meeting their mission. A TBL framework is essentially a performance measurement and evaluation system that can help museums understand programmatic outcomes and inform holistic organizational strategy.

Table 4. Evaluation activities of nonprofits.

Categories		Organization
Reporting Activities	Produce reports for the board of directors	M1-M9, PG1, UMuseum
	Produce reports for funders about program activities	M1-M9, PG1, UMuseum
	Produce reports for funders about financial expenditures	M1-M9, PG1, UMuseum
Regulatory activities	Produce annual reports	M1-M9, PG1, UMuseum
	Conduct financial audits of your books	M1-M9, PG1, UMuseum
	Acquire official licenses to operate programs	M6
	Participate in accreditation processes	M1-M9, PG1, UMuseum

Monitoring activities	Experience site visits by funders or regulatory agencies	M1-M9, PG1, UMuseum
	Conduct performance reviews and evaluations of staff	M1-M9, PG1, UMuseum
	Conduct firsthand observations of program activities	M1-M9, PG1, UMuseum
	Monitor program implementation	M1-M9, PG1, UMuseum
Management strategies	Assess whether you are meeting program goals, objectives	M1-M9, PG1, UMuseum
	Establish performance targets	M1-M9, PG1, UMuseum
	Engage in formal strategic planning processes	M1-M9, PG1, UMuseum
	Use a "balanced scorecard" management system	M1
Evaluation and performance measurement	Conduct formal program evaluations of your programs	M2, M5
	Use a performance measurement system (TBL)	M9
	Design program "logic models"	M1, M3, M4

Table categorizing types of performance measurement activities, strategies, and evaluation in ascending order of complexity as practiced by the Type 1 and Type 2 museums in this study. Adapted from Carman, 2007.

Many metrics have been proposed for use by museums (Adams, 2009; Anderson, 2004; Global Impact Investing Network, 2018; Jacobsen, 2016; Madden, 2005; Scott, 2007; Southern Methodist University, 2014). For museums, it is essential to have a mix of both quantitative and qualitative metrics, key performance indicators (KPIs), and key performance intangible indicators (KIPIs). For example, Greenhouse-gas emissions and water use or the percentage of non-white staff to white staff in key positions related to content production or administration can be quantified relatively simply. However, museums struggle most with measures of intangible or abstract value that relate directly to mission, and as a sector have avoided clarifying these most important measures. To overcome this obstacle, Sawhill and Wiliamson propose several methods, such as "defining the mission to make it quantifiable, by investing in research to show that specific methods work, or by developing concrete micro-level goals that imply success on a larger scale" (Sawhill & Williamson, 2001, p. 107). Examples include the Girl Scouts of America, whose mission is to "help young girls reach their full potential as citizens," which used proxies developed through research such as voting records and professional achievement to define what it meant to be a "responsible citizen" because of being a Girl Scout. Rather than measure the effect it has on global biodiversity, the Nature Conservancy has developed smaller, "micro-level" goals for the areas they directly manage, and benchmarked them to global science-based diversity and conservation standards. Several of the cases in this study have staff members or departments devoted to program evaluation.

To be as effective as possible, museums should base their performance metrics and evaluation on their most relevant material impacts by conducting a materiality analysis.

The materiality matrix is a tool for museums to prioritize these impacts and their related indicators in the three pillars, based on their relevance to organizational priorities, strategy, and stakeholder input. The matrix also takes important opportunities and risks into consideration.

Influence on stakeholder assessments and decisions

Significance of economic, environmental, and social impacts
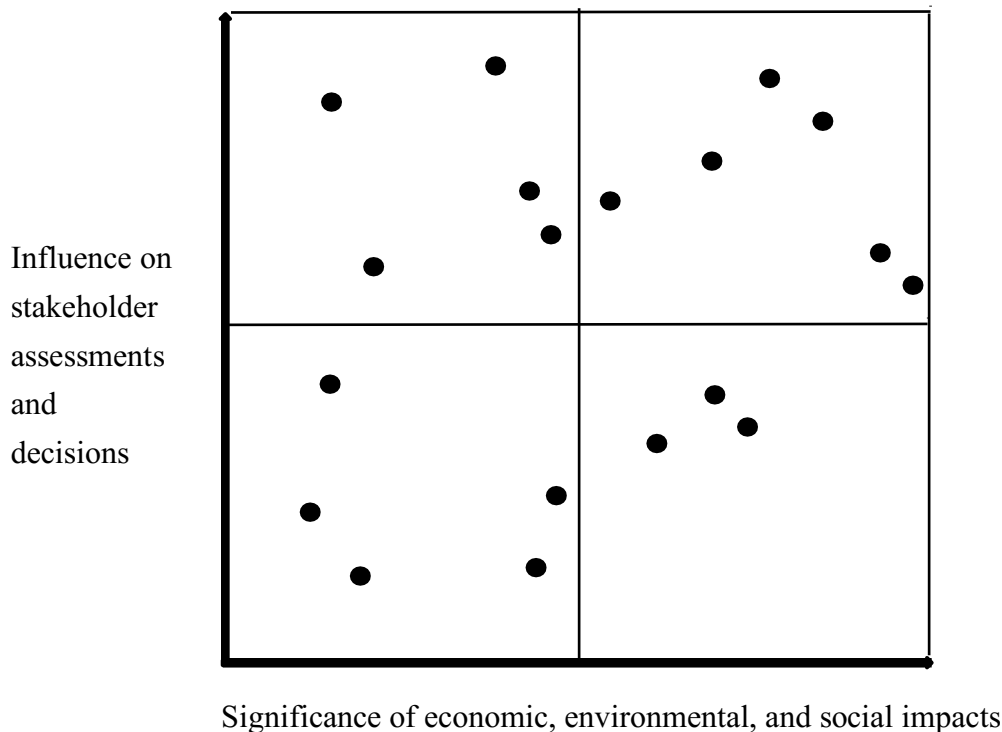
Figure 4. Materiality analysis. The matrix is a tool for museums to prioritize their most important material impacts and related indicators in the three pillars according to their relevance to organizational priorities and stakeholder input. The matrix takes important opportunities and risks into consideration. Adapted from GRI4 Part Two Implementation Manual (Global Reporting Initiative, 2015).

The overall number of metrics must be adequate to measure what is necessary, but not so large or inclusive that complexity becomes a barrier to managing priorities. Metrics can be determined within an organization through stakeholder discussions or in a larger context, such as a sector-wide piloting program like the one developed for the creation of STARS. Alternatively, the Outcome Indicators Project is in the process of

developing a set of indicators for fourteen types of nonprofits, to be used as a "common framework of outcome indicators for all nonprofit programs" (Urban Institute, 2015). Currently the project does not include museum-specific metrics but does include a nonprofit "taxonomy of outcomes" that is general enough for many museums to use. Metrics should also tie performance to financial return, or return on investment (ROI), where appropriate. Environmental targets should be science-based.

Finally, Longwood Gardens, which uses the Sustainability Index, has developed a TBL organizational strategy that is publicly available on its website. The 2022 Strategic Plan proposes that the garden's goals will encompass financial, environmental, and social components, including measuring the intangible "extraordinary guest experience," the "value and impact of our mission," and developing a "methodology for measuring Longwood Gardens' social impact and 'return on mission' " (Longwood Gardens, n.d.).

Barriers to Adopting a Museum Sector-wide TBL Framework

There are challenges to implementing a sector-wide TBL framework. No standardized performance reporting standards exist for museums. The most widely used form of performance reporting is financial disclosure, on IRS form 990. However, form 990 does not conform to accounting standards for reliability and relevance (Keating & Frumkin, 2000). Neither does this form of financial reporting give information "on social outcomes, cost to produce, or links between outcomes and management decision and strategy" (Kaplan & Grossman, 2010, p. 112). In contrast, private sector shareholders require consistent and reliable information to make investment decisions, including strong financial management, an annual report, an "active . . . regulatory body, a set of

consistent reporting categories, powerful dissemination infrastructure, and an active stakeholder community" (Keating & Frumkin, 2000, p. 22). Efficiency does not motivate donors. There is also a risk that once museums start measuring impacts and being transparent about their activities, they could come under scrutiny. For example, museums are not associated with such issues as child labor, but if museums started examining their supply chain and reporting on progress to eliminate suppliers associated with child labor from their purchasing, they would then need to manage the messaging around reporting.

Conclusions

This research asked why U.S. museums are not adopting more widely a performance measurement and strategy framework from the corporate sphere. The objectives of this research were to understand what factors support or impede the adoption of triple-bottom-line sustainability planning in museums in the United States, to propose a path forward for U.S. and global museums to measure their impacts using existing best practice, and to inform local, state, national, and international policy regarding best practices in museum administration and compliance with Sustainable Development Goals.

Hypothesis I proposed that the failure of institutional leaders to link institutional reputation to TBL causes them not to adopt TBL strategy. Findings for Hypothesis I indicated that the director's perceptions about sustainability determine how a museum practices sustainability, whether or not a TBL framework exists. Therefore, Hypothesis I was supported by the evidence. Before policy happens, you need a champion or advocate. Additionally, compared to other Type 1 museums not practicing explicit TBL strategy,

both the director of M9 and the director of PGFramework conceive of their respective types of organizations simultaneously as businesses and mission-driven.

Hypothesis II proposed that external regulations or guidelines for TBL performance metrics did not exist and therefore caused lack of attention to TBL. Evidence from Type 1 and 2 cases suggested that external regulations or guidelines may be a factor in whether an organization reports if the framework is voluntary, as in the case of universities, but not necessarily for museums, since one museum was using TBL strategy in the absence of a framework, while another type of museum, a public garden, was not using a TBL framework where one exists.

Hypothesis III proposed that the lack of accountability for museum executive boards caused lack of attention to TBL. The evidence suggested that executive boards do not have external oversight stipulating that organizations report, nor are they driving TBL reporting or strategy for either Type 1 or Type 2 organizations. Instead, in the cases of M9 and PGFramework, they support the use of TBL strategy that the director or a senior administrator introduces.

Hypothesis IV proposed that museums with mostly private funding had greater adoption of TBL performance metrics than those with public funding. The evidence does not make a clear connection between the funding type and whether an organization uses TBL strategy. However, the example of the Phipps Conservatory being the originator of the TBL strategy for gardens under the auspices of the DuPont family board members is striking.

As a rival factor potentially influencing the use of TBL strategy, from the available evidence it appeared that size, or perhaps more accurately, the perception of

the amount of effort required could affect the ability of museums and gardens with less

capacity to use TBL performance measurement. This is particularly in comparison with

universities with large endowments, which could be more likely to use TBL reporting. A

larger sample size would be necessary to understand the connection.

As a second rival factor potentially influencing the use of TBL strategy, there is

too little evidence in this study to conclude that organizational mission itself is a driver

for TBL practice, but mission may have an important role as a context for the

organization to link its perception of sustainability to its mission. When this context

meets a driver such as leadership perception that TBL strategy is important, then TBL

strategy may be present.

In sum, the adoption of TBL strategy in U.S. museums is based on both factors

and context.

The second major question this research asked was whether it was feasible for

U.S. museums to adopt TBL sustainability action plans by using the existing Global

Reporting Institute version 4 (GRI4) framework. Given the contemporary museum

business model, a TBL framework is an appropriate tool for assessing risks and

opportunities both internal and external to the organization. The economic impacts of the

sector are also an important reason for museums to explicitly consider their material

impacts in all three dimensions. While a TBL would be a logical outcome of this business

model and economic condition, based on the evidence in this study, most museums do

not appear to see the rationale for using this corporate strategy in a museum context. In

part, semantics appear to influence whether museums are adopting TBL performance

measures or strategies. CSR is a corporate term, and the concept of a triple bottom line

does not resonate with museum leaders. Interestingly, many Type 1 and 2 museums are basing their organizational strategy on an implied TBL. The practice of the museums in this study vary between those of leaders that rely on data and are also grappling with ways to quantify the abstract, intangible outcomes of mission-related programs and those leaders that accept the norm that intangibles should remain a mystery. Many museums in this study are relying on compliance and performance measurements and activities rather than evaluation. It may be more feasible for museums already using evaluation to use TBL performance measurement and advance to TBL strategy.

The GRI4 framework would not be feasible for the sector at this time, although museums can incorporate museum-appropriate KPIs and KIPIs into a best practice TBL framework for U.S. museums. Based on the results of this study, the museum sector has simply not developed a philosophical connection to the UNSDG. There is some irony in this, given the mission-driven nature of both the UNSDG and museums. Instead, museums could successfully adapt a composite of two existing TBL frameworks and implement its formation by following the example of public gardens and universities. Although implementation could be challenging, science-based targets must be a component of any performance measurement strategy for all nonprofits, including museums.

Museums are distinctive organizations because of their mandate to conserve material culture within a challenging and limiting business model. They are essentially conservative organizations serving a primary link to the past, present, and future, embedded within a nationally unique context of nonprofits as a product of welfare, and financially competing with much better resourced sectors such as social enterprises.

Moreover, for-profit business is increasingly merging into doing societal good, formerly the exclusive purview of nonprofits and government.

In the contemporary business context for museums, the challenge is for the sector to find a way to describe how it is meeting its collective mission in terms that are credible to those whom they must persuade to support their work. It could be argued that, in many ways, the museum sector is already entirely successful in this goal. It has grown away from rigid and didactic Victorian notions and embraced new management technologies, if unevenly. It has even thrived, perhaps because neither funders nor the public demand anything more of museums. However, in a world that dismisses museums as "entertainment," where government funding is shrinking, and the evidence suggests that museums may be bypassed altogether by the wealthiest philanthropists who are focused on solving "larger" social problems, the imperative for the sector to defend its deeper worth to civil society is all the stronger. Will museums continue to evolve into more complex organizations, existing in the digital slipstream of rapidly accelerating global change, without losing their soul? I argue that they cannot rely on chasing piecemeal management trends. Instead they must undergo a paradigm shift from the conventional wisdom that museums are exclusively mission-driven only organizations forced to do "dirty" business to survive, to embracing their nature as hybrid business and mission-based organizations conversant in contemporary business terminologies. To evolve, museums can and must embrace their essential nature as a stabilizing force while remaining flexible. For this to happen, museums need to overcome their squeamishness about quantifying outcomes. To measure is not to dissect, or even to define. When we say "the measure of her worth," we do not mean to merely quantify the chemical components

of a human, but to describe the contours of fine character and its value. In the current operating landscape, which lacks the mechanical means to influence TBL reporting, leadership will continue to be key in creating innovation in museums. Based on the example of universities and public gardens, a TBL framework can drive change in the museum sector.

Study Limitations

There may be other factors than those proposed in this study that are inhibiting adoption of TBL strategies in U.S. museums. According to Collier (1993), the comparative method may not illuminate alternative explanations. Time constraints prevented either the selection of ideal cases, particularly given that this study encompassed an entire nation, or the gathering of all available data on cases because interview subjects were not available. I limited case study selection to those museums reporting in Guidestar. Once selected, some potential cases, which were promising and could have provided important data for the study, chose not to participate. Ideally, the results of this comparative case study would be applicable to global museums. Given the potentially different museum governance structures or funding for non-U.S. museums, it may not be possible to scale the results of this study to museums outside the United States, with the exception of the proposed TBL framework.

Appendix 1

United Nations Sustainable Development Goals

1. End poverty in all its forms everywhere.

2. End hunger, achieve food security and improved nutrition and promote
    sustainable agriculture.

3. Ensure healthy lives and promote well-being for all at all ages.

4. Ensure inclusive and quality education for all and promote lifelong learning.

5. Achieve gender equality and empower all women and girls

6. Ensure access to water and sanitation for all.

7. Ensure access to affordable, reliable, sustainable and modern energy for all.

8. Promote inclusive and sustainable economic growth, employment and decent
    work for all.

9. Build resilient infrastructure, promote sustainable industrialization and foster
    innovation.

10. Reduce inequality within and among countries.

11. Make cities inclusive, safe, resilient and sustainable.

12. Ensure sustainable consumption and production patterns.

13. Take urgent action to combat climate change and its impacts.

14. Conserve and sustainably use the oceans, seas and marine resources.

15. Sustainable manage forests, combat desertification, halt and reverse land
    degradation, halt biodiversity loss.

16. Promote just, peaceful and inclusive societies.

17. Revitalize the global partnership for sustainable development.

Appendix 2

Interview Questions for Each Hypothesis

Hypothesis I	Lack of TBL adoption is caused by failure of institutional leaders to link institutional reputation to TBL.	Rationale for Questions
M, PG1, UMuseum	1. How do you define sustainability as it relates to your organization?	Question 1 gives directors the opportunity to articulate their definition of sustainability and whether it includes TBL components.
M	2. Do you see a linkage between sustainability as being about the environment only or also about financial health and social benefits?	If all three aspects are not mentioned in answer to question 1, then question 2 is asked to probe more deeply.
PGFramework, UFramework	How do you know about the triple bottom line? What decisions led to the use of a triple bottom line reporting system?	Corollary for #1 and #2 museum questions targeting whether leader perceptions of sustainability include TBL components

PGFramework, PG1, UFramework, USustoff	How did the Sustainability Index come about? (PG1: what led you to start using the Sustainability Index?) UFramework: Can you please describe why AASHE was formed? USustoff: what led or motivated your university's decision to start reporting in STARS?	Corollary to #2 for museums because SI and STARS are based on the TBL.
M, PG1, PGFramework UFramework, USustoff, UMuseum	3. Do you see sustainability/Sustainability Index/STARS reporting as something that is tied in any way to your organization's reputation?	Questions 3 and 4 seek to understand if directors perceive sustainability to be an asset to their organizational reputations, what directors perceive to be pressures to satisfy the expectations of their boards or other influential audiences, and whether they find sustainability is beneficial in this regard
M, UFramework	4. Do you think that your audiences, such as board, donors, students, faculty, administration or external audiences link sustainability to your reputation?	Questions 3 and 4 seek to understand if directors perceive sustainability to be an asset to their organizational reputations, what directors perceive to be pressures to

		satisfy the expectations of their boards or other influential audiences, and whether they find sustainability is beneficial in this regard
PG1, PGFramework, UFramework, USustoff	5. Which constituents——leaders, staff, boards, administration, faculty——have the most influence, in your opinion, in motivating gardens or universities to report?	(corollary of #4 for museums)
M, PG1 PGFramework, UFramework	6. Do you include sustainability/Sustainability Index/STARS in describing your organization's progress or goals?	Question targets whether directors are using any TBL components to represent organizational health, specifically beyond business-as-usual metrics such as attendance; asks if gardens and universities use the Sustainability Index/STARS to describe progress or goals.
M	7. What key performance indicators are reviewed regularly? Corollary: how	Question 6 asks if directors are using any TBL-like metrics to

	do you measure results? What do you measure?	benchmark or measure organizational progress, aside from business-as-usual metrics
M5, M7, M8, M6	PROBE: Do you use multidimensional sustainability as part of your management strategy? Or how you run the organization? Is the linkage part of your management strategy? Or how you run the organization?	
M9	Why did you choose CSR for your strategic planning?	M9, which is an exception because it uses CSR in strategy, are the same as those for other museums with the following exceptions: question 2 is replaced by questions 2 through 5 because the existence of TBL/CSR signifies that the director understands and values the triple bottom line
M9	Do you consider a museum to be both business and mission driven?	

M9	How do you think CSR is different than other types of strategic planning?	
M9	Did you find resistance to using the terms "CSR" and "triple bottom line?" How do you think they apply to nonprofit museums?	
UMuseum	Are you familiar with the university's STARS reporting?	This additional question for UMuseum targeted whether the museum director was aware of the parent university's participation in STARS.
M1	Please tell me about the strategy map?	Question related to practices of interest such as strategic planning, performance evaluation, data use, metrics
M1	Tell me about the balanced scorecard for evaluating progress?	Question related to practices of interest such as strategic planning, performance evaluation, data use, metrics
M2	Please tell me more about how	Question related

	your museum uses data to inform programmatic investments?	to practices of interest such as strategic planning, performance evaluation, data use, metrics
M2	Please tell me more about your smart goal system, the model you use to measure performance?	Question related to practices of interest such as strategic planning, performance evaluation, data use, metrics
M3	Your strategic plan for 2020 articulates 4 key components - purpose, relevance, sustainability, and diversity. Can you please elaborate about why you chose sustainability as an element to highlight?	Question related to practices of interest such as strategic planning, performance evaluation, data use, metrics
M3	Do you think there would be value for a museum to have a standardized but flexible reporting framework, such as companies have corporate sustainability reporting and TBL strategic reporting? Do you think that would be useful for museums?	Follow-up question related to topics that emerged in interview
M4	Please tell me more about your decision-making model to determine areas where investment of resources should be increased or decreased? Is this approach different for your organization?	Question related to practices of interest such as strategic planning, performance

		evaluation, data use, metrics
M4	Can you please describe for me what led to the decision to make the planning process for the 2016-2012 strategic plan so inclusive of staff, community, and the board?	Question related to practices of interest such as strategic planning, performance evaluation, data use, metrics
M4, M7, M8	Please tell me more about the metrics you use to measure success. Are your data collection, analysis, reporting, and evaluation systems to support the museum's mission, vision, and fiduciary responsibilities new to the organization? What are the metrics they use?	Question related to practices of interest such as strategic planning, performance evaluation, data use, metrics
PGFramework, PG1	Can you please define "public garden?" Is it distinguished from a botanical garden? Do you consider your organization to be a museum?	Establishing self-perception of gardens as museums.
PG1	Does your organization have a sustainability director or manager or similar position?	Specific to gardens and universities because universities have professional sustainability officers
PGFramework	How do you recruit reporters to use the Index?	

UFramework	Why colleges and universities? What about them as organizations made the creation of AASHE possible?	Probe question
UFramework	Do you get complaints about measuring the intangible?	Comparing STARS reporters and their use of qualitative indicators in comparison to museums
USustoff	When your sustainability office first started using the STARS rating system was multi-dimensional sustainability a foreign idea or did it make sense to the university?	Probe question to understand if STARS users understood the TBL when first reporting
USustoff	Did you have any obstacles to overcome when you started using the STARS rating system? Has reporting gotten harder or easier?	Probe question to understand how STARS users experienced the process of reporting
USustoff	Do you think your STARS work has any effect on how other divisions are managed within UCLA, with cultural organizations like the museums that you have on campus, is there a trickle-down effect?	Probe question to understand if university museums were connecting to STARS

USustoff	Do you integrate your STARS metrics into any overall institution-wide strategic plans?	Probe question to understand if metrics were used for strategic planning
HYPOTHESIS II	**External regulations or guidelines for TBL performance metrics do not exist and therefore cause lack of attention to TBL.**	**Rationale for Questions**
M, UMuseum	1. Are there any voluntary frameworks encouraging them to report on finance, social or environmental impact?	Questions 3 and 4 target whether voluntary or regulatory frameworks that require triple-bottom-line metrics or reporting exist for Type 1 and Type 2 museums.
M, UMuseum,	2. Are there any other federal, state, or local regulations requiring organizations to report on finance, social or environmental impact?	
PG1, PGFramework, UFramework, USustoff	3. Why do you think that there are voluntary reporting frameworks like the Sustainability Index/ STARS but not are there any other federal, state, or local regulations requiring organizations to report on financial, social and	Type 2 organizations, which have TBL frameworks, were asked whether they were aware, in addition to the voluntary TBL framework, a

	environmental impacts	regulatory TBL framework existed.
M5, M6, M7	Does s/he think it would be a good idea to report on all 3 TBL components?	
M7	Tell me about your relationship with the foundation	
M1, M2	I learned about your organization through Guidestar, because you had a platinum rating which means you are engaging in a certain level of transparency, board accountability, and measuring impact (programs results, charting impact, board leadership practices) – what motivated you to report to that level?	
HYPOTHESIS III	**Lack of accountability for museum executive boards causes lack of attention to TBL**	**Rationale for Questions** These questions were intended to target the level, sources, and types of accountability required of museum boards that could influence whether museums were using TBL strategy.

M	Tell me about your board leadership practices: how is their exec board governed?	
PGFRAMEWORK, PG1, UFRAMEWORK, USUSTOFF	What role do you think the/your boards, garden/ college and university boards have in the decision of a campus to report in the Index/STARS? Any external pressures on their own performance, do they care about public opinion or do they have rules and regulations they must conform to?	
UMUSEUM ONLY	1. Q2UMUSEUM: What is your governance relationship with the parent university?	
M9	2. In terms of governance, what is your relationship to your parent organization? Do they serve as the central administrator?	
M9	3. Do any of your board members represent companies who practice CSR?	
HYPOTHESIS IV	**Museums with mostly private funding have greater adoption of TBL performance metrics than those with public funding.**	**Rationale for Questions** These questions target the sources of funding and the

		hypothesis that museums that are mostly privately funded have greater adoption of TBL performance metrics or strategy than those with public funding.
M, UMUSEUM, PGFRAMEWORK, PG	Your insight into how funding types might affect management decisions? Do you perceive a difference between public and private funding in terms of expectations about how it's used in your organization?	
UFRAMEWORK, USUSTOFF	Do you think that different types of funders, private as opposed to government funding effect the decision of campuses to report?	
RIVAL	1. **MISSION**	**Rationale for Questions**
M, UMUSEUM, PGFRAMEWORK, PG	2. How do you think sustainability (as they understand it) relates to your mission?	A question related to a rival hypothesis asks if, in Type 1 museums and gardens, the organizational mission affected whether the organization used TBL strategy.

		Type 2 organizations were asked if they perceived that their organization mission had affected their use of TBL strategy or reporting.
USUSTOFF	Why is it important for a university to think about sustainability?	Probe question related to mission

Table includes a comprehensive list of all interview questions for each of the four hypotheses that were proposed to be barriers or aids to the adoption of TBL practice, questions related to a rival hypothesis regarding organizational mission, and questions that were specific to any particular aspect of the organization's TBL practice, performance measurement, or governance that needed clarification.

Appendix 3 Case Details

Type 1 cases	Discipline	Location	Size (annual income)
Museum - M1 Museum of Northwest Art	Art	La Connor, Washington	$435K FY ending 2015
Museum – M2 Boston Children's Museum	Children's	Boston, Massachusetts	$9M FY ending June 2016
Museum – M3 Toledo Museum of Art	Art	Toledo, Ohio	$19M FY ending June 2016
Museum – M4 Portland Museum of Art	Art	Portland, Maine	$10.9M FY ending Jan. 2017
Museum – M5 Children's Museum of Pittsburgh	Children's	Pittsburgh, Pennsylvania	$8.7M FY ending June 2016

Museum – M6 Old Sturbridge Village	History	Sturbridge, Massachusetts	$12M FY ending Jan. 2017
Museum – M7 Neville Public Museum	Science, natural history, art	Green Bay. Wisconsin	$2.4M 2017
Museum – M8 Cleveland Museum of Natural History	Natural history	Cleveland, Ohio	$33M FY ending June 2016
Museum – M9 Carnegie Museum of Natural History	Natural history	Pittsburgh. Pennsylvania	$17M 2017
TBL framework for public gardens – PGFramework American Public Gardens Association	Public garden association	Kennett Square, Pennsylvania	$1.9M 2016
Public garden – PG1 Phipps Conservatory and Botanical Gardens	Public garden	Pittsburgh, Pennsylvania	$11M 2016

Type 2 Cases	Discipline	Location	Size (annual income)
TBL framework for colleges and universities – UFramework The Association for the Advancement of Sustainability in Higher Education (AASHE)	University association	Philadelphia, Pennsylvania	$2.4M 2016
University sustainability office – USustoff University of California, Los Angeles Facilities Management	University sustainability office	Los Angeles, California	$3.9B 2016
University museum – UM1 The George Washington University Museum, The Textile Museum	University museum/ decorative arts	Washington D.C.	$4M 2016

Table includes each of the Type 1 and Type 2 cases examined in this study, including the name and type of each organization, its discipline, location and size. Size is based on most recent annual budget. For museums, the public garden, and the university museum the most recent annual budget reported on line 12 of Form 990 was used(ProPublica, n.d.). The university budget was obtained from the university's most recent annual report(University of California, Los Angeles, 2017).

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