

# The three fundamental criticisms of the Triple Bottom Line approach: An empirical study to link sustainability reports in companies based in the Asia-Pacific region and TBL shortcomings

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**Abstract** There is increasing evidence suggesting that environmental and social criteria are impacting the market in complex ways. The corporate world has demonstrated a willingness to respond to public pressure for improved performance on non-economic issues by embracing Triple Bottom Line (TBL) principles. TBL reporting has been institutionalized as a way of thinking for corporate sustainability. However, institutions are constantly changing and improving, while TBL has been fairly conservative in its approach to change. The more balanced focus on the economic, the environmental and the social has provided a framework for institutions and markets around the world who want to focus indicators towards a sustainable future. This paper presents a criticism of the TBL approach that adds to the limited information on the pervasiveness of this approach.

**Keywords** Triple Bottom Line · Systems thinking · Institutional theory · Corporate Governance · Corporate Social Responsibility · Sustainability · Empirical analysis · Compliance · CSR reports

## Introduction

Environmental and social factors are increasingly impacting the market in complex ways. Performance data look at a range of environmental efficiency based criteria, and also raises bigger questions about the issue of social responsibility. This growing awareness is developing at a time when there is growing scrutiny by corporate and public administration bodies, as well as rising power of independent watchdogs. The

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necessity for corporations to disclose information about its social and environmental performance is growing (Ho and Taylor 2007). In the last 15 years, various proposals have been developed to overcome the focus on the financial performance of a corporation as the main indicator of a firm's health. The balanced scorecard (Kaplan and Norton 2004), intellectual capital assessment, environmental and social audits, the tools of social accounting and social impact analysis (Epstein and Birchard 1999; Scott and Jackson 2002; Unerman et al. 2007) have arisen to help focus the concerns of those seeking to make business more accountable, transparent and sustainable. A coalition in search of organizational measures supportive of sustainability has attempted to achieve greater visibility and legitimacy (Gray 2002; Lehman 1999; Perrini and Tencati 2006). Corporations should incorporate their economic, environmental and social requirements into their core values (Brown 2005; Dunphy et al. 2003; Bishop and Beckett 2000). In attempting to combine the very different and often competing, imperatives of profitability, social justice and environmental protection, we show that the Triple Bottom Line (TBL) approach is problematic, as seen in the reports. The conceptual roots of TBL are embedded in a quantitative, economic paradigm. In order to effectively take account of environmental and social issues the TBL framework must develop along genuinely trans-disciplinary lines that integrate social and natural sciences with economics.

### Purpose of the paper

This paper presents a criticism of the TBL approach that adds to the limited information on the pervasiveness of this approach. Existing research does not elaborate on the problematic issues of TBL nor is there any empirical work looking at corporation's failures upon their adoption of this framework. Our broad research question is: are there TBL shortcomings within the sustainability reports analysed that can be correlated with the weaknesses in TBL found in the research? In the following section we identify and discuss briefly the literature of TBL out of which we identify three fundamental criticisms of the TBL approach. Next we convert the criticisms into five questions and use forty reports from acknowledged listed corporations to inform our answers to these questions. The five questions/issues uncovered in the TBL analysis revolve around meaningful social performance measurement, aggregation of social performance data, integration, compliance and ranking and certification through standards to enhance corporate reputation. Our conclusion based on the findings is that the TBL reporting system depicts a negative outlook of what corporate sustainability should aim to be, in spite of raising awareness of multiple objectives for corporations to report against.

### What is Triple Bottom Line?

The main function of the TBL approach is to make corporations aware of the environmental and social values they add or destroy in the world, in addition to the economic value they add (Henriques and Richardson 2004; Elkington 1997; Berger et al. 2007; Morland 2006). Recent research indicates that for a variety of reasons, corporations adopting Triple Bottom Line (TBL) reporting are making changes to the

way they do, or at least think about, business (Kimmitt and Boyd 2004). TBL has become a dominant approach today in terms of corporate reporting and being more transparent in accounting practices (Robins 2006; Savitz and Weber 2006). A mere 6 years after Elkington's coining of the term, the search engine Google would reveal 52,400 web entries concerned with the topic, and as of 9th September 2009, the number of hits is 1,190,000. Corporations are vigorously creating and publishing TBL reports in order to showcase an image of care for the economic, environmental and social dimensions of social responsibility (Raar 2002; Morland 2006; MacDonald and Norman 2007; Robins 2006).

### The institutionalization of TBL

According to Pava (2007), the market is seen as an institution that is a socially constructed system that consists of rules, and these rules govern the economic exchanges within the market itself (Pava 2007). Rather than regulating corporations, the Triple Bottom Line (TBL) is a method of pushing social problems and pressures towards economics and changing corporate behaviour through institutional pressure and self-regulation. TBL ideas are ingrained in various theoretical frameworks that challenge the notion of unrestricted capitalism. Hence, TBL can be seen as an institution that uses its institutional powers and pressures to change corporate behaviour. Institutions are constraints devised by actors that govern the way they interact, and these institutions can come in the form on rules and constraints (March and Olsen 1995; North 1992). In short, normative institutional theory asserts that institutions will react to changes in the environment by initiating reforms and welcoming greater complexity. This is evident in the growth of independent watchdog agencies, while more traditional institutions are also taking appropriate steps, particularly in support of corporate governance initiatives. Those corporations reporting and performing well on a TBL basis should enjoy increasing market-share while those businesses that resist pressure to embrace TBL are likely to suffer a loss of investor and consumer confidence over the longer term.

### Methodology

We seek to explore the three criticisms of the TBL approach by drawing out five questions from the criticisms and conducting a review of sustainability reports to investigate and provide answers for the questions. The main points for analysis are based on the three fundamental principles of TBL (economic, social, and environmental) and how the corporations reported against principles in their reporting system. We propose answers which are inferred by content analyses of sustainability reports produced from the top forty Asia-Pacific corporations in the Dow Jones Sustainability Index (DJSI). A number of sustainability indexes as well as internationally recognized standards and frameworks such as the Global Reporting Initiative (GRI) exist today. While the GRI Sustainability Reporting Guidelines (G3) is the leading reporting standard for the TBL approach, the analysis in this paper was centred more around the robustness of the TBL approach and the robustness around the ranking criteria of the DJSI (criteria centred around TBL) used for the analysis, to

understand how TBL and the selection criteria put forth by sustainability indexes are used by corporations in order to get ranked and recognized for their efforts.

We faced a choice of how we should select a sample of large corporations. The DJSI was chosen because it was the first and robust global index formed to measure the financial performance of firms operating in a sustainable manner. Another reason for choosing corporations listed in the DJSI is that the index has some claim to rigor in that it is one of the indexes that actually remove corporations that have been unethical or found guilty of other wrongdoings. Corporate social responsibility (CSR) as practised in Europe and American theater has been well documented with over a thousand articles while only 35 articles are dedicated to the Asia-Pacific region (ProQuest). The DJSI, in the context of TBL as the subject of research, has not been identified in numerous literary works and hence this is the basis for adopting this dataset. This article conducts the empirical analysis on Asia-Pacific corporations listed in the DJSI, specifically in the area of Triple Bottom line and the robustness within the TBL approach as well as the robustness of the selection criteria of the DJSI.

### Limitation

A research limitation in this paper is that only listed corporations included in the DJSI have been chosen to represent our sample. A further avenue for research would be incorporate corporations from various sustainability indexes, and those that are listed as well as not listed.

### Criticisms of TBL

There are three major criticisms of TBL in this paper: TBL's measurement, TBL as a non-systemic approach, and TBL as a compliance/ranking mechanism.

#### Criticism #1—The measurement of TBL

The measurement of TBL is complex. The measurement systems a company uses to measure intangible assets such as loyalty or reputation can be hazy, and it is a challenge to link changes in these areas to separate activities in the short term. In order to expand their measurement and reporting systems, corporations constantly and consistently state the different choices they have to make: whether it's in developing a reporting process that is integral to their business alone or to use external guidelines; where is the limit in terms of how much resources are used; what techniques or methods are best in terms of measurement. In addition, the objectivity and reliability of the values obtained through measurement is doubtful. More attention should be paid not only on 'how to measure' but also 'how reliable are the values once obtained'.

#### *Social measurement*

The first limitation of the TBL approach revolves around social measurement. Before discussing this limitation in detail, the advent of the Global Reporting Initiative (GRI)

and their guidelines needs to be discussed to uncover how the framework has tried to overcome this limitation. The Global Reporting Initiative is arguably the largest and most widely accepted framework for corporate sustainability reporting. A 2008 survey by KPMG showed that more than 75 % of 250 sustainability reports surveyed adhered to the GRI guidelines. The GRI consists of a number of guidelines listing reporting principles, parameters and provides 79 performance indicators for quantitative and qualitative reporting of non-financial information (GRI 2006).

GRI has put out the G3 guidelines which can be applied to corporations of different sizes and locations. It functions on a principles-based approach, and continues the multi-stakeholder process. There are currently three sets of indicators: core, additional and sector-specific (which could, for that sector include 'core' and 'additional'). The distinction between core and additional is based on different presumptions of materiality. There is insufficient guidance in G3 of the reasons why indicators were considered to be core or not. The 'Relevance' section in the framework could be expanded or a 'Materiality' section added to describe why a particular indicator was considered to be important to one or more stakeholder groups. For example, there exist national differences in law that could make human rights performance indicators less relevant to a reporting entity operating in one jurisdiction. If the reporter was informed that an indicator assumed global operation, it would be better placed to make materiality decisions with its stakeholders. The GRI offers a high number of indicators which makes it hard for corporations to determine the materiality or importance of their key issues and its relation to the indicators. The different levels of parameters and indicators allow corporations to handpick those that are important to them leading the issue of selective reporting (Moneva et al. 2006).

The G3 guidelines would benefit by including clearer guidance with regards to the interrelationship between the different principles and how each principle applies to the reporting indicators. This would assist users to understand why the division has been made between principles primarily relating to content and primarily relating to quality (although many are relevant to both). Potential and probable conflicts between the different principles are not covered adequately. These guidelines have inherent limitations as a one size fits all approach doesn't bode well for different corporations. Some sectors and industries are unique, and the environmental and social performance can only be understood if a certain level of alignment to the issues and problems present in that industry context is mapped out in the guidelines of the GRI.

### *Social performance from a TBL perspective*

Social and environmental performance is unique to each corporation, or at least industry, and is difficult to quantify (Hubbard 2009). There are two main claims about TBL and social performance that are central to the criticism of TBL: the measurement claim and the aggregation claim (Elkington 1997). Elkington's Measurement Claim states that metrics of social performance and impact can be measured in relatively objective ways. The Aggregation Claim will be mentioned more in the next sub-section. Firstly, it's hard to quantitatively assess the goodness or bad of a problem, and secondly, when dealing with social impacts, both quantitative and qualitative distinctions need to be made (Norman and MacDonald 2003). Elkington (1997) states that the three components, including the social area of the TBL

approach can and need to be measured. Economic and environmental impacts tend to subject themselves well to a positivist approach. This means that the ability to quantify impacts with respect to these two components is possible. However, the social impact through TBL requires a more interpretivist approach or a more qualitative approach in measurement. While both the approaches are valid, they cannot aggregate into a single number, at least as far as the social dimension is concerned.

Based on past research, the amount of reporting done on social aspects of corporate responsibility is significantly lower than reporting done on environmental issues (Adams 2002; Kolk 2003). Unlike economics, where cost benefit analysis and other methods return dollar values in turn providing for simple decisions, the social indicator points to outcomes that are shared rather than accumulated (von Kutzschenback and Brown 2006). Social impacts cannot always be precisely defined, or quantitatively valued. They impact on individuals and communities differently. Sustainability reports by corporations in the Dow Jones Sustainability Index showcase this problem explicitly. All corporations across our sample of reports that we review in this study can do to embrace TBL in their reporting system is to indicate that certain areas will experience one type of impact, while other sections or areas will undergo a different issue or impact. They do not show that these impacts have occurred.

### *Aggregation through TBL*

The second limitation found in the TBL approach is a lack of ability to aggregate the results across the three principles of TBL. This is a limitation because TBL promised in its aggregation claim to provide a social profit and loss number, whereby the claim states that the social metric can be quantified into a single number using various formulae, for any firm (Norman and MacDonald 2003). The required aggregation involving the goals to be sought, the costs of achieving them and the availability of resources to meet the costs in the future is seldom if ever provided. For the sake of this paper, we will only argue that TBL promised aggregation and failed to deliver.

Firstly, TBL offers no means of prioritizing among the requirements of different stakeholder groups. Secondly, it provides no method or formula in its framework that can aggregate across the TBL principles. There is no quantitative or qualitative summary that is aggregated or provided across the three legs of TBL (Robins 2006). Hence, the TBL approach from a corporate reporting perspective has raised questions and confusion in terms of what is profit maximization. The TBL approach substitutes three bottom lines for a single bottom line of financial performance. Hence, the single objective of profit is replaced by three different objectives due to the TBL approach. These multiple objectives can cause corporations to pursue multiple objectives and thus become inefficient. For example, from a financial perspective, money can be arguably used as a common unit of measurement whereby expenses can be subtracted from revenues. However, no such common unit of measurement exists for the social indicator of the triple bottom line reporting system, thus making the aggregation principle that much harder to execute. A social bottom line can possibly be deciphered in a qualitative manner; however a calculation of this bottom line still remains a mystery. Hence, TBL has been a catalyst for confusion in measurement through a lack of aggregation as it had promised.

### *Questions arising from Criticism #1*

*Question #1—How many DJSI reports evaluate company performance against social goals? Does the report measure social impacts or merely social effort?* A corporation that makes charitable donations or provides voluntary hours from employees is partaking in the social enrichment of the community. However, the extent to which these activities are being measured as part of the company's sustainability performance is unclear due to the lack of social accounting principles that exist today. The survey aims to find social activities by corporations that are meaningful and have potential to be measured as part of a corporation's overall performance.

*Question #2—How many DJSI reports have a way of aggregating results from the TBL measurement?* The survey intends to find out if corporations have a summary page that tells us whether the method of aggregation of the three bottom lines is giving the reader a proper understanding of how the company is performing from a sustainability perspective. While integration is perhaps the stepping stone to answer this question, a meaningful analysis (quantitative or qualitative) is required to put all the data under the three principles into one easy-to-read summary page.

While developing a common metric to measure social performance of corporations can be difficult, it certainly isn't impossible. TBL claimed on assigning a number to items in the social and ethical dimensions of reporting. However, this should not be the major driver for social measurement. For example, how does one monetize the death of a worker on the job? This is extremely difficult. Frameworks like Account-Ability 1000 have made progress in the area of social measurement and with the advent of the GRI, social measurement is not an illusionary goal but in fact, a realistic evolution.

### *Criticism #2—TBL as a systemic approach*

People and corporations need to develop the idea of thinking holistically and look for interrelationships among the Earth's natural and social systems. This was a development of systems theory (Capra 1975, 1996). Systems theory is the understanding that a system comprises of interrelated parts and is greater than the sum of its parts. Over the past three decades the works of Capra and Sterling have put pressure on environmentalists to adopt a systemic approach when trying to understand and cope with environmental issues (Capra 1975, 1996; Sterling 2001, 2005). A system consists of individual parts that can be looked at individually; the whole cannot be entirely defined without recognizing the relationships among those parts. In essence, sustainability is dependent upon healthy systems. If any interactions between the parts are win-lose, one will, by definition, sub-optimize the whole. Natural Capitalism is a systemic theory that provides four core movements which constitute the foundation of the strategic elements for any corporation's sustainability journey (Hawken, Lovins and Hunter Lovins 1999). According to Hawken et al., each must be pursued if the enterprise's (or industry's) aim is long-term harmony with natural systems (Hawken, Lovins and Lovins 1999). A sustainable form of thinking is the best way to develop a systemic, effective and efficient solution. Systems thinking entails the ability for grasping more complex relations, interactions and situations which include, but go

beyond, simple cause-and-effect relationships (Doppelt 2003). In this way, systems' thinking also helps in building more accurate mental models for understanding complex phenomena.

### *TBL's lack of integration*

The third limitation found in the TBL approach is the lack of integration. Firstly, the integration between the three dimensions of TBL will be hard as people are trained to be experts in each of the three dimensions and not across all of them, and this leads to the data collection within each area separately (Gibson 2006). TBL mentioned the need for integration between the economic, environmental and social areas as this provides a better picture to the community in terms of impacts (Downes et al. 2002). In practice, the TBL focuses on the co-existence of the three bottom lines but doesn't show their interdependence. The consequences include a tendency to ignore the profound interdependence of these factors, and to see them as likely to be conflicting rather than potentially complementary. The TBL approach is often accompanied by an assumption that sustainability is about balancing (Hacking and Guthrie 2008), which contradicts both the key insights concerning the interdependence of factors and the need for mutually supporting advances on all fronts (Archel et al. 2008). In addition, the TBL approach does not necessarily address the concerns that are usually expressed by citizens who are the intended beneficiaries of strategic and project level undertakings (Ho and Taylor 2007). These concerns rarely fit into the social, economic or ecological categories.

### *Question arising from Criticism #2*

*Question #3—How many DJSI reports provide information in ways that integrate the three dimensions of TBL?* As identified in the criticism of TBL, the integration of the three principles are absent in the literature. We want to measure the extent to which the lack of integration is present in the forty sustainability reports that are surveyed.

### *Criticism #3—TBL as a compliance mechanism*

The third criticism/fourth limitation found in the TBL approach is the desire to be compliant and whether TBL, as an institutionalized norm, pushes corporations to be compliant or go beyond compliance. The concept of institutional isomorphism is a useful tool for understanding the politics and ceremony that pervade much modern corporational life (Carroll and Delacroix 1982). Corporational structure, which was created from the rules of efficiency in the market, now arises from the institutional codes and constraints that are put in place by states and the professions. 'The efforts to achieve rationality with uncertainty and constraint lead to homogeneity of structure' (institutional isomorphism) (DiMaggio and Powell 1983). Isomorphism is simply a constraining process that coerces one actor within a population to mimic the other actors, as long as they face the same set of environmental forces or conditions (Hawley 1968). According to DiMaggio and Powell (1983), there are three types of isomorphism: coercive, mimetic and normative. Coercive pressures come from other corporations in which they are dependent upon; mimetic is the



process of imitation; and normative is simply following a framework or rule that is the benchmark or standard. While sustainability reporting and TBL for that matter is not related to certification that is required for the validation of a management system, TBL is a vehicle for allowing corporations to adopt a set of criteria that gets them recognition on sustainability indexes such as the DJSI. Corporations are to a certain extent, influenced by coercive, normative and mimetic isomorphism when adopting TBL as their reporting framework. Government pressures, regulatory standards, stakeholder pressures (coercive) are examples of why and how TBL came into corporate reporting (Yew 2000; Friedman 1999). Corporations believe that following a TBL format would make them similar or compliant with formats that most other corporations use (mimetic & normative). Hence they can be in competition with their peers and major multinationals in other industries doing TBL. TBL is a way of following the trend of other corporations in terms of sustainability reporting. Corporations need to acknowledge their negative impacts from the social space. As a majority of corporations are value driven, the corporations' culture needs to be built around those values. While TBL guides corporations to have a framework or rigor around reporting to make sure what areas need to be reported on in terms of achievements in each area and demonstrate compliance, that's about all it does. Moving beyond the three legged stool and reporting on more areas material to corporations is a move beyond compliance as the traditional TBL framework is simply not adequate. Corporations look at stakeholders and the business and see what issues is material to both parties and focus on them. In order to think beyond compliance, corporations need to think of how the definition of sustainability evolves, and also how as an organization, how the reporting evolves from TBL to a more holistic approach. Question #4 investigates how many corporations comply with the DJSI selection criteria (based on the TBL approach) and whether corporations have stuck to the three dimensions or have attempted to go beyond the TBL requirements and also beyond compliance, in a manner of speaking. In this question, coercive forces come in the form of the sustainability index through their selection criteria, mimetic forces comes from the similarities in TBL reporting among the corporations, and normative forces is displayed through the norm that is TBL reporting and whether corporations have moved on from this framework or not.

#### *Certification and compliance (not particularly related to TBL)*

Another question, not particularly related to TBL, but relevant for the analysis is the issue of certification. One way for corporations to tackle compliance is to adopt an approach that grows out of their business practices. Some corporations incorporate elements of internationally recognized reporting frameworks such as the GRI and The International Corporation for Standardization (ISO). The ISO has different standards, one of which is ISO 14001:2004. This is an international standard on Environmental management systems; it provides requirements with guidance for use and does not provide requirements for specific performance. In spite of gaining worldwide prominence, corporations like British American Tobacco and Japan Tobacco are ISO 14001 certified. This raises a paradox as to the true intentions not only of the corporations that pursue ISO certification, but also of ISO's standards and how rigidly they are enforced. If corporations that are responsible for the deaths of millions of

their clients can get international certifications, then the motive behind being compliant and sustainable comes into question. TBL does not provide a systemic view of thinking. While TBL may be the official benchmark for many corporations, as a measurement system, it is an ill-structured, poorly defined measure. The concept is rooted in politics and social change. It is an effort to appease a growing public concern that corporations, particularly business firms, are failing to live up to their claims to act ethically and as good corporate and environmentally responsible citizens. We want to investigate whether corporations tend to highlight their certifications prominently throughout their sustainability reports. This would in turn allow us to claim whether such prominence in certifications shows a culture in the organization that also embeds TBL reporting as part of its reputation enhancement mechanism.

### *Question arising from Criticism #3*

*Question #4—How many DJSI reports comply with the TBL/DJSI criteria?* In order to get ranked on the Dow Jones Sustainability Asia-Pacific index, corporations have to comply with nine indicators (Fig. 4). However, the weightings of each indicator vary which gives corporations leeway as to the methodology they use to get ranked on the index. For example, higher weight is given to compliance with governance codes than environmental reporting or social reporting. Corporations can use this loophole to get ranked in the index despite not completely adhering to the three principles of the TBL framework. This will be investigated in the survey.

*Question #5—How many corporations listed in the DJSI has product/environment certifications such as ISO, OHSAS?* Corporations that may lack in their environmental/social reporting can highlight the fact that they are certified by certain industry standards showing their desire to be compliant with requirements of the DJSI, which in turn gets them ranked. The survey intends to see how many corporations emphasize their certifications to see if there is a link between being compliant and being ranked.

## **Findings**

The review of the forty corporations' CSR reports is shown below in Figs. 1 and 2.<sup>1</sup> The key questions were the basis of analysis, and they are shown in each column of the figures below.

*Question #1—How many DJSI reports evaluate company performance against social goals? Does the report measure social effort or social impacts?* The meaning of this question lies in the ability to properly measure a social investment, or a social undertaking by a corporation. Making donations to charities or putting in voluntary

<sup>1</sup> 29 out of the 40 companies are from Japan. Hence, this is a limitation in terms of trying to study the findings from an Asian context as the majority of companies are based out of one particular region.

DJSI Asia Pacific- Top 40			
		Q1	Q2
Company	Country	Social measurement	Aggregation of TBL results
Asahi Breweries	Japan	Yes	No
Australia & New Zealand Banking Group Ltd.	Australia	Yes	No
BHP Billiton Ltd.	Australia	Yes	No
Canon Inc.	Japan	Yes	No
CLP Holdings Ltd.	Hong Kong	No	No
Daiva Securities Group Inc.	Japan	No	No
Denso Corp.	Japan	No	No
East Japan Railway Co.	Japan	No	No
FUJIFILM Holdings Corp.	Japan	Yes	No
Fujitsu Ltd.	Japan	Yes	No
Hitachi Ltd.	Japan	Yes	No
Japan Tobacco Inc.	Japan	No	No
Kao Corp.	Japan	No	No
Kirin Holdings Corp.	Japan	No	No
Komatsu Ltd.	Japan	Yes	No
Kyocera Corp.	Japan	No	No
Mitsubishi Estate Co. Ltd.	Japan	No	No
Mitsubishi Heavy Industries Ltd.	Japan	Yes	No
Mizuho Financial Group Inc.	Japan	No	No
National Australia Bank Ltd.	Australia	No	No
Nippon Steel Inc.	Japan	Yes	No
Nissan Motor Co. Ltd.	Japan	No	No
Nomura Holdings Inc.	Japan	No	No
NTT DoCoMo Inc.	Japan	No	No
Origin Energy Ltd.	Australia	Yes	No
Panasonic Corp.	Japan	Yes	No
POSCO	South Korea	Yes	No
Ricoh Co. Ltd.	Japan	Yes	No
Seven & I Holdings Co. Ltd.	Japan	Yes	No
Sony Corp.	Japan	Yes	No
Sumitomo Mitsui Financial Group Inc.	Japan	Yes	No
Taiwan Semiconductor Manufacturing Co. Ltd.	Taiwan	No	No
Telstra Corp. Ltd.	Australia	Yes	No
Tokio Marine Holdings Inc.	Japan	No	No
Tokyo Electric Power Co. Inc.	Japan	Yes	No
Toshiba Corp.	Japan	Yes	No
Toyota	Japan	No	No
Wesfarmers Ltd.	Australia	Yes	No
Westpac Banking Corp.	Australia	No	No
Woodside Petroleum Ltd.	Australia	No	No

Fig. 1 Review of sustainability reports (answers to questions from Criticism #1)

hours can be measured but how can the outcome be reported by TBL, or even towards their sustainability efforts. Out of the forty corporations surveyed, twenty-one have social goals that can properly be evaluated. Two examples are provided below of a social initiative undertaken by a corporation that can lead to results in the future that are measurable:

#### Hitachi

In April 2008, the company established the Magokoro Fund which is a fund made up of monthly contributions of 100 yen deducted from the salaries of participating employees with matching funds from the company. The money raised goes toward transportation safety, environmental protection and social welfare programs. Hence, a 'YES' has been given to its social measurement in Q1. However, future measurable results have not been factored into the reporting system. It is not possible to judge how the Magokoro fund improved safety beyond that which is achieved by potential government programs. The ability to

DJSI Asia Pacific- Top 40				
		Q3	Q4	Q5
Company	Country	Integration	Compliance (9 measures)	Certifications
Asahi Breweries	Japan	No	Beyond Compliance (10)	ISO
Australia & New Zealand Banking Group Ltd.	Australia	No	Beyond Compliance (10)	None
BHP Billiton Ltd.	Australia	No	Beyond Compliance (12)	ISO
Canon Inc.	Japan	No	Beyond Compliance (11)	ISO
CLP Holdings Ltd.	Hong Kong	No	Compliance (9)	ISO
Daiwa Securities Group Inc.	Japan	No	Compliance (9)	None
Denso Corp.	Japan	No	Compliance (9)	ISO/IEC
East Japan Railway Co.	Japan	No	Compliance (9)	ISO
FUJIFILM Holdings Corp.	Japan	No	Beyond Compliance (11)	ISO
Fujitsu Ltd.	Japan	No	Beyond Compliance (10)	ISO
Hitachi Ltd.	Japan	No	Beyond compliance (10)	ISO
Japan Tobacco Inc.	Japan	No	Less compliant (6)	ISO; OHSAS
Kao Corp.	Japan	Environmental accounting	Compliance (9)	ISO
Kirin Holdings Corp.	Japan	No	Compliance (9)	ISO; HACCP
Komatsu Ltd.	Japan	Environmental accounting	Beyond Compliance (10)	ISO
Kyocera Corp.	Japan	No	Compliance (9)	ISO; OHSAS
Mitsubishi Estate Co. Ltd.	Japan	No	Compliance (9)	ISO
Mitsubishi Heavy Industries Ltd.	Japan	No	Beyond Compliance (11)	ISO
Mizuho Financial Group Inc.	Japan	No	Compliance (9)	ISO
National Australia Bank Ltd.	Australia	No	Compliance (9)	None
Nippon Steel Inc.	Japan	Environmental accounting	Compliance (9)	ISO
Nissan Motor Co. Ltd.	Japan	No	Compliance (9)	ISO
Nomura Holdings Inc.	Japan	No	Compliance (9)	ISO
NTT DoCoMo Inc.	Japan	Environmental accounting	Compliance (9)	ISO
Origin Energy Ltd.	Australia	No	Compliance (9)	None
Panasonic Corp.	Japan	No	Beyond Compliance (10)	ISO/IEC
POSCO	South Korea	No	Beyond Compliance (10)	ISO
Ricoh Co. Ltd.	Japan	Sust. Env. Mgmt. indicators	Compliance (9)	ISO
Seven & I Holdings Co. Ltd.	Japan	No	Compliance (9)	ISO
Sony Corp.	Japan	No	Beyond Compliance (10)	ISO
Sumitomo Mitsui Financial Group Inc.	Japan	No	Compliance (9)	ISO
Taiwan Semiconductor Manufacturing Co. Ltd.	Taiwan	No	Compliance (9)	ISO/OHSAS
Telstra Corp. Ltd.	Australia	No	Compliance (9)	None
Tokio Marine Holdings Inc.	Japan	No	Compliance (9)	ISO
Tokyo Electric Power Co. Inc.	Japan	No	Beyond Compliance (10)	ISO
Toshiba Corp.	Japan	No	Beyond Compliance (11)	ISO
Toyota	Japan	No	Compliance (9)	ISO
Wesfarmers Ltd.	Australia	No	Compliance (9)	ISO
Westpac Banking Corp.	Australia	No (Performance Scorecard)	Compliance (9)	None
Woodside Petroleum Ltd.	Australia	No	Less compliant (8)	None

Fig. 2 Review of sustainability reports (answers to questions from Criticism #2 and #3)

monitor the deduction of funds and also monitor an outcome such as transportation safety could provide meaningful data to Hitachi on how effective their social investment has been.

### Asahi Breweries

Asahi Breweries established the cross-organizational Moderate and Responsible Drinking Committee in 2004. The Committee established the Asahi Breweries Group's Basic Philosophy for Promotion of Moderate and Responsible Drinking and Drinking Rules. The Basic Philosophy and rules on moderate drinking are required subjects in training programs for newly hired employees at each Group company. The committee undertakes a broad range of activities, such as ensuring full compliance with voluntary rules on advertisements and promotions and managing the Fund for the Prevention of Underage Drinking. Once again, a 'YES' has been given to its social measurement in Q1. However, future measurable results have not been factored into the reporting system. The social measurement that can be introduced is to monitor the number of underage drinking violations, and other accidents related to alcohol, both before and after the implementation of the Committee. To date, they have not taken this step. The aim of this question is to identify social goals/activities that corporations undertake which has a meaningful end result in terms of measurement towards the corporations' overall performance.

*Question #2—How many DJSI reports have a way of aggregating results from the TBL measurement?* While the first question dealt with the integration of the TBL principles, the final question here is whether the reports have a discussion at the end that summarizes the overall performance/sustainability based on the tracking of the social/economic/environmental performance from the report. The entire discussion in this paper not only revolves around integration of the TBL principles but also for a way to encapsulate the three results into a meaningful endgame/conclusion at the end of the CSR reports. While a few corporations conducted environmental accounting to make an attempt at integrating the three principles of TBL, there is absolutely no summary page to make sense of what the entire report has been about. Hence, all forty corporations provide evidence that corporations do not see the need to provide summaries that bring different parts of information to provide a coherent picture, as they are all uniform in their approach in terms of providing a summary or discussion of the TBL results in their sustainability reports without a guide for future performance or initiatives.

*Question #3—How many DJSI reports provide information on integration between the three dimensions of TBL?* As seen in Fig. 3, six out of the 40 corporations attempted to provide a link between the TBL principles in the form of environmental accounting (Komatsu Ltd., Nippon Steel Ltd.), a performance scorecard (Westpac), or providing sustainable environment management indicators (Ricoh Ltd.). For example, Ricoh uses a formula dividing the gross profit by the total social cost to provide a ratio of profit to social cost. This is the closest that any of the forty corporations came to attempting to create a link from social to economic realizations. As a ratio, it provides balance but not interrelationships. It does not show how minimizing social cost increases profits or vice versa. Komatsu, Kao and NTT DoCoMo conduct environmental accounting where they factor in social and environmental costs and benefits into their economic performance. However, the social cost comes only from tree planting, ignoring other social activities. The corporations' aim from environmental accounting is to analyse environmental conservation cost to the environmental conservation benefits. The benefits are measured in quantities, such as tonnes, CO<sub>2</sub>e. There is no integration among the three categories. Westpac uses a performance

**Fig. 3** Dimension criteria weighting of the DJSI

<b>DJSI Criteria</b>		
<b>Dimension Criteria</b>	<b>Weighting</b>	<b>Weighting (%)</b>
<b>Economic</b>		
Codes of Conduct / Compliance	6	
Corporate Governance	6	
Risk & Crisis Management	6	
<b>Environment</b>		
Environmental Reporting	3	
<b>Social</b>		
Corporate Citizenship/ Philanthropy	3	
Labor Practice Indicators	5	
Human Capital Development	5.5	
Social Reporting	3	
Talent Attraction & Retention	5.5	

scorecard which grades the corporation's performance relative to the three categories. In addition, it rates its customers and suppliers. However, each category is given a separate performance evaluation, and there is once again no real integration or interrelation between them. The remainder of the corporations provided individual sections dedicated to economic, environmental and social performance in their CSR report.

*Question #4—How many DJSI reports complied with the DJSI criteria?* The DJSI has nine dimensions that it uses to rate corporations. This list is found in Fig. 3.

As we can see from Fig. 3, DJSI gives heavy importance to the economic dimensions of TBL, and not economic outcomes. Environmental reporting has the least favourable weighting, while human capital development and talent attraction are given the highest weighting in the social dimension. Based on the survey results, fourteen corporations went beyond compliance with the DJSI criteria; four corporations did not meet the nine dimensions, while twenty two corporations were compliant with the nine dimensions. To get a sense of the review, we present an analysis of the company that had the highest level of compliance (BHP Billiton), with the company that had the lowest level of compliance (Japan Tobacco Inc). BHP Billiton, which calls its sustainability report as 'Resourcing the Future', is information rich. The company has not only complied with the nine dimensions of the DJSI, but also gone beyond and attempted to establish its own metrics in the area of health, safety and also on environmental fines as a proxy for misbehaviour. For example, in 2007, in Navajo, USA, BHP failed to protect topsoil from erosion after seeding and planting, which cost them a fine. Every fine imposed on BHP is mentioned in their sustainability report. The company's desire to be as transparent as possible in all areas of its sustainability pursuits gives them an edge on the ecological dimension. Other corporations like Canon, Mitsubishi and Toshiba also move beyond compliance. For example, Canon has instilled as their corporate philosophy 'Kyosei' which means harmony between mankind and earth. One of the key areas that they include in their sustainability report is recycling. The corporation conducts heavy analysis on its products and its life cycle and how resources can be saved as well as improved. Tepco is one of the few corporations that have included nonconformity disclosure criteria in its sustainability report. Hence, there is a paradox when corporations that are highly transparent about their legal breaches and fines lose investors turned off by their social and legal irresponsibility. This is a possible reason why firms are reluctant to disclose such breaches.

Japan Tobacco Inc. is the least compliant corporation against DJSI criteria. The company emphasizes obtaining the ISO 14001 throughout their report which seems to be a major achievement for them. However, they meet only six of the dimensions of the DJSI criteria. Japan Tobacco gets into the DJSI by focusing heavily on the economic performance, and getting certifications from recognized industry standards. However, Japan Tobacco provides no information on how it is making a difference in the community, and hence fails to comply in social impacts/goals area. The discussion of their employees in terms of human capital development, talent attraction etc. is absent. This creates a cause for concern as to how robust is the ISO standard, and also how rigorously the DJSI applies its own standards. The corporations' behaviours towards compliance can fit into a template of the Dunphy model. Corporations use

the template/benchmark of the DJSI to get ranked, but there is little evidence to show that they push themselves to go further in ways that could see them evolve toward the Dunphy ideal of the sustaining corporation.

*Question #5—How many corporations listed in the DJSI has product/environment certifications such as ISO, OHSAS?* Seven out of the forty corporations in the DJSI Asia-Pacific rankings do not state any sort of certification that their product/service or corporation has obtained. A more interesting finding here is the lack of certification among Australia corporations in the index. Out of the nine Australia corporations listed in the DJSI Asia-Pacific Top 40 index, only three have ISO certifications. In the previous questions, the corporation that seems to be lagging behind others is Japan Tobacco Inc. However, in this category, the corporation flourishes its ISO and OHSAS accreditations eight times in the report while other corporations average about four times. Our assumption is that the company is trying to make up for a lack of effort in other areas by emphasizing the fact that their operating systems and employees' well-being are meeting industry standards.

## Discussion

The importance of the dimension criteria

The primary purpose of this research was to examine sustainability reports of corporations and how much did they correlate to the criticism of the TBL approach made in the literature review. The TBL as an approach has multiple flaws and it is necessary for corporations that want to become more sustainable to identify these flaws and eliminate them in the course of creating their sustainability report. The first discussion point is the importance of the dimension criteria weighting of the DJSI (Fig. 3). Under Economic indicators, governance, risk management and codes of conduct are the three important constituents. However, Origin Energy and NTT DoCoMo Ltd. excluded this information from their CSR report. Their inclusion is primarily based on DJSI attaching the industry average to their economic performance. Hence, the basis on which DJSI chose to include the two corporations into their Top-40 Index is mysterious because the corporations fail to report on thirty percent of the grading scale.

Lack of interdependence of the main TBL indicators

Another important lesson from the above analysis is the lack of interdependence of the three main indicators of TBL in any of the reports. Corporations use indicators such as dollars and Co2e values in their economic, environmental and social inputs. However there is no discussion of relations between the three, and the reader gets lost at the end of each report, not knowing how to decipher the data systematically. Komatsu and Nippon use environmental accounting to cover up the lack of integration among the TBL principles. However, the TBL approach works as a band aid to environmental accounting. While environmental accounting measures environmental performance (excluding economic and social), TBL claims to measure all three.

However, the sustainability reports say otherwise. All corporations ranging from Asahi Breweries to Woodside Petroleum report dollar values to their economic performance and carbon dioxide equivalent emissions (CO<sub>2</sub>e) to their environmental performance. In terms of their social performance, units of measurement range from the percentage of women in the workforce to the turnover rate of employees. These are HR statistics isolated from their social impacts. For example, economic empowerment or income equality between men and women is a more outcome focused statistic that is useful for measuring social impacts arising from being a good employer. From an accounting perspective, the ability to neatly analyse the end result of all these reporting values is incoherent. This leads to the next criticism of effective integration which is absent in all forty reports. Random sub categories under the social performance do not provide a meaningful result of how the company is impacting the community. Corporations like POSCO and Ricoh measure community involvement and voluntary days under their social performance. However, how does spending \$100,000 in the community affect the corporation from a sustainability perspective? While creating a social measurement is not impossible, the best method of determining how to measure this needs to evolve.

#### Lack of objectivity and reliability in TBL measurement

Next is the criticism of measurement. What are the boundaries for corporations in terms of what they choose to measure? In addition, can the data be measured in reliable and objective manner, especially around the social dimension? At the moment this is difficult and TBL certainly doesn't add any value to this problem. Fujifilm and Fujitsu factor their suppliers into the sustainability audit, while corporations like BHP Billiton and Woodside Petroleum briefly measure a policy of procurement from sustainable suppliers but provide no detail. Procurement is an essential part of a corporation's activities, and sourcing products and services from environmentally friendly suppliers is a move in the right direction. Among the financial institutions that were analysed, Westpac was the only bank that dedicated a column to its suppliers and showed the sustainability performance of each of its suppliers. National Australia Bank (NAB) and BHP have such a procurement policy but do not report on performance of suppliers. While each company needs to measure indicators that directly apply to it, corporations like NAB don't mention anything about its suppliers. NAB does have a rigorous policy with their suppliers but fail to deliver the data on their procurement policies in their CSR report. This leads to another issue of how the DJSI can include the two corporations in the same category of being sustainable.

#### Lack of systems thinking in TBL

The reason behind a majority of these problems is the lack of systems thinking in the TBL reporting system. Systems thinking is not evident anywhere in the sample. Every single company measures each of the TBL indicators separately, but fails to tie them together at the end and makes no comment on intermediate cause-effect relations at levels above the bottom line. This leads to the other point of criticism which is a lack of a common unit of account for each of the three categories which was part of the promise in the original conception of TBL (Elkington 1994, 2004).



Finally, the sum total of the empirical analysis leads to the conclusion that TBL as an institutional lever for sustainability performance needs to be improved. The next step is to improve TBL to accurately define and demonstrate its value as a measurement tool, and also as a means for corporations to produce meaningful sustainability reports that shows the reader a clear picture of their sustainable performance.

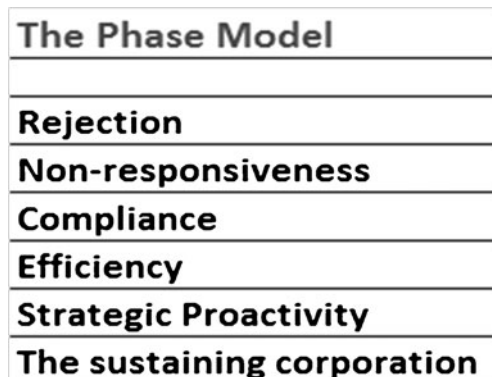
The lack of systems focus in TBL approach is perhaps the fundamental flaw that negates the basic premise of the approach. If reporting frameworks of this kind are to gain a practical credibility, they must be seen to effectively enhance the planning process. Recognition that TBL reporting does not end with data collection and analysis but extends into the planning process arises from the straightforward observation that planning sustainable development is a process, not a singular event. It is a process not just because it happens over time, but rather because it involves a range of interests and a range of possible interpretations of those interests. This process is open to research that in turn offers the prospect of facilitating the integration of social, environmental and economic reporting. The need for research in this area has not been raised in other articles. Such research should be undertaken, because without it, the outcomes may be remote from anything that could be described as a collective interest. The three pillars approach is often accompanied by an assumption that sustainability is about balancing, which contradicts both the key insights concerning the interdependence of factors and the need for mutually supporting advances on all fronts. It also encourages an emphasis on making trade-offs, which may often be necessary but which should always be the last resort, not the assumed task, in sustainability assessment. While many different approaches to, and tools for, integration are available, no one method or process component is likely to be sufficient. To communicate the need for a more holistic depiction of performance, we should rename TBL as IBL or integrated bottom lines.

### The Phase Model

Dunphy et al. (2003) have created an evolutionary path which they represent as a Phase model. Figure 4 illustrates the Dunphy framework:

Dunphy et al's work shows a pathway to a more sustaining approach. From Fig. 4, Compliance is the stage most corporations that are ranked in the DJSI follow. The

**Fig. 4** The Phase Model  
(Dunphy et al. 2003)



stage of strategic proactivity is where systems thinking become salient. If a corporation looks at each of the stages in Fig. 4 separately, then the integration necessary to create a sustaining corporation is absent. However, if the corporation takes a systemic view, then the stage of sustaining corporation is attainable. Ultimately, the goal of every corporation should move into this stage. The goal of becoming a sustaining corporation requires an awareness of the system. Moving beyond compliance, developing new technologies, formulating company values and mission statements based on its sustainable goals are the characteristics of a sustaining corporation. The model in Fig. 4 provides a way of thinking that can help people determine whether reports are being produced to provide mere compliance or whether they are being used to develop/evolve corporations to higher levels of sustainability. The number of indicators in corporational performance is growing showing a need for diversity and plurality (Schoenberger-Orgad and McKie 2005).

## Conclusion

This paper has not attempted to deconstruct the TBL from the perspective of putting a nail into its coffin. TBL and other reporting systems that currently exist provide a pathway for corporations to easily ignore or bypass key sustainability issues for couple of reasons. Firstly, corporations that wish to put on a facade of compliance and showcase themselves as embracing the sustainability movement can use any one of the current reporting systems to mask themselves from the external pressure to be more sustainable (Etzion and Ferraro 2009). Due to the absence of mandatory standards, corporations handpick those metrics that they can easily measure and disclose information on these metrics while ignoring those that cannot be measured or those that could possibly show a darker side of the corporation in terms of their sustainability initiatives. Secondly, and more directly towards the TBL reporting system, a lack of integration exists among the TBL principles as each principle is independent from the other in terms of its measurement. The pressure on corporations to show links or interrelationships between these three principles and how one can affect the other is absent (Hubbard 2009). Hence, corporations show separate data on each of the three principles and assume that they are doing a favour to the external environment, when the data is hard to understand as there is no systems thinking here.

The three major criticisms of the TBL approach are in its measurement approach, its lack of integration across the three dimensions and its function as a compliance mechanism. Five questions that arose from these three criticisms and the 40 corporations' sustainability reports were analysed to determine how corporations were putting TBL into action in terms of their reporting. The evidence from the reports show a lack of integration, a focus on compliance, a hazy social measurement and its impacts, and finally, a lack of aggregation of the TBL results. The revelations from this study show how TBL as an institutional theory has shaped the thinking of the corporations in our sample to be compliant. These corporations display characteristics in line with the selecting criteria of the DJSI index since they are part of this ethical index. The forty listed corporations in our sample choose to be compliant as a means to achieve powerful accreditations. In order to carry this out, they use the TBL approach to strengthen their case for a more publicly accepted method of exuding

compliance and satisfactory behaviour in a sustainable manner. However, the findings from this paper show that a need to go beyond compliance is of the utmost importance, as only two corporations from the list of forty actually move towards the ideal of 'sustaining corporation' from Dunphy's Phase Model. The other important revelation is the problem of measurement and aggregation of results. None of the forty reports show any major research or innovation in providing a system of accurately measuring their TBL numbers, especially their social impacts. Future research needs to focus on this area especially if the aim of the research is to improve the TBL approach and find a way of making the TBL output understandable to the readers.

TBL will be around for some time to come. It is a convenient tool for competitive business operating in an environment characterised by progressive learning. The benefit to be gained from TBL approach is not so much in the reporting, but in the understanding of the meaning of what is being reported. The argument is that integration of social, economic and ecological considerations are the essence of the concept of sustainability and must be a central consideration in the design and implementation of sustainability-based assessment. It would be fair to rename TBL as IBL or integrated bottom lines, as other issues like culture, corporate governance, are bottom lines that should be factored into the calculation, if the social indicator is given such importance. Coverage of social impact among various measurement systems is inadequate, and the concept of TBL does nothing to enhance the measurement of social bottom lines. The TBL approach fits poorly with the concerns commonly expressed by citizens who are the intended beneficiaries of strategic and project level undertakings.

### Areas for future research

A potential avenue for further research would be investigate TBL based on each criticism, with corporations through interviews to understand their views on the TBL framework, and whether they agree or disagree with the findings in this paper. Another avenue for further research is to deconstruct TBL purely from an institutional theory or systems theory point of view. Finally, the meaning behind TBL, and whether it represents a metaphor or accounting metric in the sustainability language can be explored.

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