

Construct an Index for Measuring Corporate Social Responsibility Activities for Developing World: Evidence from Sri Lanka

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Abstract: *Researchers believed the lack of research on the developing world because of CSR measuring problem. Many CSR relationship studies in developed world used their own CSR indices but not in developing world. This study filled this gap by introducing a CSR index for measuring CSR activities in developing countries like Sri Lanka. The main aim of this study was to develop a suitable index to measure the CSR activities. The main research problem was how to develop a CSR index based on the CSR framework developed by researcher in 2012 that was developed to identify the CSR activities in Sri Lanka. The academic contribution of this study was, using this index the CSR relationship research studies could be developed in developing world like Sri Lanka. Also the benefits can be disclosed in the developing countries like Sri Lanka. Researcher used the dichotomous process for developing the disclosure index.*

Keywords: Dichotomous process, CSR index, CSR framework

1. Introduction

Corporate social responsibility is an important concept under the strategic management field. Many CSR researchers have identified the different relationship studies and the CSR development studies in different countries. For example, [1] and [2] analysed 147 research articles on the relationship between CSR and Company Performance. Since then, a number of other studies relating to this area have been added to the literature [3;4;5]. Behavioural theorists, such as Cyert and March, (1963 cited in [6], stated that — corporate social activity from a standpoint that examines the political aspects and non-economic influences on managerial behaviour [7p.17]. In addition, the existing literature has identified different limitations in exploring the relationship between CSR and CP studies. Those limitations are related to CSR frameworks, indices, principles and analysing techniques. [8] claimed that even though there are more theoretical frameworks developed for CSR, the major research studies such as [9]; [10] and [11], have only discussed this terms of utilising stakeholder theory. However, the studies need to measure the CSR for their identifications, developed world has several indices to measure CSR, developing world not but cannot use the developed world CSR because of the cultural and other differences of the two world. This study tries to fill this gap by developing a new index to measure CSR for the developing countries such as Sri Lanka.

Developing a social responsibility index

Many CSR studies have suggested the importance of the measurement of CSR. [12] reported the activities of CSR as including environmental relations, human resources, customers and suppliers, community and society and corporate governance. Different researchers have used different methods to measure CSR in their studies. The current study required a CSR measurement index for identifying and quantifying the social and environmental data disclosed by the sample companies. [1] identified four data sources including a fortune reputation survey [14; 15], the KLD index [16; 17; 18; 19], the Toxics Release Inventory [20] and corporate philanthropy [5]. In addition,

[11] pointed out that many more methods of measuring CSR are available, including content analysis of documents [21], behavioural and perceptual measures [23] and case study methods resembling social audits [23]. However, all of these measures have limitations. The study discusses below the reasons why these measures are not directly applicable in developing countries.

For example, the KLD index was specifically designed for the US market [16], the Canadian Social Investment Database (CSID) for Canadian companies [17], the Corporate Monitor CSP data set for Australian companies [24] and the Vigeo CSR scores for Eurozone companies [25]. Recently, STRING Consultants has developed a CSR rating for Sri Lankan companies [26]. Indices have been developed for measuring the CSR practises of particular companies. [14] stated that there are three common methods of measuring CSR measurements in research studies. The study used the qualitative data to calculate the CSR index from the company's annual reports, sustainability reports and the companies' websites. Consequently, this study has developed a CSR index using the annual reports and the sustainability reports [27]. To develop this index, a dichotomous process was used, which included three steps: dichotomous, unweighted and adjusted for non-applicable items. This methodology is described in detail in following section.

2. Method of formulating the CSR index

The major purpose for developing a CSR index was to measure the data using a quantitative method in order to allow further analyses such as examining the relationships between CSR and CP.

Sample characteristics

In Sri Lanka, CSR involvement is highly accepted by the Colombo Chamber of Commerce (CCC), which strongly encourages both private and public sector organisations to implement CSR programmes [28]. The companies selected for this study have all disclosed their CSR activities in

annual and their sustainability reports, and this study uses this data disclosed for the five year period from 2005–2009.

The research process

The aim of this study is to develop a disclosure index, which the literature has shown involves three steps. The first step is the selection of reliable items, relating to previous studies [29] and disclosures recommended by the accepted accounting standards body and legal requirements [30]. The second step is weighting items as they arise in the index. Cerf (1961) cited in [30] reviewed weightings by examining the literature and surveying an accepted accounting body. This weighting system of the present study is described in Section below. The final step involves calculating the index scores. [31] and [32] stated that calculating the index is a difficult task. Researchers can use the companies’ disclosed items for developing a CSR index, but non-disclosed items should be pointed out as relevant or not. They further decided non-disclosure items by reading all items included in the annual reports and making suitable judgments as to whether an item was either not disclosed or irrelevant to the company.

The dichotomous process

A dichotomous approach was used in the current study for calculating the CSR index. This process included three steps: dichotomous, the decision to weight an item or not, and adjusting for non-disclosed items [29;33]. Previous disclosure studies have used this method [29;33] and the three steps are described below.

The dichotomous approach

In this study, the approach to scoring items is essentially dichotomous, with a score of one (1) assigned to an item if it is disclosed (disclosure index) and a score of zero (0) when it is not. The total score T for a company is:

$$T = \sum_{i=1}^n di$$

where *di* is 1 if the item *i* is disclosed and 0 otherwise; *n* is the maximum number of items.

The unweighted approach

All disclosure scores used in this study are unweighted. The reason for this was to eliminate any bias inherent in a weighted score [34], which may reflect the significance of objects to a particular group of information users [35]. Further, the implied assumption is that each disclosure item is equally significant for all user groups. Although this assumption cannot be practical, it has been shown that the resulting favouritism is less than it would be if it resulted from assigning 163 prejudiced weights to the items [29;35]. However, some of the disclosure literature supports unweighted indices [36].

Adjustment for non-applicable items

The applicability of any item to each company was taken into account and it was decided that the company should not be penalised if an item was not relevant. For example, when CSR information from the sustainability and annual reports was monitored and found that a particular item was not

declared, it was assumed that the item was not significant. Thus, the highest score M for each company was computed as follows:

$$M = \sum_{i=1}^n di$$

Where *di* is the disclosure item and *n* is the number of items applicable to that company, an adjusted index is calculated as *T/M*. This adjustment procedure for non-applicable items was used in most of the empirical studies reviewed [29; 37; 39]. It is important to identify the reasons why these non-disclosure items occur in a particular company. [40] stated the following four reasons may account for non-disclosed items: a company may deliberately refuse to disclose an item, it may disclose certain items only, the item may not be applicable to the company and the item may be too small (not material) to warrant disclosure.

Index construction

The aim of the index development was to enable the quantification of the qualitative CSR data obtained from the company annual reports. Many researchers, for example [27] and [11], have developed CSR indices for quantifying CSR and used these indices to identify the relationship between CSR performance and CP. The data used to develop the CSR index for the present study were collected from the sample companies’ annual reports.

Companies in Sri Lanka use International Financial Regulation to prepare financial statements [41]. Further, a voluntary Code of Best Practice on Corporate Governance has been developed by the ICASL and the Securities Exchange Commission in consultation with the CSE, for strengthening the corporate governance framework in Sri Lanka.

The researcher previously developed a CSR framework and identified 28 activities [42]. Here, the total numbers of CSR items could not exceed 28 because the framework included 28 variables. Further, the maximum CSR disclosure value for each CSR relationship was as follows: employees, 7; the community, 6; education, 6; health, 3; customers, 3; and the environment, 3. An example from one of the 50 sample companies is given below. This company, Aitken Spence PLC, was the first company of the study, and was one of the companies that was awarded Best Corporate citizenship in Sri Lanka for the years 2006, 2008 and 2009. Aitken Spence had disclosed four characteristics under employee relations in 2005; however, the framework that was developed by the researcher shows seven employee relations. The employee relation index was calculated as 4/7, or 0.5714. In addition, the total CSR index for Aitken Spence was calculated by totalling all five categories of disclosure items and dividing the total number of CSR characteristics (28) that had been determined using the CSR framework. Aitken Spence had disclosed 24 items out of 28 for the year 2005. Thus, the CSR index for Aitken Spence in 2005 was 24/28, or 0.857. The raw data disclosed by Aitken Spence are shown in Table 4. Accordingly, the five year CSR indices for Aitken Spence were calculated and are shown in Table 5. The CSR indices of all 50 companies were calculated and are shown in the Table 1 below.

Table 1: Calculation of the dichotomous index for Aitken Spence PLC

CSR relations	Proposed Values	2004 (Actual)	2005 (Actual)	2006 (Actual)	2007 (Actual)	2008 (Actual)
Custo	(3)	1	1	1	1	1
Employees	(7)	0.5714	0.5714	0.85714	0.85714	0.85714
Educations	(6)	0.83333	0.66666	1	0.83333	1
Communi	(6)	1	1	0.66666	0.83333	0.83333
Health	(3)	1	1	1	1	1
Enviro	(3)	1	1	1	1	1
Total (t)	28	0.8571	0.8214	0.8928	0.8928	0.9642
Index	1	85%	82%	89%	89%	96%

Source: authors calculation 2012 based on annual reports of Aitken Spence PLC

The Table 1 showed the CSR indices for Aitken Spence for the past five years, and CSR indices for each category of the CSR framework. The total index was shown as a percentage value and other indices were shown as decimal values. For example, the number 1 is equal to 100 per cent and 0.5714 is equal to 57 per cent.

3. Conclusion and Discussion

The CSR index was developed based on the dichotomous measurements approach followed by authors [37;33]. The total CSR index for each of the companies, as well as the effects of the individual dimensions were calculated, in order to identify the relationship between CSR and CP. Thus, this research expands previous studies by [16] and [11] who used the KLD index based on the KLD data to calculate CSR ratings. The aim of the development of a CSR index was to measure CSR items disclosed in company annual reports that were analysed in this study. [43] stated that the measurement of CSR remains a rather elusive task. Prior studies have shown that developing an index was the most appropriate method of measuring CSR in the developing countries. There are different sustainability indices available in the literature and these have been used for the measurement of social and environmental factors. This study developed a CSR index using a dichotomous process that included three steps and allows the index to be used as a whole, or as six separate sub-indices related to the six CSR elements.

One of the steps in the development of the CSR index in this study was the decision to weight or not to weight the CSR items disclosed in the company annual reports. Certain studies, for example, [36] used unweighted indices and the weighted scores showed a bias of the weighting systems. Previous studies have used survey instruments such as forced-choice measures [44; 45] and reputational scales such as the Fortune reputational and social responsibility index or Moskowitz's reputational scales [46; 14;15] for measuring CSR. Further, subjective indicators obtained by content analysis of documents [47], behavioural and perceptual measures [22] and case study methodologies similar to social audits [23] have also been used as CSR measures. Some researchers [46; 48; 49; 50] have used an one-dimensional measure of CSR, such as investment in pollution control.

The major objective of the present study was to get a quantitative figure for data analysis purposes. The importance of this developed index is that it can be applied to any CSR framework. If the items (CSR activities) are

disclosed in any relations the items can value. In the present study a method known as the dichotomous process was used to calculate the index. Using this method, any interested party can develop a disclosure index. [51] proposed a number of sustainability indices, which have used by current organisations. These include factors such as wellbeing, environmental sustainability, natural capital, satellite based sustainability and sustainable national income. These indices all have one dimension, while the index developed in this study is multidimensional. Therefore, this index can be further developed by adding different dimensions. On the basis of the literature described in this research, it is not clear what each of the above indicators measure [3]. Therefore, studies introduced multidimensional measures such as KLD rating system, where each company represented in the Standard and Poor 500 companies was rated on multiple CSR elements [11;3].

[11] used the KLD index as a new construct for measuring CSR based on the eight CSP attributes that rated consistently across the entire Standard and Poor 500 companies. Briefly, five of the rated attributes emphasise key stakeholder relations, specifically, community relations, employee relations, performance with respect to product characteristics and treatment of women and minorities. Three of these attributes are based on military functions: contracting, participation in nuclear power and involvement in South Africa (relevant during the period of analysis). However, the findings of the current study were unable to demonstrate the sustainability indices that have been described in the literature. For example, [51] explained that many of these sustainability indices have used the same type of methods to combine their data. He further criticised these indices, 237 stating that they may produce different results using the same data due to their assumptions, biases and methodological differences, creating confusion for sustainability efforts (p. 280).

The index calculation used in this study is simple and easily understandable. All CSR items disclosed in the annual reports of the sample 50 companies were included for calculating the index. This calculation was performed according to the CSR framework developed in this study. In addition to measuring CSR performance, the index results can be used to identify the transparency that characterises socially responsible companies [13].

The next issue of the index developed was no weightage or rating system to any disclosure item when the index was being calculated. This was a limitation of the index. However, the current study was not concerned with this limitation because the framework did not mention any important stakeholders. It identified that stakeholder

relations are similar. However, to overcome this limitation of the index, users can weigh up the important items after calculating the index.

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