MEASURING CORPORATE SOCIAL RESPONSIBILITY PERFORMANCE: A COMPREHENSIVE AHP BASED INDEX

Asma Mohammed Bahurmoz
Bahurmoz Consult
asma@bahurmoz.com

ABSTRACT

Although there is no agreed upon universal definition of corporate social responsibility (CSR), organizations are often ranked in terms of their CSR performance. However, two glaring gaps have been identified in the CSR literature. First, evaluation methodologies are questionable and often lack a scientific basis and second, stakeholder representation is not made explicit or is missing altogether. This paper contributes to the CSR literature by constructing a CSR index based on the Analytic Hierarchy Process (AHP), as well as ensuring that stakeholder judgments are an integral part of the constructed index. Furthermore, the developed index is implemented to measure CSR performance in a business setting. An AHP-based CSR index is developed for the services sector in Saudi Arabia to serve as a case study. The developed index is used to measure CSR performance in over forty corporations. The paper adds to the existing literature by providing insight into how the Saudi corporations perceive and practice CSR. It concludes that a systematic usage of the developed AHP-based CSR index would facilitate corporations to adopt a more responsible and measurable behavior, while it offers government institutions the option to rank corporations in terms of their CSR practices in a scientific and transparent manner.

Keywords: AHP; Corporate Social Responsibility (CSR); CSR performance; group decision making; Saudi Arabia; services sector

1. Introduction

Tead and Metcalf (1933) stated that "institutions exist not for their own sake or for the benefit of some small group which controls them. They exist to minister to the life of the entire community". Hoffman (2007), in his historical study, concluded that the concept of corporate social responsibility (CSR) goes back to the 1920s. It has grown in recognition as exemplified by initiatives like the Global Reporting Initiative in 2002, and the more recent directive of the European parliament and Council of 2013 that require a CSR disclosure in annual financial reporting. However, in spite of the accelerating rise of the CSR concept in recent decades, and its popularity as a research topic, it has no exact definition to date and lacks a universally accepted framework (Govindan et al., 2018; Luning, 2012; 2010; Devinney, 2009; McWilliams et al., 2006).

Bowen (1953, 1975) provides the first modern definition of the concept by stating that businesses are responsible for their actions beyond profit and loss statements. Carroll (1979) defines social responsibility as "the economic, legal, and discretionary expectation that society has of organizations". In 2001, two definitions were proposed by the

European Commission's green paper: 1) CSR is a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment, 2) CSR is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis (Commission of the European Communities, 2001).

The lack of a clear-cut definition of CSR has resulted in a wide variation of its practical use (Oberseder et al. 2013). Some managers view CSR as an obligation, some define it as a considered proactive behavior, and still others believe it is nothing more than a reactive action or simply charity (Fontaine, 2013; Chen et al. 2018). This divergence in managerial perceptions is partly due to the heterogeneous factors that influence CSR behavior and practices. These factors include globalization, governmental and inter-governmental bodies, advances in communication technologies, growing demand for more transparency on the policies companies are following in managing environmental and social issues, corporate governance, and finally the limitation of governments to regulate all aspects of CSR.

Mosgaller (2012) states that the three pillars of performance (purpose, process, and people) are essential if CSR is to evolve from merely a passing fad to an integral part of organizational practice. The basic argument is that if CSR is to be a sustainable proposition, the purpose of CSR should be clear to employees, processes should be in place to implement CSR effectively and stakeholders should engage in and commit to the CSR practices implemented within their organizations. Trapp (2014) stated that involving stakeholders in the decision to adopt CSR strategies would increase the benefits to a company. Related research indicates that there is a correlation between a company's CSR practices and stakeholder responses and attitudes towards that company (Tsourvakas & Yfantidou, 2018). Baric (2017) demonstrates that "the concept of corporate social responsibility has gone, in its several decades of existence, from the 'unnecessary dependency' phase to the 'critical business model phase'". Therefore, there is an urgent need to develop a robust system to measure corporate performance with respect to CSR, and this system must address all stakeholders' interests.

2. Objectives and scope of the study

Although there is abundant research addressing CSR in the last decade, it would not be an exaggeration to state that confusion, measurement challenges, and transparency are only a few of the many problems facing the practice of CSR worldwide, (Pérez & Rodríguez del Bosque, 2013). It appears that there is no systematic implementation and/or adaptation of CSR practices, and as result, the effectiveness of these practices remains ambiguous at best. Recently published research shows that the measurement of CSR performance is a key objective especially to help funders and investors decisions (Indre Slapikaite, 2016). Accordingly, there is a clear need to formulate a systematic scientific methodology that will not only help corporations identify their social, environmental and economic responsibilities, but one that would also facilitate stakeholders in identifying and prioritizing which factors, in particular, effectively deliver these responsibilities in a transparent and measurable manner. Against this background, the aim of this research is to construct a comprehensive CSR index that reflects and represents the priorities of stakeholders and that can be utilized to evaluate their CSR performances against their own established CSR goals. The proposed index is illustrated by constructing a CSR

index for the services sector in Saudi Arabia. The developed index is implemented to rank corporations in the services sector with respect to their CSR performance as prioritized by their stakeholders.

3. Emergence of CSR index

As previously discussed, there is a growing recognition by businesses that CSR is, and should be, an integral part of their strategic vision. On the one hand, this agenda is dictated by the greater society, which now demands that businesses be more socially responsible in their decisions and actions, and on the other hand, this focus is partly attributable to greater awareness on the part of the businesses themselves. Reflecting this trend, a number of international institutions set out to evaluate market performance of socially responsible firms that gave rise to the so-called CSR index and launched CSR as a new dimension to measure corporate value.

The CSR index is defined as a "management and benchmarking tool that enables companies to effectively measure, monitor, report and improve their impacts on society and the environment" (Net Balance Foundation, www.newbalancefoundation.org). Such evaluations have been particularly popular in international capital markets as institutions have sought to evaluate the value addition of CSR to the corporate value of a firm's socially responsible investments (SRI). In 1999, the first CSR index in the world was created by the Dow Jones Stocks and Sustainability Asset Management Co., known as the Dow Jones Sustainability World Index (DJSI World), with the intent to value stock performance of socially responsible firms with reference to expectations of the greater society (Wang, 2011).

The subsequent rise of CSR indices has been fueled by the observation that, on a global level, indices based on CSR or environmental, social, and governance (ESG) themes have outperformed the benchmark indices. Following the lead of the United States, many of the disclosure efforts and the related CSR indices that have emerged are from stock exchanges around the world as they attempt to establish a reflective market mechanism that assesses a firm's efforts in fulfilling its social responsibilities.

The DJSI World and CSR indices in other countries were examined with the intent to identify relevant dimensions and criteria that could be incorporated in constructing a scientific comprehensive CSR index to evaluate corporations in Saudi Arabia. A survey of the related literature reveals 22 CSR indices worldwide (see Appendix) and shows that construction of CSR indices is a relatively recent phenomenon. Furthermore, the literature suggests that most countries do not even have any form of informal government regulations to encourage CSR disclosure let alone any form of formalized index to monitor disclosure. The Middle East is not an exception, as only Egypt and Saudi Arabia support a CSR-based index. This is consistent with the CSR philosophy that is based on voluntarism.

In the absence of government regulations, a scientific based index is necessary to encourage organizations to engage in strategic and transparent CSR practices. Accordingly, the construction of a scientific based CSR index for the Saudi corporate world would not only add value to the CSR evaluation practices, but it would also set a precedent within Middle Eastern countries in particular.

4. Research methodology

This research was conducted in two phases. First, a comprehensive CSR index was constructed. Then, it was implemented to rank service corporations in terms of their CSR performance.

To construct a comprehensive CSR index that includes all stakeholders' perspectives would entail measuring every single CSR indicator. This task would not only be impossible, but it risks confusing rather than clarifying the objectives, especially since at least some, if not all, of the selection is based on normative judgements. Therefore, the development of a CSR index will be addressed as a multi-criteria group decision-making problem. The methodology that easily lends itself to a task like this is the rating model of the AHP (Saaty, 2001). The AHP offers an advantage over other techniques as it focuses on the relative importance of one CSR indicator compared to another, and it does not require direct measurement of each indicator for comparison. (Saaty, 2008).

The published research reveals few applications of the AHP methodology in relation to the field of CSR studies. Tafti, Hosseini and Emami (2012) developed a fuzzy AHP model to assess CSR practice in a bank. Costa and Menichini (2013) pointed out the importance of including the stakeholder's perception and developed a fuzzy multi-criteria model to measure the company CSR as perceived by its stakeholders. The proposed research is different in that it builds a comprehensive index representing all stakeholders in the service sector and implements it to evaluate CSR performance in the sector. Also, it can be easily generalized to cover all other industries. This model also implements the original and simple AHP which has proven to be a robust mathematical model. The AHP methodology aggregates judgments in a way that satisfies the reciprocal relation in comparing two elements. It combines the outcomes of the experts' judgments using the geometric mean of the judgments. (Saaty & Peniwati, 2008)

The strength of the AHP lies in its capability to compare qualitative and quantitative criteria simultaneously and in integrating the subjective judgments of the decision maker with the objectivity of the alternatives criteria in a robust mathematical model. It follows that as CSR indicators often comprise competing conflicting criteria with competing attributes, the AHP offers a logical format to quantify their selection attributes, which can be evaluated systematically, unlike traditional CSR index construction methods (Bahurmoz et al. 2015).

4.1 Constructing the AHP-based CSR index

Constructing an AHP-based CSR index as perceived by experts in the private sector and the local community consists of the following stages:

1- Selection of CSR indicators (structuring the hierarchy).
2- Selecting the group decision makers.
3- Eliciting experts' judgements (pairwise comparisons).
4- Establishing priorities (calculating the principal eigenvector).

4.1.1 Selection of CSR indicators

A comprehensive CSR index must reflect economic, legal, environmental, social, and ethical corporate responsibilities. Furthermore, for such an index to be acceptable to a corporation and for it to be 'owned' by its management, stakeholders should have the opportunity to set priorities for each of its constituent elements from their personal perspectives. However, as previously stated, there is no specific definition for the CSR concept, neither is there agreement on its constituent elements. Therefore, as a first step in developing the index, the most frequent elements from the 22 indices studied (section 3 and Appendix) were selected and clustered to construct the criteria for the proposed CSR index. It is worth noting that each element was carefully assessed with respect to its suitability within the Saudi corporate context. The selected indicators are defined herein.

1. Legislation: This reflects the extent to which the corporations respect the government's laws that address the needs of society. These criteria are divided into two sub-criteria, governance and obligations. Governance indicates the existence of a system that governs relations among all of the actors who influence the performance of a corporation, such as stockholders rights (equity), stakeholder involvement and employment opportunities for the locals (nationalization). Obligations refers to those activities, such as combating corruption, that reflect corporate obligations towards serving the society in which it operates. Notably, this sub-criterion is most commonly repeated in international CSR indices previously mentioned.
2. Social Development: This includes communication through increasing public awareness and investing in individuals, an activity that could be termed 'intelligent giving' as it encompasses initiatives such as sponsoring talented individuals and minorities in the society.
3. Employment: This criterion covers every aspect related to the rights of corporate employees. Employment includes aspects such as guaranteeing equal opportunity in recruiting, promoting employee morale and substantial rights, enhancing career development and occupational health and safety.
4. Environment: This criterion reflects the extent to which the corporation protects the environment when designing and processing its goods and services. It includes three sub-criteria: the efficient use of resources, environmental consideration and anti-pollution efforts.
5. Production Efficiency: This refers to the policies the corporation follows in its product/service supply chain, and as such, it covers a wide spectrum of factors. The most important and frequently repeated in most indices are quality and integrity of the product/service, customer relations management (CRM), supplier standards, innovation strategies and production costs.

These five main indicators and their sub-criteria represent the hierarchy for the proposed AHP-based CSR index, as depicted in Figure 1.
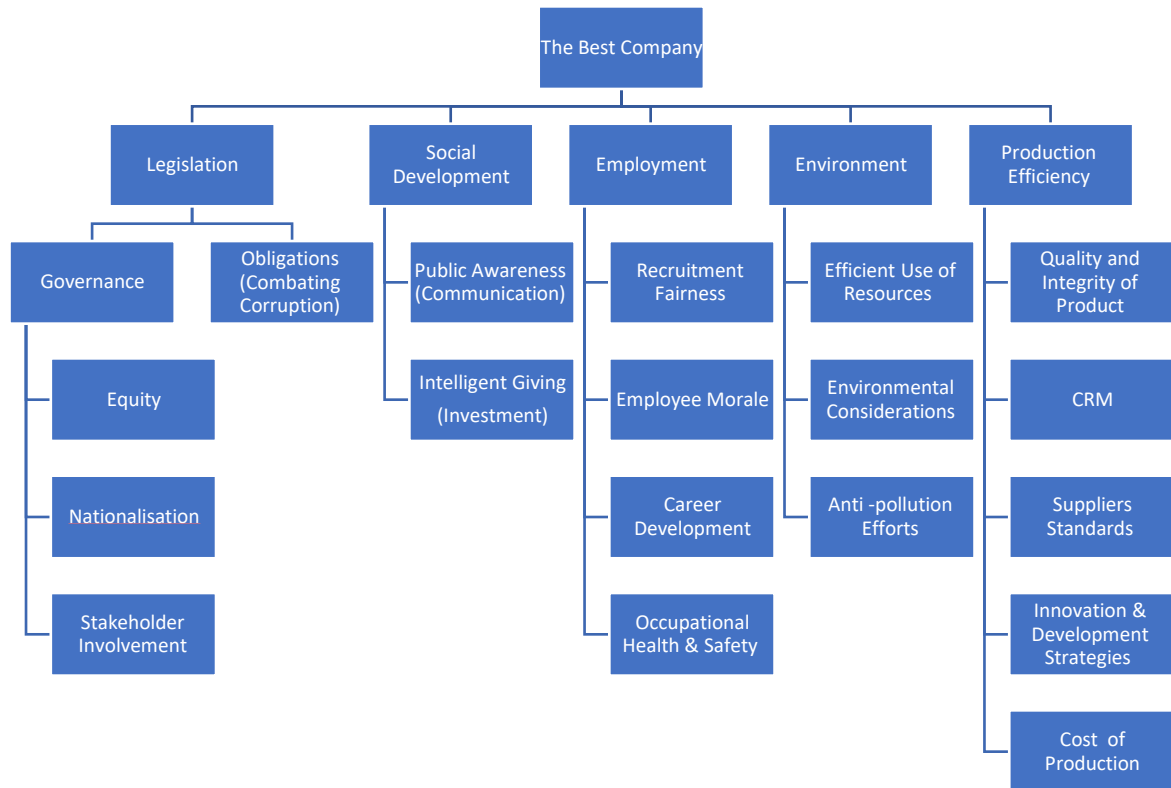
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Figure 1 Proposed AHP based index

4.1.2 Selecting the group decision makers

To construct a proposed CSR index that is representative of the priorities of all the stakeholders, the opinions of executive managers from the three service sector categories were sought, i.e. private hospitals, banks and hotels. To remove any industry specific biases and to be able to make 'like with like' comparisons, corporations from one business sector, namely, services, were selected. Furthermore, to remove any potential bias across the three categories within the service sector, it was decided to combine judgements collected from the service executive managers with judgements from another independent CSR expert group. Such external validation is a valuable instrument in constructing a robust CSR index.

This independent CSR expert group was categorized as the wider local community, and it was comprised of purposefully selected individuals including academics, MBA students and managers from other service sectors. These individuals were chosen to represent the local community on the basis that they would be knowledgeable and possess expertise about CSR on par with the executive managers from the service sector organizations.

4.1.3 Eliciting expert judgements

A questionnaire was designed to ascertain the judgements and opinions of the respondents since it is not feasible to have all of the groups in one setting. The questionnaire was based on a Google platform that was adjusted to facilitate the AHP

pairwise comparisons. Using Saaty's absolute scale, the following two questions were posed for each element in the AHP hierarchy (Saaty, 2001).

(1) Which of the two criteria do you consider to be more important (dominant) with respect to its upper level criterion?
(2) To what degree is the dominant element more important than the subordinate element?

Acknowledging the fact that some survey participants may not be familiar with such a questionnaire and/or its format, and to remove potential bias and error, the survey was followed up with personal phone calls to the respondents. Furthermore, face-to-face meetings were conducted with a random sample of participants to ensure judgement reliability.

Of the 400 questionnaires posted, 255 were completed and returned. Of these, 37 were discarded because they were not complete. Thus, the sample comprised 218 completed questionnaires, reflecting a response rate of over 50%. The distribution of the respondents is illustrated in Table 1. For illustration, Figure 2 shows pairwise comparison of Legislation with Social Development with respect to goal (Rank corporate with respect to their CSR performance)

Table 1
Distribution of respondents

Questionnaires	Local Community			Services Corporations			Total
	Academic	Students	Managers	Banks	Hospitals	Hotels	
Distributed	50	100	50	90	60	50	400
Received	23	77	18	58	47	32	255

Numerical Assessment

9 8 7 6 5 4 3 2 1 2 3 4 5 6 7 8 9

Legislation

Social Development
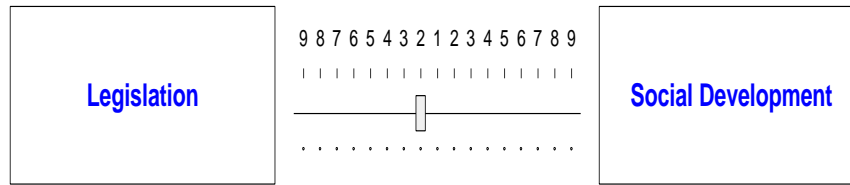
Compare the relative importance with respect to: Goal: The Best Company

	Legislation	Social D	Employment	Environment	Production
Legislation		1.76133	(2.40593)	(1.20133)	1.01895
Social Development			(2.62324)	(1.61653)	(2.26973)
Employment				1.58118	1.48335
Environment					1.12709
Production efficiency	Incon: 0.01				

Figure 2 Pairwise comparison of Legislation with Social Development with respect to goal (rank corporate with respect to their CSR performance)

4.1.4 Establishing priorities

Based on the judgements given by the respondents, priorities of every element were derived mathematically using the principal eigenvector of a matrix of pairwise comparisons of the main criteria and sub-criteria. AHP based software provides the mathematical calculation of the eigenvalue. It analyzes the priorities showing the relationship between the multi-layered stratification of criteria and sub-criteria to demonstrate a multitude of elements that were pairwise compared so as to determine their relative importance to the goal. The prioritization ranking of the five CSR elements that comprise the AHP criteria by the two groups of respondents (i.e., the local community and services corporate sector) are illustrated in Table 2. Global priorities for all the sub-criteria of the proposed CSR index are given in Table 3. Both corporate priorities and community priorities are combined implementing the geometric mean in Tables 2 and 3 (Saaty, 2001).

Table 2
Priorities of the main CSR index criteria by the local community and the services sector

Criteria	Corporate Priorities	Community Priorities	Combined Priorities
Employment	0.323	0.200	0.25
Production Efficiency	0.199	0.251	0.22
Environment	0.200	0.174	0.19
Legislation	0.171	0.168	0.17
Social Development	0.107	0.207	0.15

Table 3
Global priorities as judged by all stakeholders - corporate sector and local community

Sub Criteria	Corporate Priorities	Public Priorities	Combined Priorities
Occupational health and safety	0.119	0.077	0.096
Intelligent giving (investments)	0.049	0.130	0.080
Product quality, integrity	0.073	0.081	0.077
Anti-corruption strategies	0.048	0.094	0.067
Efficient use of resources	0.074	0.060	0.067
Public awareness (communications)	0.058	0.076	0.066
Material and moral rights	0.091	0.036	0.057
Anti-pollution efforts	0.052	0.063	0.057
Fair opportunities in recruitment	0.061	0.049	0.055
Environmental considerations	0.054	0.051	0.053
Innovation and development strategies	0.047	0.050	0.049
Career development	0.052	0.044	0.048
Equity	0.055	0.030	0.041
CRM	0.027	0.054	0.038
Cost of production	0.033	0.036	0.035
Stakeholder involvement	0.037	0.025	0.030
Standards suppliers	0.020	0.030	0.025
Nationalisation	0.030	0.019	0.024

4.2 Implementing the developed CSR index

An intentional sample of the private sector corporations is selected to represent the alternatives for testing the proposed CSR index. Forty-two corporations were selected mostly from banks, hospitals and hotels. Interviews were conducted to collect information about their CSR practice.

Table 4
Summary of the rubric and intensity of its levels

Corporate Performance Level	Level	Intensity Priority
Corporate does not address CSR concept in its management practice.	0	.01
Top management has the intension but nothing has been done	1	.07
CSR is addressed in its strategic plan, systems are developed.	2	.19
CSR is addressed in its strategic plan, systems are developed and in the process of implementation	3	.80
Fully committed to CSR practice. An annual report is publicly published	4	1.00

In order to systemize the interviews, a rubric was developed. For each sub-criteria a set of questions was designed to address four levels of performance: leadership, systems, implementation and achievement. A fifth level (None) was added; a value of (0) was assigned wherever a corporation did not address that specific criterion or was not practicing the CSR concept in managing its business, (Table 4). The resulting rubric from the interview was converted into numbers and intensity priorities were developed (Figure 3). The rating model of the AHP is implemented to rank the performance of the 42 surveyed corporations.

Intensity Name	Priority
Achievement	1.000
Implementation	.808
Systems	.191
Leadership	.069
None	.013

Figure 3 Intensity priorities of the level of CSR practiced by an alternative corporation

5. Data analysis

Findings show that corporations from the service sector give top priority to employment (Table 2). This may reflect the companies' response to the current drive towards job nationalization by the government. Currently, companies are under pressure to develop tangible policies to attract the indigenous population to join the private sector. It is worth noting that traditionally Saudis prefer to work for the public sector. Statistics show that less than 15% of Saudis work in the private sector and almost 85% are employed in the public sector, while the underlying unemployment exceeds 10% (General Authorities of Saudi Statistics, 2017). Not surprisingly, employment is a top priority for the local community. This conclusion is reinforced when the combined priorities of the two groups of CSR experts, corporate and community, are taken into account. The combined results also rank employment as the first CSR priority. The second top criterion is Production Efficiency as it is vital for corporate sustainability. It is worth pointing out that since the community sample was mostly drawn from the faculty and students in the School of Business, it is only natural to see Production Efficiency come first in the community priorities and second when their priorities are combined with the corporate priorities.

Global priorities of all sub-criteria in Table 3 show that Occupational Health and Safety, Intelligent Giving, Product Quality and Integrity and Anti-corruption Strategies rank high, and when they are combined score slightly over 33% of the global priorities. When examining the global priorities for all of the CSR index sub-criteria, it is interesting to observe that although priorities vary between community and corporate judgements, the ranking of the CSR criteria does not change dramatically. This makes a compelling case for the corporate sector to meet its CSR commitments as determined by its own judgements.

The resulting index was implemented on 42 local corporations mostly from the service sector. Members of top management or CSR managers were interviewed. The interview rubric that resulted was converted into numbers according to Table 4. A summary of corporate performance is given in Figure 4, where Series 1 stands for level 4 i.e. complete CSR performance and Series 5 stands for no performance at all. Figure 5 exhibits the corporate performance with respect to the top two criteria, namely, Employment and Product Efficiency. The results shows that 75% of the surveyed corporations are at levels beyond merely intention, 53% of the total 42 corporations are fully committed to the Employment criterion and 44% are fully committed to the Production Efficiency criterion. These results emphasize that corporations are committed to their own judgments when their judgments are elicited to prioritize index criteria and when preferences of other stakeholders (community) are taken into account. Meanwhile, it reflects the robust design of the proposed index. Figure 6 presents the ranking of the surveyed corporations with respect to their CSR performance reported by the interviews and rated against the criteria prioritized by the stakeholders. Names of surveyed corporations are hidden for confidentiality purpose.
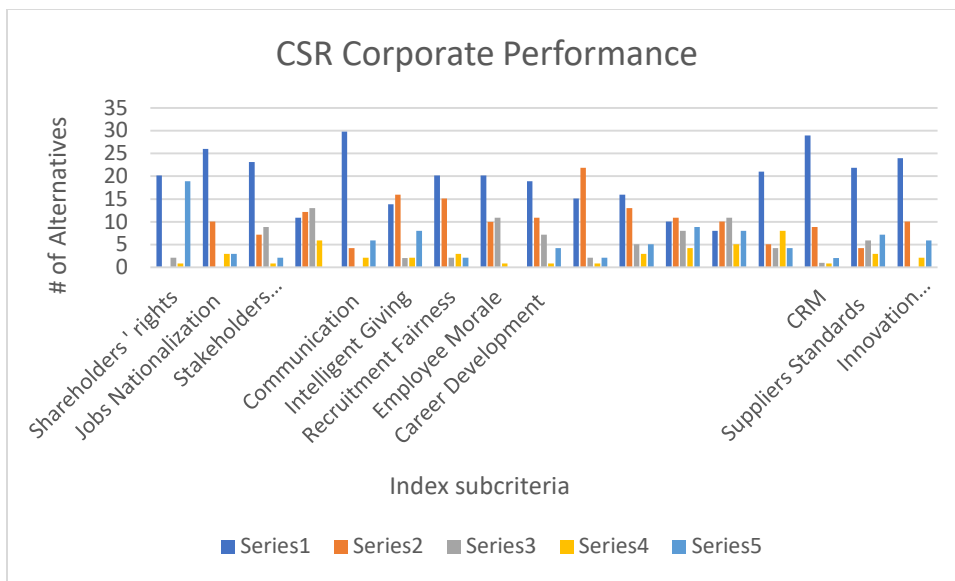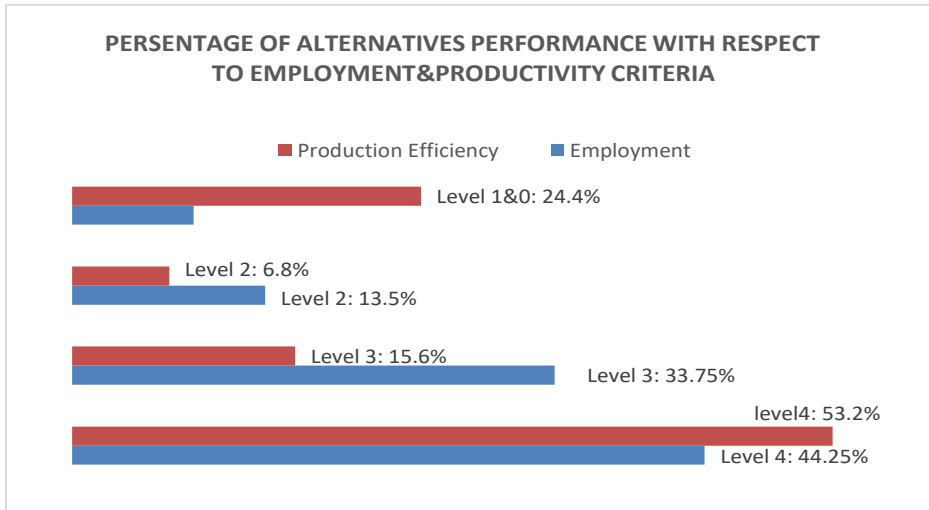

Figure 4 CSR corporate performance

Figure 5 Percentage of corporate performance with Employment and Productivity

Figure 6 Ranking the surveyed corporations according to their CSR performance as measured by the proposed AHP based index

6. Managerial implications of using AHP based CSR index

1. The AHP permits a holistic approach whereby corporate CSR judgements can be ranked and integrated with judgements from the greater society. Thus, a CSR index constructed in this manner integrates what the wider society expects from the corporate sector, on the one hand, and what the corporate sector perceives as its own prime CSR priority, on the other hand.

2. The AHP ensures that the judgements of all stakeholders are taken into account and are prioritized in a scientific and transparent manner. Stakeholder's judgements can be assigned different weights according to certain criteria such as faculty versus students or top management employees versus third line employees (Saaty, 2001). However, such categorization is not applicable to this work. All stakeholders' judgements are weighted equally.

3. The AHP model helps to determine the comparative strength of the corporate responsibility program. With the number of ratings and rankings in existence, it can be overwhelming to determine which to pursue. The AHP methodology makes this comparative analysis and ranking of priorities relatively easier without compromising the robustness of the model and/or the scientific basis of the model.

4. The AHP model does not require measurement precision for an alternative, which is usually not available in the practice of CSR. Rather than applying the AHP methodology, the emphasis shifts to the criteria used to weigh and synthesize the measurement of the alternatives as they have a greater impact on the outcome.

5. The AHP-based CSR index has a distinct advantage over other indices as it is not only dependent on data as it merges subjective priorities of the stakeholders with objective data provided by the corporations.

6. The AHP-based CSR index developed in this study for evaluating corporate CSR performance restores trust between the corporate sector and the greater society. However, further research to explore variations across organizations within a sector or across sectors would help uncover the underlying motivations that determine and explain the CSR decision-making process.

7. Having such a compact CSR index would facilitate corporations in formulating a balanced strategy as well as help the greater community evaluate the performances of corporations with respect to their declared CSR commitments. Furthermore, government institutions can use it to evaluate and compare CSR corporate performance.

8. Identifying CSR obligations and committing to them in a transparent manner would support a sustainable CSR-based business environment where sustainability is defined as conducting business without endangering the activities of future generations. This is supported by the underlying thesis of the AHP technique as its inherent ranking process promotes awareness and encourages ownership of the process.

9. The AHP methodology is not overly complex. It legitimately aggregates across scales and addresses consistency in judgements from multiple participants. It also formalizes the selection process, reduces time commitments, creates a process-oriented selection method

and results in better selection of CSR indicators (Bahurmoz et al, 2015). Furthermore, it can be replicated in similar situations and ultimately reduces costs and effort related to the selection process and to the occurrence of selection errors post-selection.

7. Conclusions

Very few studies have attempted to formulate a framework of analysis that systematically documents or prioritizes CSR practices. This research set out to construct a comprehensive CSR index that aimed to understand and analyze CSR practices within Saudi corporations. It takes into account stakeholders' judgments and facilitates meaningful rankings and comparisons of their CSR priorities. Most previous CSR literature fell short in addressing this issue. Given the shortcomings of the existing indices, the study proposed and constructed a CSR index based on the AHP methodology. Expert judgements were collected through a survey of people from the corporate sector as well as the wider community. The proposed index has been verified by implementing it in the same business environment. Local corporations in the service sector were investigated and their performance was evaluated and finally they were rated by the proposed index.

Extant CSR studies are usually one-dimensional, tending to focus on environmental and community issues and using secondary data sources, both of which are considered shortcomings. This research overcomes these shortcomings by collecting original data and by using the AHP model that extends beyond the restrictions of previous approaches. The AHP makes it possible to analyze CSR practices in a multi-dimensional context.

The findings demonstrate that Saudi companies do not view CSR mainly in terms of philanthropy given that employment and production efficiency emerge as the most highly ranked corporate priorities. This confirms the view that Saudi businesses are moving towards adopting CSR practices as part of their corporate strategy. This further highlights the need for a robust CSR index for the Saudi corporate sector.

Using an AHP based index helped analyze CSR practice in a multi-dimensional fashion and identify CSR obligations in a transparent manner. The proposed model can be easily replicated or modified in similar situations not only inside Saudi Arabia but in other countries around the world. Furthermore, the findings contribute to facilitating CSR best practices across borders.

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APPENDIX

CSR INDICES WORLDWIDE

1. The Dow Jones Sustainability Index (DJSI), as the first set of global sustainability indices, was created in 1999. It recognized companies for their outstanding economic, environmental and social performances. The screening standards of the DJSI World were defined to reflect the carport's contribution to the economy, the society, and the environment. In May 2013, S&P Dow Jones Indices and Robeco SAM launched a new range of diversified sustainable indices. The eight new indices target investors who measure performance against standard benchmarks but want to add sustainable companies to their portfolios. In 2013, Dow Jones launched the Dow Jones Sustainability Emerging Markets, the first index to measure sustainability performance from emerging markets. The index has a market capitalization of $680 billion and evaluates sustainability performance based on the ESG criteria. Other notable indices launched in the US include the launch of the Thomson Reuter Corporate Responsibility indices developed in conjunction with S-Network Global Index. These indices rate companies' CSR investments through an assessment of their ESG practices (http://www.corporate-citizenship.com)

2. The London Stock Exchange created the "Financial Times Stock Exchange for Good Index Series (FTSE4GOOD)" in 2001. It consists of global firms dedicated to a sustainable environment, corporate governance, and international human rights. FTSE4GOOD provides a tool for responsible investors to identify and invest in companies that meet globally recognized corporate responsibility standards, and it contributes to the development of responsible business practices around the world. The index concentrates on environmental and human rights criteria in addition to supply chain labor standards, countering bribery and climate change criteria. In 2009, the UK-based Social Stock Exchange (SSE) was launched, and in 2010, companies that used more than 6,000 MWh per year were to start reporting on all emissions related to energy use (http://www.ftse.com/Indices/FTSE4Good_Index_Series)

3. The Advanced Sustainability Performance Eurozone Index (ASPI Eurozone®) is recognized as one of the leading sustainability indices. It is used by a growing community of responsible investors to define sustainable investment universes, to benchmark their investment performances and to create index-linked products. It consists of six main criteria: environment, community involvement, human rights, business behaviour, human resources and corporate governance. In 2013, the S&P Nordic Low Volatility Index was created from a selection of the 30 least volatile stocks on the S&P Nordic Broad Market Index, while the NYSE Euronext and Vigeo partnered to create a range of indices that focus on ESG

issues. These indices include the major listed companies in Europe, the Asia-Pacific region, and North America.

4. The Morningstar Socially Responsible Investment Index (MS-SRI) was developed in 2003 by Morningstar Japan K.K. It is Japan's first stock price index to focus on CSR. Morningstar Japan selects the top 150 publicly listed companies with respect to their CSR activities and calculates an index based on stock prices. It is based on five criteria, namely, governance, accountability, markets, working environment, and social contributions. In 2009, Environmental ETF Japan Green Chip 35 (1347) was launched.

5. The S&P ESG India Index provides investors with exposure to 50 of the best performing stocks in the Indian market as measured by environmental, social, and governance (ESG) factors. The index represents the first of its type to measure ESG practices based on financial rules and environmental and social criteria. In 2012, the Bombay Stock Exchange (BSE) launched the BSE Carbonex, the first carbon-based thematic index in the country. It tracks the performance of the constituent companies of the BSE-100 index and their commitment to greenhouse gas emissions reduction. BSE also launched its green index. More recently, the Indian Institution of Corporate Affairs (IICA) and the Bombay Stock Exchange Ltd (BSE) collaborated to develop a corporate social responsibility (CSR) index. The proposed IICA-BSE CSR index will assess the impact and performance of companies listed on the BSE with respect to their CSR activities. The index will also examine the performances of companies regarding their mandatory CSR spent as per the new Companies Act 2013 as one of the important and objective criteria (http://www.mena.spindices.com)

6. The S&P/EGX ESG Index for Egypt was created by the Index Egyptian Institute of Directors, S&P Indices and Crisil. The purpose of the index is to raise the profile of those companies that perform well with respect to their environmental, social and corporate governance responsibility when compared to their market peers registered on the Egyptian Stock market (http://www.standardandpoors.com)

7. The Saudi Responsible Competitiveness Index (SARCI, htttp://csrmiddleeast.org) was developed by the SAGIA and the King Khaled Foundation and Accountability in 2008. It aims to promote good CSR practices within the Saudi corporate sector. Participation in the index is voluntary for companies.

8. In Canada, the Jantzi Social Index was launched in 2000, and in 2007, the IShares launched a socially responsible ETF.

9. Following North America and the U.K, in 2001 the corporation act in Australia required the disclosure of violations of environmental legislation in listed companies. In 2010, Australia introduced its new ethical disclosure requirements under the Financial Services Reform Act (FSRA) annual reports whereby companies listed on the Australian Stock Exchange (ASX) must disclose whether they have developed a code of conduct on environmental risks and controls (http://www.ourcommunity.com.au)

10. In Germany, Deutsche Borse established the DAX Global Alternative Energy Index, which includes international companies whose revenues are based on technology and services designed to promote and generate alternative energy sources in an effort to highlight growth trends towards alternative energy. In 2007, Deutsche Borse established the DAXglobal Sarasin Sustainability Germany Index and the DAXglobal Sarasin Sustainability Switzerland Index, which follow companies that meet the sustainability requirements of the Sarasin Sustainability Matrix. The German Council for Sustainable Development (GCSD) developed a German sustainability code in 2011 that includes 20 criteria and 27 GRI performance indicators.

11. The Bolsa de Madrid Exchange (BME) sustainability-related investment index-FTSE4GoodIBEX was launched in Spain.

12. The Swedish Stock Exchange (OMX) launched the OMX GES Nordic Sustainability Index in 2008.

13. In 2009, the Warsaw Stock Exchange launched the region's first stock index of responsible companies in Central and Eastern Europe. In 2012, the Warsaw Stock Exchange launched the RESPECT index, which lists companies with a high reporting quality and an advanced level of investor relations or information governance.

14. In 2005, BM&F Bovespa created the ICO2 Carbon Efficient Index in Brazil. In December 2010, Bovespa and development bank BNDES launched the ICO2 Carbon Efficient Index at the United Nations climate talks in Cancun, Mexico.

15. In 2011, Bolsa Mexicana de Valores launched a sustainability index in Mexico.

16. The SSE and China Securities Index Company launched the SSE Social Responsibility Index in 2009, while the Hang Seng Corporate Sustainability Index Series was launched in 2010. The Shanghai Stock Exchange launched a new environmental protection industry index in September 2012. The new index screens for stocks that obtain more than 25% of their revenue from resource management, clean technology, or pollution management.

17. In 2012, the Taiwan Stock Exchange (TWSE) launched an index that focuses on corporate governance and corporate social responsibility.

18. The KEJI index in Korea, introduced in 1991, was the first comprehensive evaluation scheme for corporate business ethics and social responsibility developed and implemented in Korea. Each year, the KEJI selects annual Economic Justice Award winners based on quantitative and qualitative evaluations. One of the distinctive features of the KEJI index is that it is a product of an independent rating service. It focuses on the evaluation of multidimensional corporate social performances and yields a score on seven individual categories of CSR: soundness, fairness, contribution to society, consumer protection, environmental protection, employee satisfaction, and contribution to economy (Choi et al. 2010)

19. The OWW Responsibility™ Malaysia SRI Index, which was launched in 2006, aims to help the SRI community access up-to-date information on the social performance of companies in Malaysia and Singapore and to open up the Malaysian market to socially responsible investors. In 2012, Bursa Malaysia (Malaysia's stock exchange) launched its environmental, social and corporate governance (ESG) index to attract more socially responsible investment (SRI) funds to Malaysia and to raise the profile of Malaysia's listed companies that perform well on the ESG indicators compared to their peers.

20. The KEHATI-SRI Index was launched in 2009 to track Indonesian corporations with sustainable business practices.

21. In 2010, the Istanbul Stock Exchange Sustainability Index (ISE SI) was launched.

22. In 2004, the Johannesburg Stock Exchange (JSE) launched its SRI index of companies. In 2012, JSE announced that more than 70% of the listed companies met the base requirements to become constituents of the 2012 Socially Responsible Index.