

GREEN GROWTH INITIATIVES - A PATHWAY TO CORPORATE SOCIAL RESPONSIBILITY

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Abstract

Climate change attributed to emission of greenhouse gases (GHGs) from human activities is a major threat to our survival and well-being. The world is now experiencing a growing number of adverse consequences since continued economic development and resource exploitation threatens the strength of the natural systems. The industrialization and fast growth of developing countries poses a fundamental question for legislators and researchers working on environmental sustainability, low carbon innovation and green growth. In the face of pressing environmental challenges, green growth as a new source of growth has been intensifying in recent years. Green growth is now imperative in light of the current climate change scenario. It is becoming clear that the importance of climate change problem is required to be addressed within the general framework of sustainability transition which is now widely recognized both by the public and the media. Accountability is one of the processes whereby a leader, company, or organization seeks to ensure integrity. Business houses across the world are realizing their stake in the society and engaging in various social and environmental activities. Corporate social responsibility (CSR) has many facets including social and environmental growth. The benefits of adopting CSR can have significant advantages for all the stakeholders including the environment, particularly when undertaken voluntarily. Accordingly, the study explores the relevance of green growth issue to business with a special attention to the CSR.

Keywords:

Green Growth, CSR, Sustainability, Climate Change, Environment

1. INTRODUCTION

It cannot be overemphasized that our environment is not capable of sustaining any further concentration of greenhouse gases without endangering the future of human society on earth. No wonder climate change mitigation has been catapulted high into the political agenda and the global community is concerned about how to cope up with the debilitating effect of climate change. New scientific data reveals that climate change is happening and will be the most daunting challenge to sustainable growth and development of human settlements in the 21st century (Grover, [11]). In terms of limiting the impacts of climate change, there is now a broad scientific consensus that the challenge is to limit the global average temperature rise to 2°C above pre-industrial level (Toledo, et al. [29]).

The excessive economic growth leads to resource scarcity and this has resulted in major environmental crisis (Jamet & Corfee, [16]) and becomes a challenging issue to the entire world in recent years. Saxena, Bhardwaj and Sinha [27] pointed out that the present world economic policies focused on only productivity and economic growth, without addressing environment, have resulted in adverse and irreversible environmental impacts. Therefore, there is a need for the companies to initiate good sustainable

environmental practices in order to minimize environmental impacts and conserve the resources.

1.1 ENVIRONMENTAL ISSUE

The earth's climate is constantly changing. Climate change is now a dominant threat that must be met and dealt with serious concern. Studies have shown that the main cause of climate change is the emission of greenhouse gases especially carbon dioxide (CO₂), due to human activities such as the burning of fossil fuel and rapid deforestation in the pursuit of economic development (Mohanty & Deshmukh, [25] and Moharamnejad & Azarkamand, [24]). For over 200 years, industries of the world have been transferring fossil carbon from underground deposits of coal, gas and oil to a more potent and rapidly active circulating carbon dump in the entire biosphere including the air, oceans, soil and the vegetation (Ellermann, et al. [5]).

The Intergovernmental Panel on Climate Change (IPCC) estimated that 80% of the world's greenhouse gas emissions are due to the burning and combustion of fossil fuels (IPCC, 2007a [15]). The international discussion on the science of climate change suggests strong support for cutting GHG emissions by at 50% below 1990 levels by 2050. Businesses are now expected to be more responsible within society including their relative contributions towards climate change (Malovics, et al. [22]).

A way to reverse the negative effect, green is now becomes a common practice to portray the environmentally-friendly image. Going 'Green' is fast becoming a trend in light of the current environmental crises and resource depletion. The 'Green Growth' proposes a new model which suggested various solutions to cope with the current environmental challenges such as pollution and waste reduction, energy conservation and more efficient use of resources.

1.2 BUSINESS ISSUE

Changes in the global environment increasingly challenges business around the world. Companies are now expected to integrate environmental concerns into their strategic management. Since companies are a large source of GHG emissions and they hold the key to stabilizing emissions, it is significant to identify what actions are being taken by the corporate sector (Matthews, [23]). On the business perspective green is referred to practices, processes and products that have minimal impact on the health of the ecosystem in which the emphasis is on non-hazardous, recyclable, reusable and energy efficient products and processes (Aberdeen Group, [1]). The importance of green growth lies in the solutions it offers to the current challenges imposed by the existing development models and the future threats of climate change, while offering multiple opportunities in a comprehensive manner.

1.3 GREEN GROWTH AND CORPORATE SOCIAL RESPONSIBILITY

Going 'Green' is fast becoming a trend and necessity in today's business worldwide. This is simply because, business is indirectly or directly giving a huge negative impact towards our environment by depleting these natural resources in the process of producing goods and services.

"Green Growth" or "Green Economy" is being followed by different organizations across the globe to propose a new model which suggested various solutions to cope with the current environmental challenges such as energy conservation and renewable generation, pollution and waste reduction and more efficient use of resources.

The impediments to the adoption of go green initiatives is the deficiency of awareness among employees and management of the importance of the issue and what each individual can do at a personal level to address them. Therefore, environmental CSR (corporate social responsibility) initiatives can be viewed as green growth initiatives and can be implemented for corporations to remain competitive in industries.

CSR refers to sustainable development that addresses corporate behaviour and how environmental management strategies are used as tools for growing a company's image and cumulative effects on their environment, as well as their profits. In all definitions it is observed that corporate social responsibility involves corporations contributing to society. The expected contribution can vary from making money, to community involvement, to environmental or social justice (Fig.1). At the company level, these three dimensions are generally accepted as descriptive of a company's performance in sustainability. The economic performance indicates company's influence on its stakeholders' economic circumstances. But economic performance and profits never guarantee a company's long term survival. A company needs to include non-economic performances such as community activities and environmental protections into decision making and strategic planning. Therefore, a strategic approach is needed that encourages more social and environmental responsibility from the corporate sector. The green growth model of business can promote CSR and create an environment in which enterprises can innovate and grow which is very important for sustainable development.

The global environmental movement, recognizing climate change risk, highlights the rapid rate at which industry is polluting the environment and thus threatening the sustainability of business. Businesses are responsible for their operational impact on society and the natural environment beyond legal compliance and the liability of individuals. Businesses around the world are being called upon to take responsibility for the ways their operations impact the natural environment.

According to the emergent literature, there is an increasing awareness that business needs to manage its relationship with the wider society. Numerous explanations have been advanced for the recent surge of environmental CSR. There are clear benefits to integrating CSR into business - both financial and environmental. By incorporating business practices that thoughtfully consider the effect on the environment, businesses can encourage and build on loyalty to an eco-friendly brand. Lyon and Maxwell [20] said that

the welfare effects of CSR are more difficult to establish than positive economic explanations, and have received less scholarly attention.

Although CSR practices have drawn substantial interest from academics, the motives driving those practices have received little attention in the academic literature, particularly from an empirical perspective. Business is a part of society and survival of any business as well as growth of any business depends on society. Presently environmental and social issues are having an increasing impact on business performance, that's why green growth and company's social responsibility arises from the fact that a business enterprise derives several benefits from society as well. The 'go green' initiative is part of the larger framework of 'Corporate Social Responsibility', which takes into account a wide variety of factors that make companies successful, while also taking responsibility for their effect on the earth. This, therefore, clearly establishes the stake of a business organization is the good health and well being of a society of which it is a part.

Green Growth Framework

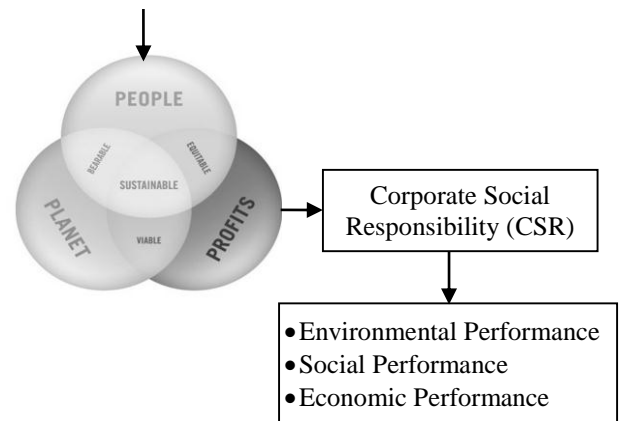


Fig.1. CSR and green growth pathway

1.4 RESEARCH GAP

Literature about green growth in a developing country like India and others reveal that perception about green growth stays well behind on a global scale despite the perceived importance by the government and the companies. A careful study of the literatures indicates that there are ample opportunities to study more on this subject. Though, the existing literature has discussed in depth about green opportunities, challenges, initiatives but most of the studies found from international perspectives. The Indian studies have been mainly of case study nature and have lacked in definitive suggestions of increasing awareness of green growth in the studied organizations. None of the studies have been undertaken to find out the important factors that could increase the awareness of importance of green growth in the corporate sector. So the published resources are very limited. Especially, in the selected region for this study, no prior research work of this kind has been found.

In this background, this study attempts to investigate the perceptions of green growth in the Indian corporate sector as well as the important factors which can promote green growth as an element of CSR.

1.5 OBJECTIVES

This study has two aims:

1. To identify the perceptions of the corporate sector about green growth in the light of CSR.
2. To identify the important factors to promote green growth in the present scenario of climate Change.

With these stated objectives in view, this study has been conducted on the basis of available conceptual and empirical studies on green growth perceptions in the corporate sector. Regarding the source of data, the study has used primary and also secondary data, e.g. literature survey as included in, journals, magazines, books, news papers, and various websites

2. LITERATURE SURVEY

Awareness is considered as one of the most important factor in determining environmentally responsible behavior. Awareness of climate change is a fundamental understanding of the natural world, which is essential for developing future sustainable development. Businesses across the globe are bestowed with the responsibility of promoting sustainable development thereby preserving the rare natural resources to meet the needs of the forthcoming generation. Hallegate, Heal, Fay and Treguer [13] defended that the relationship between green growth and social improvement are clear because it encourages business to become more competitive, more innovative and more environmentally responsible. Green is becoming a common practice to portray the environmentally-friendly image of products, processes, systems and technologies from business perspective (Vachon & Klassen, [31]). According to AFED [2], it is considered as a new approach to solve the interconnected problems in a comprehensive manner. It also helps to support economic diversification, accelerating the overall rate of technological change and sustainable growth.

Green stands for ecological sustainability and a green life is a better and healthier life for present and future generation. Green Growth has been proposed as way for rapidly growing emerging economies, such as Brazil, China, India and Indonesia, to address greenhouse gas emissions and environmental degradation that their growth has brought (Jupesta et al. [18]; ADB/ADBI, 2013). The potential relevance of Green Growth for developing countries is reflected in the title of the OECD's most recent publication on the subject, "Putting Green Growth at the Heart of Development" (OECD, [33]).

The environment is a popular topic of conversation in the corporate sector as well in the society and embedded in the concept of green growth is an assertion. This is that economic growth can occur even while environmental impacts are significantly reduced. Greening the economy could integrate the social quality, as a pillar of sustainable development, with economic and environmental priorities. Indeed, it may improve the human well-being while significantly reducing environmental scarcity. Accordingly, the World Bank [32] suggests green growth should focus on what needs to be done in the next five to ten years to generate immediate benefits and avoid getting locked into unsustainable paths. Global trends towards greening economies are likely to alter current patterns of competitiveness (Fankhauser et al. [6]). Increasing trade can be consistent with a green economy, and international trade could facilitate a green

economy transition. Developing countries with abundant renewable resources are well-positioned to capitalise on the opportunities presented by the greening of economies (UNEP, [30]).

Saxena, Bhardwaj and Sinha [27] supported that current economic policies highlighted only productivity and economic growth, without addressing environment, have resulted in adverse and irreversible environmental impacts. The importance of the equitability of Green Growth is emphasised by some authors, highlighting the link between social development and environmental sustainability (Smith et al. [28]; World Bank, [33]). Juvet & Christian [17] pointed out that Green Growth policies entail bringing environmental factors into economic decision making by introducing considerations of resource efficiency, transforming energy systems, valuing natural capital in the economic calculus, and pricing environmental externalities.

In recent years, climate change mitigation and green growth have progressively emerged on the agenda of governments in emerging economies. Rather than simply a contribution towards solving international environmental problems, policymaking in these areas can reflect a range of motivations (Howes and Wyrwoll, [14]). With increasing public awareness and concern about climate change, it is becoming social and strategic issue for businesses to respond to climate change problem (Begum & Pereira, [3]). With the growing importance of green growth as well as the continued promotion of CSR related activities in the present scenario, it is imperative that corporate sector will have to increase their awareness about green growth opportunities.

3. METHODOLOGY

An empirical and descriptive approach is adopted in this study. A brief introduction to the design of the needed questionnaire is discussed first. The process of conducting data collection will be then briefly explained. Factor analysis (FA) has been conducted based on SPSS focusing on the perceptions of the green growth and CSR of the companies in and around Kolkata. Comprehensive analysis and research findings have been discussed at the end.

A questionnaire was designed with a focus on collecting data from companies irrespective of size in and around Kolkata. The questionnaire design in this study was completed by taking the following two steps:

- 1) **Preparing a preliminary questionnaire:** In reference to the literature and publication available on green economy, a preliminary questionnaire was designed. Questions included in the questionnaire are further revised by interviewing with many executives of the company, aimed at understanding the awareness of green growth needs in the present climate change scenario
- 2) **Refining the questionnaire through a validity test:** The validity of a questionnaire refers to whether the questionnaire that will be used actually measure what a study wants to measure. In order to conduct a validity test, a preliminary survey was conducted using a small sample. Through repeating validity and reliability tests, the questionnaire was modified and the final questionnaire was designed for this study.

The final questionnaire was developed based on the feedback from this preliminary survey. Initial number of statements/items

had been reasonably and considerably culled during the review of data collection and observations as suggested by Gable and Wolf [8]. A questionnaire was designed with a focus on collecting data from the sample organizations. The study has used structured questionnaire and a five point balanced Likert scale Strongly Disagree (=1) and Strongly Agree (=5) for measuring awareness of green growth from the respondents.

3.1 DATA COLLECTION

The questionnaire has been administered to 50 companies selected in and around Kolkata. Thus, while the number of participants involved was relatively small, a good mix of roles and responsibilities ensured that different viewpoints and perspectives were obtained. All participants demonstrated a high level of professionalism in their understanding of the broader implications of climate change on society, its perception about green growth and CSR.

3.1.1 Exploratory Analysis and Critical Findings:

The study of the perception of corporate sector for promoting green growth in India is still in its nascent stage, therefore, an exploratory research design is undertaken in terms of the objective of this study. Burns and Grove [4] described exploratory research as research conducted to gain new insights, discover new ideas and/or enhance knowledge of a phenomenon. Since sufficient studies are not found about the green growth perceptions in the Indian corporate sector, this study, therefore, started with an objective to explore the perceptions of the corporate sector in this context.

Principal Component Analysis (PCA) under FA and Reliability Analysis (RA) enables a researcher to combine several questions (i.e., the statements) into a more valid and reliable measure of some important concepts (i.e., the factors), based on correlations or covariances between questions. Factor analysis (FA) was conducted to identify factors that statistically explain the variation and co-variation among measures. Green and Salkind, [10] stated that factor analysis can be viewed as data-reduction technique since it reduces a large number of overlapping measured variables to a much smaller set of factors. In interpreting the factor, only loading of 0.5 or greater on the factor was considered. The items in the scale were subjected to a set of exploratory factor analyses using Varimax rotation with Kaiser Normalization.

The Table.1 contains four factors extracted with Cronbach's coefficients which exhibits that the reliability of these dimensions fully meets the needed statistical requirements for factor analysis.

Table.1. Factors for green growth CSR initiative

Extracted 'Factors' Resulting from the PCA under FA	Cronbach's Alpha
Green growth CSR initiative	.747
Factor 1 -- Corporate Accountability	
Factor 2 -- Environmental Responsibility	
Factor 3 -- Media and Community Involvement	
Factor 4 -- Emission Awareness	

KMO measures strength of the relationship among variables. The KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed.

Bartlett's test is another indication of the strength of the relationship among variables. This tests the null hypothesis that the correlation matrix is an identity matrix

3.1.2 Validation of the FA results:

With such a coefficient of reliability, this is confirmed that the collected data in this study could be reasonably employed in support of exploratory factor analysis. Through conducting the Kaiser-Myer-Olkin (KMO) and Bartlett's Test of Sphericity, the strength of the relationship among variables was measured. The tests showed that the value of KMO test (Table.2) was 0.70, which is as per the acceptable baseline. As for the Bartlett's test, the p-value was less than 0.001 (=184.016), indicating that factor analysis could be well carried out.

Table.2. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.700
Bartlett's Test of Sphericity	Approx. Chi-Square	184.016
	df	105
	Sig.	.000

On the first run PCA, the total variance of the five factors was 69.86%; which means at least 50% of the variance could be explained by common factors and is considered to be reasonable (Field [7]). When Kaiser's criterion was applied to the five factors had eigenvalues > 1.00 in the first run PCA.

Therefore, among five factor solutions examined, a four factor solution with Varimax rotation was deemed to be the most statistically and conceptually appropriate. To undertake the most appropriate interpretation, the loading values were carefully examined using Hair, Anderson, Tatham & Black's [12] guideline for practical significance, which indicates a factor loading of ± 0.3 means the item is of minimal significance, ± 0.4 indicates it is more important, and ± 0.5 indicates the factor is significant.

On the basis of these tests, items were eliminated from the factor pattern matrix when the factor loading was > 0.6 . As a result one factor eliminated and the final PCA of the four-factor solution with 15 items accounted for 63.11% of the total variance.

3.1.3 Internal Consistency Reliability:

Cronbach's alpha was computed and found 0.747, which indicates a fair correlation between the items and the questionnaire is consistently reliable.

Table.3. Reliability Statistics

Cronbach's Alpha	No. of Items
.747	15

4. DISCUSSION

The integrity of any study depends on the accuracy of the measures used, especially when exploring an important

phenomenon such as green growth. The internal reliability (alpha) reached the recommended level, therefore, corporate sector could promote go green initiative more confidently in usual CSR practice to incorporate environmental responsibility into the care of the environment within which they work.

While green growth is being recognised as an important aspect of CSR care, a gap still persists between awareness and business action. However, to increase the awareness of the corporate, the communication from media can play an important role since it can also involve the public in the design and implementation of go green policies.

The Factor 6.1 is labeled as 'Corporate Accountability'. The loading of eight items under this factor is close to 0.65 to 0.73 which establishes that corporate accountability is of utmost importance for sustainability and green growth.

The report of KPMG [19] also pointed out that eighty percent of the business leaders in a survey felt that climate change is very important issue and it must be considered in business plans but OECD report [21] mentioned even though awareness about climate change is growing and expectation from the companies to promote green growth is increasing, a gap still persists between awareness and business action. Every business has the potential for contributions to climate protection, only greater cooperation with policy makers is necessary to promote pro-green behavior. Businesses are now expected to be more responsible within society and the environment they operate to ensure sustainability since earth's climate is constantly changing and is a concern for businesses all around the world.

Factor 2 is labeled as 'Environmental Responsibility' since this factor emphasizes on the initiatives of the corporate sector to promote ecological growth. The corporate sector has a very significant role to play in reducing greenhouse gas emissions, especially in a rapidly developing country such as India. Industrial and business organizations can promote and disseminate best practices in cooperation with policy makers at national and international level. Now the global environment demands to widen the concept of low carbon green model of business and Orsato [26] in this background stated that if companies intend to improve their environmental performance, can experience new opportunities for differentiation or cost leadership, which likely leads to sustained competitive advantages.

The Factor 3 is labeled as 'Media and Community Involvement' since statement 'Initiatives on the part of the media for raising green growth perceptions' has a high loading of 0.833 signifies media interest on the subject has to be increased since the fast growth of internet use and social media in India can lead to much faster spread of information about and concerns about green initiatives.

Factor 4 is labeled as 'Emission Awareness'. The loading of eight items which establishes that awareness of carbon emission is of utmost importance for sustainability. Without a proper understanding of the likely consequences of high carbon emission, it is difficult for the businesses to perceive climate change impact in terms of risks and consequences. Climate change as a result of high carbon emission can increase some costs of doing business and in some cases may completely disorder the supply chain of the business. If climate change and damage were to occur on a large scale, employees, suppliers, operations and other stakeholders could be affected, usually adversely.

According to the study of Green Growth Advisory Group [9], by reducing emission intensity, business can grasp the emerging opportunities for greater efficiency and productivity and to convert each of these into economic growth.

5. CONCLUSION

Implementation of go green policies by the corporate sector requires good understanding of climate change impact on the society. This study focuses on the environmental implications of adopting CSR. The objective of this study was to understand the perception of the corporate about green growth and identifying the factors that can increase the green awareness in the society by the corporate actions. Different motivations have been tested to explain which factors are able to influence company's environmental conduct. The study suggests that 'corporate accountability' is a likely factor of green behavior of the companies. This creates an opportunity for companies developing their green image. Behaviour is affected by beliefs, values, attitudes and emotions. Pro-environmental strategies must be implemented by companies which can make a difference and can have an impact on the welfare of the environment. 'Environmental responsibility' of the corporate sector can be honed through publicity and education rather than direct pressures. 'Environmental responsibility' is needed and for that companies should focus on advertising eco-friendly behavior poster in-store and can propagate pamphlets. Advertisements campaign may be used to further promote the use of eco-friendly products. Such campaigns can be directed at increasing concerns about environmental issues among consumers and publicize the use of eco-friendly products. 'Media and Community Involvement' can play an important role to promote go green lifestyles or build support for policies. It can also involve the public in the design and implementation of green policy on climate change. The use of social media is widespread and fast growing due to cheaper costs and high affinity to new technologies. This facilitates peer-to-peer interaction and dissemination of news including pollution levels. Therefore, media interest on the subject has to be increased. The rapid growth of Internet use and social media in India can lead to much faster spread of information of green initiatives among citizens. As a global community, media must innovate now to enable community to leave the majority of the remaining fossil fuel reserves in the ground - driving our transition to a low carbon green future. Appropriately emission awareness and their control can significantly contribute to go green initiatives. Findings from this work also suggest that the 'emission awareness' of the companies must be raised. Even in an educated segment, willingness to reduce emission receives an underwhelming response. Thus, while environmental concern could emerge as one of the powerful drivers that influence green behaviour, it has actually not resulted in action in most of the cases. Increased awareness of greenhouse gases (GHG) will help to reduce emission and can make a difference to the environment for the sustainable future growth.

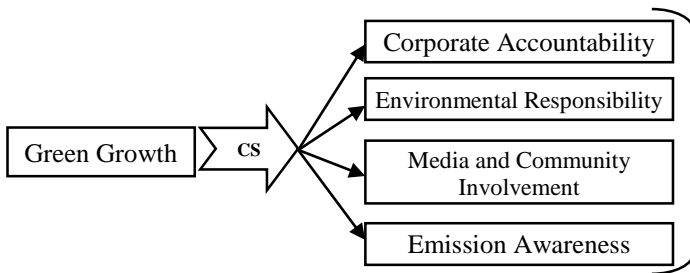


Fig.2. Factors leading to green growth CSR Pathway

Overall, the above demonstration, developed from the literature reviews and the analysis of the data from the questionnaire survey, provides an informative overview of some significant 'factors' that could promote green growth in the corporate sector. These issues were further analysed in the qualitative stage of the study. The study has identified four factors 'corporate accountability', 'Environmental Responsibility', 'Media and Community Involvement' and 'Emission Awareness' (as shown in Fig.2) which could be helpful in encouraging green growth in line with one of the key elements of CSR. With CSR-specifically green initiatives - weighing on the corporate mind, many decisions of the corporate body may be incrementally tailored to the needs of the environment and the instincts for preservation of our way of life.

6. LIMITATIONS

This study has certain limitations. First, as the surveys in this study were solely conducted in the companies in and around Kolkata, the analytical results are surely limited. To fully understand perceptions of the corporate sector across the region, collecting responses from companies in the other cities of the region are necessary. To identify the awareness level, data should be further enriched by collecting more responses from companies across the country.

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