

# SUSTAINABLE VALUE CREATION: COHERENCE OF CORPORATE SOCIAL RESPONSIBILITY & GREEN INNOVATIONS ON FIRM PERFORMANCE

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## ABSTRACT

Since the concept of Green innovation and corporate social responsibility is transformed in the business mainstream all Green Innovation, CSR, Brand Promotion and firm performance become the key topic of academic research and management implication. Existing research, explore what corporate social responsibility and green innovation is and how it can lead to brand promotion and corporate performance. The relationships among these aspects remain controversial and hence, lack consensus thereby, causing a missing research gap in the extant literature. It emphasizes on green innovation management practices and CSR policies in order to demonstrate their real and potential influence on brand promotions and corporate performance. To accomplish this endeavor, a brief literature review on green innovations (Rennings, 2000; Chen et al., 2006), green product innovation (Baumann et al., 2002; Albino et al., 2009), CSR (Stigson, 2002; Allen & Husted, 2006), green brand promotion (Polonsky, 1994) has been carried out. Consequently, the company's case study has contributed to better understanding the influence of green innovation & CSR on corporate performance. A conceptual model has been developed which allows a deeper understanding of literature review results. The study offers valuable insights for managers and practitioners in dealing with the green innovations, CSR, sustainability and competitiveness of corporate.

**Key words:** Green Innovation; Corporate Social Responsibility; Innovation; innovation management practices; environment

## 1. Introduction

### 1.1 CSR (Corporate Social Responsibility)

Corporate social responsibility (CSR) has received an increasingly huge attention in current times. It can be characterized as the way by which a business attains to support its value based systems and actions with its various stakeholders and employees. The stakeholders generally comprise of employees, customers, suppliers, government, etc. (Bowen 1953) was the first who introduced the idea of CSR, defining it as an obligation for companies to consider certain factors during the course of their business activities. CSR is the concept of organizations promoting, participating and initiating social programs in order to address an issue or concern in the wider community. A broad definition, including multiple dimensions such as philanthropy and stakeholders, is favored by academics (De Los Salmones et al., 2005; Godfrey & Hatch, 2006; Piercy & Lane, 2009). The definition of CSR has developed over time from the 1950s to the present. Literature from the 1980s onwards presents fewer set definitions and further research into the CSR (Carroll, 1999).



CSR has been considered important for some time now, but an agreement is still missing concerning its description and its component, principles and practices (Crane et al., 2008). (Friedman, 1970) argued that 'the only social responsibility of a company is to increase its profits' whilst staying 'within the rules of the game'. Opposing to Friedman's view, (Davis, 1973) proposed and highlighted that CSR constitutes 'consideration of issues beyond the economic, social and legal necessities of a company' (Crane et al., 2008). It is significant that the EU Commission has also defined CSR as 'actions by companies over and above their legal obligations towards society and the environment' (European commission, 2011). Due to the extensive array of CSR definitions, CSR perceptions also vary noticeably among companies (Lau, Hulpke & Kelly, 2007). One collective objective behind the CSR agenda is that managers need to focus on the interests of the entire society instead of focussing only on maximizing the shareholder wealth (Becchetti & Trovato, 2011).

## 1.2 Green Innovation

"Green Innovation is a synonym for the successful production, assimilation and exploitation of novelty in the economic and social spheres. It offers new solutions to problems and thus makes it possible to meet the needs of both the individual and society. As a driving force, it points firms towards ambitious long term objectives. In order to accomplish sustainable development, enterprises must redesign products and acclimatize new technology for processes. (Nidumolu et al. 2009). (Shrivastava, 1995) suggests that companies can differentiate their products, improve product quality and lower the cost of production through product and process innovations. Green innovation embraces of green product and process innovation, which relates organizational, social, or institutional changes contributing to a reduction of environmental burdens from the production process and products (Rennings, 2000; Chen et al., 2006). (Kemp and Pearson, 2008) define eco-innovation as the production, assimilation or exploitation of a product, production process, service or management or business methods that is novel to the organization (developing or adopting it) and which results, throughout its life cycle, in a reduction of environmental risk, pollution and other negative impacts of resource use (including energy use) compared to relevant alternative consumption (Jones et al. 2008). Green innovation can be classified into two main categories: Green product Innovation & Green process innovation. Green product implementation brings about environmental improvements to existing eco-products or the development of new eco-products (Cheng and Shiu, 2012). The Green process implementation involves the improvement of existing production processes or the addition of new processes to reduce environmental impact (Cheng and Shiu, 2012)."

### 1.2.1 Green Product Innovation

"Although a spacious range of terminology for green products which may perplex what constitutes a green product (Baumann et al., 2002), the characteristics of green product, in fact, can be communicated superficially through eco-labeling (Albino et al., 2009). Modification in the product design with the concern of the environment is Green product innovation.

With the increasing demand for green products, eco-labeling can serve as a gadget for stakeholders to recognize the environmental characteristics of products. Given the complex nature of the environmental impact of products along their life cycle, eco-labeling can reduce asymmetric information among stakeholders (Gallastegui, 2002; Pujari, 2006), help companies toward environmental sustainability, create awareness and enhance their competitive advantage (Pujari et al., 2003; Dangelico and Pujari, 2010)."

### 1.2.2 Green Process Innovation

"Green process innovation is used as a gadget to improve firms' environmental management process (Chen et al., 2006), allowing the industrial production process to grasp the environmental sustainability vision and the potentialities of eco-efficiency (Porter and Van der Linde, 1995; Hart and Ahuja, 1996). Issued by the International Organization for Standardization (ISO) in 1996, ISO 14001 has been progressively and increasingly adopted and has become the most recognized environmental management programs in the world (Nishitani, 2009). The implementation of ISO 14001 certification can bring about reduction in firms' environmental impact, improvement of operational efficiency and effectiveness (Jiang and Bansal, 2003; King et al., 2005), and signal to external stakeholders a firm's environmental commitment (Johnstone and Labonne, 2009; Nishitani, 2009). Stakeholder pressure attaches an important weight to firms' adoption of ISO 14001 (Delmas and Toffel, 2004; Johnstone and Labonne, 2009; Takahashi and Nakamura, 2010). In this study, ISO 14001 certification is used as a measurement of green process innovation."

## 1.3. Brand Promotion

Aaker (1991) have conceptualized brand equity as "a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers". Further on Aaker's work, (Keller, 1993) have conceptualized the behavioral thought of customer based brand equity (CBBE), which consists of two dimensions of brand awareness and brand image and is defined as the differential effect of brand knowledge of customer response to the marketing of the brand. Brand image comprises the attributes and benefits associated with a brand that make the distinctive brand, thereby distinguishing the firm's offer from the competition (Webster and Keller, 2004). Attributes are those descriptive features that characterize a brand, such as what a consumer thinks the brand is or has and what is involved with its purchase or consumption.

## 2. Research Methodology

### 2.1 Research Question

**RQ1:** Does Green Innovation influence company performance?

**RQ2:** Does CSR influence company performance?

### 2.2 Research Objective

1. To study the impact of Green Innovation on brand Promotion.



2. To study the impact of CSR on brand Promotion.
3. To study the impact of brand Promotion on company performance.
4. To develop a model encompassing green innovation & CSR with relation to brand Promotion and its influence on Company Performance.

### 2.3 Research Design

Existing research is an exploratory review of Green Innovation & CSR on corporate performance from brand promotion with detailed literature review and case analysis of various companies which contribute in Green Innovation and CSR to promote their brand and enhance their corporate performance. A conceptual model is framed as an upshot of the detailed literature review and case analysis. This framework will show a relational impact of CSR & Green Innovation on the on corporate performance through brand promotion.

### 3. Case Analysis

"Green Innovation and CSR have been described as a race without a finish line. Every organization wants to be in a race to achieve idealistic goals. Corporate Environmentalism as a series of small steps on a learning curve of green innovations and CSR in their products to create green consumerism."

#### 3.1 Bosch: Using CO2-Flag for Targets in Innovation Projects

The Bosch Group is a foremost global supplier of technology and services primarily in the areas of automotive and industrial technology, consumer goods, and building technology. The relevant sustainability activities of Bosch are coordinated by the "HSE Steering Committee" (Health, Safety, Environment and Fire Protection and Emergency Control). The Bosch Group strives to enlarge its "green" business activities. The growing relevance of climate protection and rising prices for energy are driving factors for the company strategy. One example is the Aersol Solar Energy a leading producer of solar cells. Two products of Bosch's trademark Junkers (Solar Inside, CerpurModul Solar) are innovations which are designed to raise the energy efficiency of heating systems and to integrate several components of the system. Bosch Thermotechnik has a process orientated innovation management. Different units such as product management, production, product development and quality management are integrated in the innovation process. Bosch offers a wide range of products that use renewable energies such as solar systems and heating pumps as well cutting edge conventional heating technologies.

#### 3.2 HP: Promoting Diffusion of Green IT Innovations

Hewlett-Packard offers a huge product range concentrating on "computing and workstations", "imaging and printing" and "storage, servers and software". Environmental protection is integrated in HP strategy and the design of environment program was initiated, which lead to HPs "environmental product life cycle" approach. HPs global citizenship strategy highlights three areas of activity: Supply chain responsibility; Climate and energy; Product reuse and recycling.

**The green data center:** The target is to reduce carbon emissions from data centers by 75% at lower investment cost. The energy use of data centers is subject of research from cradle to grave.

**Light instead of electricity:** Optical wires are 20 times as efficient as electrical wires made from copper. Companies may save Gig watts of electricity by this technology. The HP-Labs Photonic Interconnects Initiative aims at replacing all electrical cables in IT by optical wires.

#### 3.2 Lenze: Energy Efficiency as Core Competence of Innovation Management

Lenze is active in drive engineering. The CSR at Lenze focuses on environmental management, good working conditions and some support for cultural initiatives. Climate protection and saving energy have become more important since the last IPCC report. The link to product related R&D is well established. The innovation management initiated the energy efficiency program. The environmental department was integrated, but did not co-ordinate the program. The employees taking part in the project became a kind of energy efficiency champions and are key persons to spread knowledge throughout the company. In the division of responsibilities the tasks recyclability and avoiding hazardous substances are still in the responsibility of the environmental management, the improvement of energy efficiency of products is managed by innovation management.

#### 3.4 Siemens: Strategic Targets Developed from Environmental and Social Mega-Trends

Siemens started its business with products in the field of telecommunications and electricity supply. Since then, the company has diversified its product portfolio and has produced computers, household appliances and parts for the automotive industry among other things. Accordingly, in 2008 the businesses were reorganized into three sectors: industry (motors and drives, automation, building technologies, light (Osram); energy (power generation, power transmission and distribution); and health care (diagnostic imaging and therapy, laboratory diagnostics, hearing instruments). Due to the reshaping process of the corporate strategy on social and environmental Megatrends, and under the backdrop of corruption affairs, Siemens set up new management processes for CR. Tradition Siemens is very strong in research and development, which contributes to the competitiveness of the company. Therefore, it is not surprising that innovation became part of the corporate culture.

#### 3.5 3M: Pollution Prevention Pays

3M Company is considered to be an "innovative" company, introducing more than 500 new products each year with more than 60,000 products sold worldwide. 3M's Sustainability Activities: Pollution Prevention focuses on eliminating pollution at the end of the pipe rather than at the source. The focus of this Sustainability group is twofold: (1) managing the data, reporting and plans for environmental initiatives and sustainability (3P, climate change, and environmental targets for 2010); and (2) helping business units develop sustainability strategies, completing sustainability reporting



pursuant to Global Reporting Initiative (GRI) guidelines, and cataloguing of some 2000 sustainability product solutions to help customers reduce their environmental footprints.

**Life Cycle Management:** This protocol for new products reviews the risks for each potential product, including the environmental, health and safety risks, as well as the energy and raw material impact of a potential product's life cycle. The Life Cycle Management (LCM) process also looks at the opportunities associated with each new product at each stage of its life with suppliers, within 3M, and with customers.

**The Impact of Climate Change:** 3M completed its first corporate inventory of greenhouse gas (GHG) emissions in 2002. As part of the U.S. EPA's Climate Leaders program, 3M reduced GHG emissions by 60 percent from the 2002 baseline level between 2002 and 2007. The company achieved this reduction by making process modifications, including moving from solvent-coating to water-based types of coating, which reduced carbon dioxide emissions from the thermal oxidizers used to control the solvent emissions. 3M has also made significant reductions by controlling high global warming potential gases with emission control technology and eliminating them through process modifications. Within the last few years, many of 3M's customers have begun to seek ways to reduce their carbon footprint and decrease energy costs.

One recent example of a green product innovation at 3M was 3M's Super Sticky Notes.

### 3.6 DuPont: Using Science to Develop Sustainable Solutions

Classified as a chemical company DuPont offers a wide range of innovative products and services for markets including agriculture and food; building and construction; communications; and transportation. Examples of DuPont working areas include products for solar panels, Kevlar for bullet-proof vests and Nomex for the turnout coats that firefighters wear to protect themselves from high heat, and higher yield seed through Pioneer. DuPont traces its interest in environmental, health and safety concerns back to the company's beginnings. One of the strongest aspects of DuPont's sustainability program is its willingness to identify

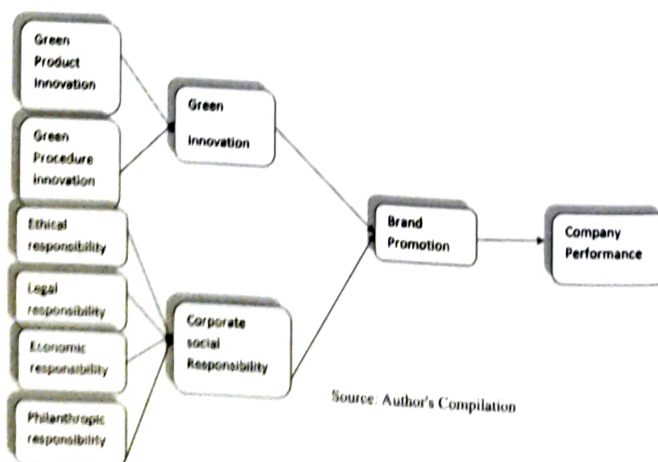
problems, set goals to solve those problems, and to track the company's success in meeting targets. The Public goal-setting had the effect of encouraging innovation because the company had to develop the tools to meet the targets. The goals have driven the company in a strategic direction, and these sustainability goals have encouraged innovation. Another component of CSR management has been a DuPont's Corporate Environmental Plan (CEP), a database that captures environmental performance (such as waste, emissions, GHGs, and energy) from facilities worldwide. One early example of a way in which DuPont used its awareness of environmental sustainability to innovate is the story of CFC-alternatives. A more recent example of a green innovation at DuPont is the company's success in developing renewable resources. In bringing CSR into the structures already in place, DuPont is able to get its decision makers to consider how each allocation of resources might impact the company's sustainability goals.

### 4. Result Discussion

As a consequence of detailed literature review and case analysis CSR exertion as a brand promotional tool to create awareness and trust in the mind of the customer same as with Green Innovation help to drag customer attention, loyalty & satisfaction which leads to enhance their corporate performance. As an outcome a model is framed and this shows the relational impact among these variables. From a theoretical perspective, the relation between CSR, green innovations, brand promotion and company performance is accepted, especially when the influence of CSR practices and green innovation on performance is considered. However, not enough empirical studies have been made regarding this relation. Limited researches have analyzed the direct impact of CSR and green innovation on company performance, few works have analyzed whether a mediating effect exists between CSR and firm performance through the brand promotion. This study aims to make a contribution in this direction.

Given this lack of empirical studies, this research has attempted to determine the impact of CSR practices and green innovation from a firm strategic perspective to better understand the links that might exist in the context of various companies.

### 4.1 Proposed Model



Source: Author's Compilation



The proposed model shows that Green Innovation is provoked by the Green Product Innovation and Green Process Innovation and CSR is induced by ethical responsibility, legal responsibility, economic responsibility and philanthropic responsibility which has a relational impact on brand promotions which further leads to firm performance (socially, economically & environmentally) in a positive direction by increasing their profitability and productivity in the Sustainable Green Market.

#### 4.1.1 CSR and Brand Promotion

Building brand promotion relates to customers' recall and recognition of the brand, thereby, increasing the level of recognition. Enhancing brand image relates to what the brand stands for in the mind of the customers. Branding is used to differentiate one product or service from another using a symbol, name or design (Pride et al., 2006, p.208). Branding can be used for customers to identify a product or service, making the introduction of new products into the market easier, whilst building brand equity, or the value a company can leverage off the brand. More importantly, whilst branding makes it easier for consumers to identify products, it also makes it easier to develop brand loyalty (Pride et al., 2006, p.209). Although brand loyalty will vary depending on the item and consumer, brand trust is a major component of loyalty; consumers have faith in the product or service they are purchasing. (Dunn and Davis, 2004) state one of the greatest challenges CEOs can address is managing consumer loyalty effectively. Whether trust can be affected by external actions of the company rather than the performance of the product or service is what this study aims to research.

#### 4.1.2 Green Innovation and Brand Promotion

**Brand Promotion** is the communication tools and tactics that a company uses to promote and market their product. There are many ways to communicate a company's product and benefits. Branding is the cornerstone of the communications platform. Green Innovation likewise involves promoting the material of a business. Green Innovation and promotion is simply about harnessing good ideas and seeing them through their development and implementation across a company. In particular, managing customer value is about understanding different value perspectives, components, and dynamics. Potential economic values play an important role in the various conceptualizations of customer values (Peppers & Rogers, 2005). Such ideas of promotions and green innovations can increase revenue, reduce costs, improve competitive advantage, improve company sustainability and inclusivity and in doing so lift staff productivity and morale through seeing their ideas come to firm by which they can create their customer value by meeting the need of the market and providing quality and Eco friendly product which leads to product value in the market.

#### 4.1.3 Brand Promotion and company performance

Performance is a critical concern for companies. The major drivers of firm performance are resources that are unique, invaluable, and difficult to imitate and replace (Holsapple and Wu, 2011). Excellent firm performance is likewise at the core of competitive advantage. A number of scholars provides

similar definitions of performance, but their criteria for measuring performance vary. Therefore, the research topic of a study should determine the performance measurement index to be used (Evans and Davis, 2005). The marketing literature indicates the advantages of pursuing green initiatives, such as larger financial gains and market share, high levels of employee commitment, increased firm performance, and enhanced capabilities. Environmentally responsible actions likewise increase customer satisfaction and firm value and reduce threats to the company, thus increasing firm valuations. However, promotional initiatives also yield negative stock returns. At the same time, cost savings may be obtained from green practices. Firms that reduce pollution and inputs that may cause waste would obtain cost-saving advantages. As supported by (Psomas, Fotopoulos, & Kafetzopoulos, 2011), the firms can enhance their environmental performance and business efficiency by implementing the ISO 14001 EMS. Among of the perceived benefits discussed in the literature are; enhance the good corporate image, reducing waste, minimizing cost, increase customer satisfaction, increase productivity, better goodwill, increase market share, and of course profitability.

Therefore, it can be concluded that the firm's financial and non- financial state is the most common dimension used to measure the overall organizational performance, which is highly influenced through green innovation and CSR which leads to Brand promotional strategies of the firm.

### 5. Conclusion & Recommendation

Following an exhaustive review and selected Case Analysis, it can be concluded that, the green Innovation and CSR contributes to the firms' profitability, competitive advantage and encourage a greener pattern of consumption among consumers. The green innovation, research constructs can be divided into green products and process, including the innovation in technologies that are involved in waste recycling, green products design and energy saving (Chen, Lai and Wen, 2006). Green innovation represents with the concept of environmental protection into the design of the products. The second construct is CSR. A considerable stream of scholarly research has emerged in the literature suggesting that corporate social responsibility orientation is the key to stimulating long-term stability, growth and sustainable performance in a dynamic and changing environment (Luo and Homburg, 2007; Gyves and O'Higgins, 2008; Prado-Lorenzo et al., 2008). The model indicates that green innovation & CSR can have positive effects on firm's overall performance economically, socially and environmentally. Well, in this scenario, many corporations has taken green innovation & CSR further and as a part of their company strategy just to create brand image, gain the attention of the consumers. More and more companies need to emerge and also facilitate to the environment. This paper can also be viewed as a source of new opportunities to grow in today's highly competitive global environment. Managers and practitioners can substitute green innovation and corporate social responsibility as a new strategic weapon for corporate performance in the emerging new level of market.



## 6. Future Implication

Green Market has been an emerging issue worldwide driving companies to continuously enhance their capabilities and implement innovative green practices to protect the environment and improve business performance. This study provides a basic framework of information and a conceptual model to researchers for future empirical studies. This study also provides a basis to the managers and practitioners to revamp their strategies in the line with CSR & Green Innovation. Despite Green innovation and CSR from scholars and policy makers, several fundamental issues in green marketing and CSR remain under investigated.

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