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# Green initiatives: a step towards sustainable development and firm's performance in the automobile industry



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#### ABSTRACT

The automobile sector is rapidly increasing its market share worldwide in recent years. It is because of various business strategies by automobile manufacturer such as more focus on small cars and fuel-efficient cars having a low market price that are targeted to capture the maximum market. But due to increasing market share of the automobile sector there are several environmental issues are also arising such as carbon emission, global warming, etc. In such a scenario, automobile manufacturers are facing dual pressure one, to save the environment and another is to maintain the performance of the firm in the long run. The performance of the firm can be judged on the basis of financial, operational and marketing capability of the firm. This paper develops an approach towards the adoption of the green initiatives at the firm, and also tries to build a relationship between the performance of the firm and sustainable development through the adoption of green initiatives. The paper would discuss various green initiatives such as green marketing, green supply chain management, green innovation, etc. which firms are adopting. The study would focus on the facts and opportunities of green initiatives for the success of the firm as well as sustainable development. The paper is based on the exploratory research, and extensive literature survey has been done to bring the findings of the study.

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#### 1. Introduction

In recent years, the automobile market is increasing rapidly not only in Europe and America but the rest of the world. Due to the rise in the market demand worldwide, automobile manufacturers are continuously involved in the production process, and reaping high sales. On the other hand, these manufacturers are facing dual pressure. The first one is to comply with the environmental norms of the country, for the sustainable development and secondly to maintain the performance of the firm in the long run. Controlling carbon emission is the biggest challenge for these automobile manufacturers. These firms are facing cost and complexity pressure created by the tightened environmental norms, and the firms are much more investing on R&D to develop products that can less or no harm to the natural environment (McKinsey and Company, 2013). In developing a country like China, it can be observed that it is one of the biggest automobile markets and is also facing these

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pressures (Zhu et al., 2007). In such a scenario, the global auto market is planning to escape from this situation so that the performance of the firm and the target of sustainable development can be achieved. Firms are moving on and thinking beyond conventional functions and adopting green initiatives such as green innovation, eco-production, green supply chain management, etc. to develop and implement such strategy, (Ar Ilker, 2012). Due to hike in the global fuel prices and increasing carbon emission, the automobile sector is a very significant concern both for customers and government (KPMG, 2010). The performance of the firm, especially in the automotive sector, is mainly based on the fuel prices, environmental issues, etc. . The customer does not buy those products that consume more energy in developing countries like India & China. On the other hand, if they emit carbon they have to pay more may be in the form of extra fee or penalty depending upon the regulation of a particular country. The US currently accounts for 18 percent of the total global carbon emissions and planning to decline at about 15 percent till 2035 (Congressional Budget Office, 2013). When firm bears the extra tax of the carbon emission, it directly goes on to the customer's pocket and later on the customer start avoiding such kind of purchase and also, let other well-wisher not to buy such things (Matsukawa, 2012). Here the

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market share of such a product starts declining, and the need arises of adoption of green initiatives that can contribute to the performance of the firm and sustainable development. Green product innovation is positively associated with the performance of the firm as people are much more focused on environmental issues and when they buy an eco-product they can take the advantage of both cost and environmental protection (Lin et al., 2013). The huge industrialization in many developed, and developing countries shows positive sign of economic growth. But it is an environmental threat also, and hence there is a need for environmental business strategies, which not only develop the company but also move towards sustainability (KPMG, 2010). In a recent survey it is found that ninety-two percent of the buyer think about fuel efficient vehicles and seventy-three percent of the customers consider about eco-friendly products, whereas around forty-seven percent of the customer want a car that is based on alternative fuel technologies (KPMG, 2014). There are many world's major automobile players who are investing huge amount in research and development, such as leading automobile manufacturers as Honda, Toyota, GM, Ford, Daimler-Chrysler, Suzuki, Hyundai, Tata, etc. In 2008, North American Environmental Report, Toyota, the car manufacturer, states that they spend an average of nearly \$1 million an hour on research and development to develop the cars and technologies of the future (Brecard, 2011). Apart from R&D efforts these automobile firms also involve in other green initiatives such as Green Supply Chain Management (GSCM), so that they can reduce the cost and be a part of sustainability programs by keeping better firm performance. GSCM is the prominent feature of leading automobile manufacturer and it emphasis on life cycle costing, asset efficiency, and waste reduction and service innovation and recycling. GSCM stimulates product and service innovation, improves asset utilization, and deepens customer relationships and service levels through a shared focus on reducing waste and cost (Van den Broek and Van den Broek-Serlé, 2010). GSCM not only reduce the waste and efforts but also encourage the performance of the firm. As it also help in cost reduction through reverse logistics and maintains the efficiency of the firm especially in the field of supply chain management in a sustainable manner (Chan et al., 2012b). Some of the automobile firms are also focusing on green marketing. According to the American marketing association, from the environmental point of view, green marketing is, "The efforts by organizations to produce, promote, package, and reclaim products in a manner that is sensitive or responsive to ecological concerns". Green marketing evolves from the developed countries in Europe and America, due to various strict environmental rules and regulation for the industries. In this scenario firms have started to develop a green marketing for the product which includes product planning, packaging, green advertising, green pricing, and eco-labeling in the greenest way (Lampe and Gazda, 1995). Green marketing is also known as ecological marketing or sustainable marketing etc. (Polonsky and Rosenberger, 2001). Many automobile firms started working on it and as the consumer behavior is also a concern for the environment and they often keeps the environment in top priority while purchasing any product. Adoption of green marketing is a favorable indicator for firm performance many times, and it also contributes to the sustainable development (Chan et al., 2012a). But it is also true that sustainability is not a short-term goal that can be measured easily, therefore, what factors contribute more to the sustainable development is very difficult to claim. On the other hand studies that have been taken place on this issue indicate that there is a definite relation between green marketing and sustainable development (Lin et al., 2011). But when we talk about, performance of the firm and its connection with these green initiatives, it's a matter of a systematic research as adoption of green initiatives also another investment for the firm and it can be treated as an extra burden and may be recovered by selling their products in costlier manner (Penna and Geels, 2012). Those customers who are price sensitive like customers those who reside in developing countries, like India and other neighboring countries, may ignore such product due to its higher price. In this case, it is paramount to understand that whether the consumer behavior is changing toward paying a higher price for the product, which is eco-friendly or safer for our environment (Chan et al., 2012a). In the context of the automobile sector, if we see the Indian consumer, they are sometimes ready to pay a bit higher price, if their vehicles are going to save some money in terms of fuel, or for the purchase of alternative fuel option such as LPG (Liquified Petroleum Gas), CNG (Compressed Natural Gas), and Battery powered etc. Therefore, if we see the recent trends in Indian automobile, we find that most of the firms much more focusing on the eco-friendly cars and attracting their customers successfully. Maruti Suzuki, Hyundai, Mahindra & Mahindra and many more companies in India are focusing on the production of greener cars (Shrikanth and Raju, 2012). But still there is no definite answer to the question, are these customers think about the environment or they simply think about their pockets. According to research, it is said that if the product is environmentally safe people are ready to pay higher prices (Essoussi and Linton, 2010). But it is also a matter of research to know that for which product category, people can pay a higher price. Because when we talk about automobile, people pay higher only if the product is going to give them back in terms of savings (Sierzchula et al., 2012). Now it is important to consider that, automobiles are the primary source of carbon emission, and hence there is more strict governmental pressure on automobile firms for controlling carbon emission. These firms are continuously involved in reducing it, but the cost is also an obstacle many times and firms are puzzled because they have to minimize the product cost due to cut throat competition. These firms are involved in controlling carbon emission through investment in R&D due to governmental, environmental and social pressure, and in the middle of that they also have to maintain the firm performance (KPMG, 2010). Here the purpose of this paper is to analyze the relationship between firm performance and green initiatives on the basis of extensive literature and also to know the impact of green initiatives on the sustainable development. There are various authors across the globe, who have critically worked on this issue, and given their best results. In the same way, we have compiled all these research papers and analyzed the problem, to bring some more meaningful findings.

#### 2. Review of literature

Approximately hundred research papers have been reviewed and mostly were chosen after the year 2010 and onwards so as to bring the novel outcomes of the paper.

#### 2.1. Firm performance

Firm performance is mainly based on various functions of the organization, such as production function, operational function, and marketing function, etc. Nowadays firms are facing different pressures that affect these organizational functions (Polonsky and Rosenberger, 2001). Market performance, financial performance, learning and reinvestment performance are some of the major performance outcomes of the firm (Morgan, 2012). Manufacturing in emerging industrial nations, such as India, Indonesia, Malaysia, Philippines, Thailand and Vietnam, has grown significantly in recent years. However, this has come at an environmental cost. Manufacturers in these nations are facing increasing pressures to produce products in an environmentally sustainable manner, particularly those who compete in the global market and have to

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