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**Title: GREENING THE SUPPLY CHAIN: A COMPARATIVE STUDY**

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This thesis is meant for the comparison and adoption of green status in the industry and particularly the automotive industry in India. A lots of research work has been done in the field of green supply chain management. Researchers have tried to put forth many theories and relations in support of adopting “green practices” in the manufacturing sector. The term “green” has been defined for so many times and types that it has resulted in creating a sort of confusion among its adopters. Since the prime goal of any business setup is to earn profit, it had been anticipated that by adopting green practices, one will be able to enhance the brand image resulting in more profits. However, several cases have been reported where despite adopting green practices, the company suffered huge losses. This situation motivated to undertake the current research work and look deep into the problem to find some viable solution so that the green practices can be adopted in a better way. A research gap was identified while comprehensively reviewing the literature and accordingly it was decided to focus on the adopted business models by the organizations and work on it to present a successful “Green Business Model” for the organizations. A literature survey in this regard revealed the four basic components of the business model that can be found in any organization. Similarly a literature review of GSCM helped in identifying thirty two different factors that either act as enabler or barrier in the adoption of green practices across different organizations. Help from literature and expert opinions were taken to group these factors in their respective components.

A questionnaire was prepared to gather information from the automotive industry and was circulated amongst industry persons working at different capacities. The collected data was analyzed using EALIMDEP, MINITAB and SigmaPlot softwares in three different stages. Analysis of data using these softwares resulted in the formulation of mathematical utility relations that defined the usefulness of the identified factors to their respective components. The collected information was analyzed in three different stages: The first stage determined the auto-correlation among the chosen factors. The second stage established the two dimensional utility model and the third stage established the three dimensional utility relation among the analyzed factors.

The last two stages of analysis were extended to obtain the “Green Business Model” that was our goal to achieve. In this, first the business model components were paired together to obtain the indifference curves and then they were analyzed in three dimensional form by integrating the business model into the regression. The equations obtained in this analysis were combined together to reach the final utility model that can be seen in Equation 10.18. After getting all these five utility models for the business model and its components, a validation has been carried to establish the credibility of the obtained models. For this, an expert validation is done by taking comments from industry persons followed by statistical validation. This validation included the calculation of “Adjusted  $R^2$ ” values for these equations and if found satisfactory, the model is considered to be valid for that number of cases. Based on these conclusions, a case study limiting analysis to Product Innovation only is performed. The analysis shows that the existing scenario in organizations and particularly in automotive sector is deviated considerably in certain cases as compared to the proposed model. This comparison showed that there is a need of practical model such as the proposed one that can be implemented in industries to improve the situations.