The Impact of Implementing Green Supply Chain Management Practices on Corporate Performance

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Abstract— Global warming, carbon emanations and the reduction of natural properties have indicated important deviations in the way establishments produce and send products and services. Within this situation the greening of supply chains has grew the consideration of experts in many nations. In some nations, for example, carbon taxation has been presented as a compulsory requirement. However, the execution of green supply chain management observes and the effect of these observes on corporate performance are unmoving in a promising stage. The India faces many problems including increased energy consumption, the reduction of natural resources and the generation of important waste and Green House Gas (GHG) emanations. Certainly, India total GHG emanations increased by 120 million tCO2e between 2008 and 2013 (MoEW, 2016). In addition electricity ingesting, which rest mainly on fossil fuel for its generation, has increased at a rate of 8% yearly throughout the same period. Occupational establishments, through their operational activities, are responsible for a large proportion of these environmental challenges. Consequently, the main aim of this research was to explain green supply chain management (GSCM) follows and their relationship to corporate performance (CP). The main research objective was to answer the question: What is the effect of implementing green supply chain management practices on corporate performance? The study exactly surveys the effect of implementing an established of green supply chain management practices; Like eco design, green purchasing, environmental cooperation and reverse logistics, on dissimilar extents of corporate performance. This contains environmental, operational, economic and social outcomes. The procedure used in this research is mainly empirical in nature, but, following a survey employed to ollect quantitative data from ISO 14001 certified and none certified manufacturing firms in the India. This study increases to the frame of information by finding barricades to the implementation of a number of green supply chain practices. For example; this study finds barricades to implementation of a number of green supply chain practices while accent the value of a varied methods approach in green supply chain research. It subsidizes to business practice by offering a stakeholder considerate of the relationship between the implementation of different green supply chain practices and corporate performance, including the level of implementation that may find the most suitable GSCM practices needed to influence the optimum performance level. A sequence of recommendations are also providing for organizations concerned in refining their footprint and their environmental performance while implementing green supply chain practices.

Key words: Green Supply Chain Management (GSCM), Corporate Performance (CP)

I. INTRODUCTION

In this chapter begin by presenting general facts regarding the Green supply chain management (GSCM). then the aim of this thesis is provided and the way we've restricted our analysis. At the finish of the chapter present the character of the thesis.

This thesis describes a Green supply chain management (GSCM) follows and their relationship to corporate performance (CP). A survey is conducted to collect the measuring data for the research. This study uses principle component analysis (PCA) and Reliability and Validity Test (Cronbach's α & Guttman λ), Linear Regression Analysis, Multiple Regression Analysis using survey data using statistical software SPSS.

This research also studies the arrangement of GSCM and controlling practices and investigates their effect on environmental, economic and impalpable performance using occupational strategy as a control variable. The dimensions of business strategy considered are low cost leadership, and quality and time-based strategy. The assessment of impalpable performance contains perception measures of mutually internal (employees) and external (customers and suppliers) shareholders. This study, therefore, makes a significant contribution to on-going research that relate green practices/regulatory practices to performance outcomes by the inclusion of a dissimilar set of conclusions within the situation of occupational strategy. Moreover, data was composed from a developed nation with an growing global occupational presence but of which very slight GSCM research has been carried out.

A. Limitation

This study is a Green supply chain management (GSCM) their relation of corporate performance created on employee data survey.

- The limitation of this research is that its output was the discovered elements, but it did not cover the implementation of this model in manufacturing firm, so any basics may be absent.
- Initially the thought was to interview more manufacturing industries and make a collective response but due to less time span the focus of the study was narrowed of industries in India.
- The research was focused on how the companies practice their product life cycle process and what are the lean waste parameters considers in their life cycle and how they dispose their green wastes. For the better understanding of life cycle only one product from each industry is taken for exemplifying.

- The thesis would not result in explicit actions rather it suggests possible solutions for the problems identified in the industries. The ideas discussed mostly on green supply chain concept and tools.

B. Objective

- To identify the factors that could influence motivation in green supply chain management practices towards organization performance Specific Objectives of Study.
- The vital objectives are following as -
- To identify effect of legitimization motivation in green supply chain management practices towards organization performance.
- To find out effect of comparison motivation in green supply chain management practices towards organization performance.
- To identify effect apprehension for atmosphere motivation in green supply chain management practices towards organization performance.

II. Review of Literature

Approximately correlated literal materials have been collected. Maximum of the literature material is consisting of research papers from distinct journals, the others are from books. In this chapter 21 studies papers from one-of-a-kind journals were decided on, table 2.1 suggests the short information of these studies papers. The studies papers from specific sources provide various perspectives to the studies questions. It's Miles Interesting. To discover how researchers, do no longer continually preserve the identical concept even on a same difficulty. Furthermore, some limited books are referred to be able to get a scientific definition.

The Research papers from different sources provide various perspectives to the research questions. It is interesting to find out how researchers do not always hold the same idea even on a same issue. Furthermore, some books are referred in order to get a scientific definition. practices of Green supply chain management (GSCM) is presented in Table 2.1. It included Green supply chain management (GSCM) definition, Survey Method, Reliability & Validity (Cronbach Alpha, Guttman Lambda), Linear Regression Analysis, Multiple Regression Analysis etc. Green supply chain management (GSCM) is not using above methodologies in unison but mostly these are used individually. It may be found that, if it utilizes the combination of Green supply chain management (GSCM), Survey Method, methodologies it will get better results. The next step is to identify that what elements influence the performance of the good practice of Green supply chain management (GSCM).

A. Gap In Literature

As we know that Green supply chain management (GSCM) is most important for every category Industries. Green supply chain management (GSCM) is very inspiring and very problematic task of every Industries.

"Green supply chain management (GSCM)" used a survey methodology assuming green supply chain management actual practices in manufacturing industries. According to this methodology respondent collect of Industries by the help of survey and data collect to the help of respondent by questionnaire through measure the level of GSCM practices. This thesis proposes ideas by combination of methodologies like Survey Method, Reliability and validity test (Cronbach's α & Guttman λ).

As a result, this thesis contributes to industry practice by growing our considerate of which magnitudes of GCSM practices have a positive or direct effect on performance as well as how those positive effects can best be proficient within an organisation. The research methods employed also provide guidance for researchers who seek to gain a deeper considerate of the drivers of organisational performance. That is, a mixed methodology can provide a richer, more holistic view of where the investment in GSCM practices can provide a return on investment and how that return on investment might best be realised. From a theoretical stance, the research has also confirmed that the internal and external environment, along with organisational culture and the local context (in this case local regulation and occupational practices in the India), has an effect on how GSCM practices are executed and how this impacts corporate performance.

III. Problem Formulation

As far as Indian manufacturing industries are measured, their anxiety to atmosphere is very short and the information on GSCM is also significantly less. The industries pollute the atmosphere to most extent knowingly and unknowingly, if knowingly they pollute what would be the reason behindhand it and why they are forced to do so. The industries experiences lean wastes in their manufacturing process, so how could they identify the lean wastes in their process and eliminate it. In this thesis the researcher were 100 respondent selected and prepare 44 questionnaire. The items were isolated on the base of logical reasoning and clubbed to form dimensions for which the reliability tests were done and the Cronbach Alpha & Guttman Lambda values were ranging from 0.7 to 0.8 crosswise five dimensions. The questionnaire used to collect the data consists of 44-item scale to measure the employee importance degree of the practices of GSCM. The scores of each item range from, for "1" "Highly Dissatisfied" and for "5" "Highly Satisfied". on a five-point Likert scale. the researcher were analysed using various statistical tools and five-point Likert scale.

This study solve by the help of IBM SPSS Statistical Software version23 and using various Tools & Method for Analysis given following us :-

- Survey Method
- Reliability and Validity Test (Cronbach's α & Guttman λ)
- Linear Regression Analysis
- Multiple Regression Analysis

IV. Collection of Data

In the present study, The present study is largely based on the data have been collected from 100 employee in manufacturing industries in the course of interview with the help of employee's questionnaire through survey method well-organized Interview Schedule. The survey questionnaires included three sections. The first section

investigated the demographic profile of respondents and the second section included twenty statements/variables about the green supply chain practice. The twenty-four statements represented four green supply chain practice including corporate performance.

V. AREA OF STUDY & PERIOD OF THE STUDY

The Area of study is manufacturing industries in india. The required primary data have been collected through a survey method on employees from March 2017 to December 2017.

VI. ANALYSIS

A total 100 questionnaires was used in the study and thus providing a very good response rate of 100%. Personal efforts were made in order to collect the data along researcher. As the questionnaire was developed in English and thus to get an accurate response researcher assist the respondents in case of any confusion about the question. Major reason for selecting the industries are available due to near home of researcher. The demographic of the present study is presented as below Table 6.

The demographic characteristics of the respondents are shown in table 6. The gender distribution of the respondent groups was quite uneven, with 76 percent male respondents and 24 percent female respondents. The model age group of the respondents was 20- 30 years (42 percent), followed by 30- 40 years (32 percent), 40 and above (16 percent), and below 20 years (10 per cent).

Sr. No.	Variable	Particulars	Frequency	Percentage %
1	Gender	Male	76	76%
		Female	24	24%
2	Age	Below 20	10	10%
		20-30	42	42%
		30-40	32	32%
		40 & above	16	16%
3	Education Level	Ph.D.	6	6%
		Master's Degree	10	10%
		Bachelor's Degree	24	24%
		Others	60	60%
4	Job Position	Managers	5	5%
		Production Manager	10	10%
		Engineers	25	25%
		Others	60	60%
5	Experience	1 to 5 Years	55	55%
		6 to 10 Years	25	25%
		11 to 15 Years	15	15%
		16 to 20 Years	5	5%

Table 6 Demographic Characteristics of the Respondent (N=100)

VII. RESULT

A. Reliability and Validity Test

Statistical Analysis: To measure the reliability of the instrument Cronbach Alpha & Guttman Lambda was calculated as reliability and validity of the instrument which plays a significant role while performing the statistical analysis and consistency in the results and reliability of the data. Stated that a value of Cronbach Alpha & Guttman Lambda greater than 0.70 is acceptable. This research is aimed to explore the relationship among the GSCM and CP. Five point Likert scale from highly dissatisfied "1" to highly satisfied "5" was researcher in the present study. Reliability and validity of the data was measured using SPSS Statistics Analysis V23 an effective and most commonly used technique in most of the management.

Sr. No.	Variable	N	Items	Mean	S.D.
	Independent				
1	Eco-Design	100	4	9.9500	3.92190
2	Green Purchasing	100	5	12.6000	4.48116
3	Environmental Cooperation	100	8	22.3900	6.50236
4	Reverse Logistics	100	3	6.8600	3.00175
	Dependent				
5	Environmental Performance	100	6	16.2300	5.25291
6	Economic performance	100	7	16.2300	5.25291
7	Social Performance	100	5	12.3800	4.70929
8	Operational Performance	100	6	14.9100	5.53245

TABLE 7.1 TOTAL DESCRIPTIVE STATISTICS DATA

B. CRONBACH'S ALPHA (α) TEST & GUTTMAN LAMBDA (λ) ANALYSIS TEST

Cronbach's Alpha (α) & Guttman Lambda (λ)	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Result Indication Table

1) Test – 1

Construct	Dimension	Items	Cronbach's α	Internal Consistency
Green Supply	Eco-Design	4	.729	Acceptable
	Green Purchasing	5	.705	Acceptable
	Environmental Cooperation	8	.733	Acceptable
	Reverse Logistics	3	.706	Acceptable

Chain Management	Environmental Performance	6	.718	Acceptable
	Economic performance	7	.787	Acceptable
	Social Performance	5	.755	Acceptable
	Operational Performance	6	.792	Acceptable

Table 7.2 Cronbach's Alpha (α) Result

Reliability Statistics	
Cronbach's Alpha	N of Items
.964	44

Overall Items Cronbach's Alpha (α) Result

Hence this Table result shows the Overall value α = 0.964 is Excellent then this Test result shows the is satisfied.

2) Test -2

Construct	Dimension	Items	Guttman λ	Internal Consistency
Green Supply Chain Management	Eco-Design	4	.729	Acceptable
	Green Purchasing	5	.705	Acceptable
	Environmental Cooperation	8	.733	Acceptable
	Reverse Logistics	3	.706	Acceptable
	Environmental Performance	6	.718	Acceptable
	Economic performance	7	.787	Acceptable
	Social Performance	5	.755	Acceptable
	Operational Performance	6	.792	Acceptable

Table 7.3 Guttman Lambda (λ) Result

Reliability Statistics		
Lambda	1	.942
	2	.973
	3	.964
	4	.977
	5	.952
	6	.
N of Items		44

Overall Items Guttman Lambda (λ) Result

Hence this Table result shows the Overall value α = 0.964 is Excellent then this Test result shows the is satisfied.

C. Linear Regression Analysis Result

Regression also gives you an R squared value, which for this graph is 0.702. This number tells you how good your model is. The values range from 0 to 1, with 0 being a terrible model and 1 being a perfect model. As you can probably see, 0.7 is a fairly decent model so you can be fairly confident in your weather prediction and the Durbin Watson value needs to be above 1.0.

Sr. No.	Variable			R Square	Durbin-Watson	Status
1	Eco-Design (EC)	>	Environmental Performance (EP)	.751	1.818	Supported
2	Green Purchasing (GP)		Economic Performance (EP)	.182	2.442	Supported
3	Environmental Cooperation(EC)		Social Performance (SP)	.994	2.014	Supported
4	Reverse Logistics (RL)		Operational Performance (OP)	.730	1.873	Supported

Table 7.4 Linear Regression Analysis Result

D. Multiple Regression Analysis Result

The t-statistic value for only one independent variable (EC, GP, EC, RL) is less than 0.05, therefore it is significant as highlighted, which in turn means that it helps in predicting the dependent variable. The t-statistic value for (EC, GP, EC, RL) is greater than 0.05, therefore these are not significant and in turn can't help in predicting the dependent variable.

Sr. No.	Variable			B	t-statistic value (Sig.)	Status
1	Eco-Design (EC)	>	Environmental Performance (EP)	.340	.018	Supported
2	Green Purchasing (GP)		Economic Performance (EP)	.228	.001	Supported
3	Environmental Cooperation(EC)		Social Performance (SP)	.088	.000	Supported
4	Reverse Logistics (RL)		Operational Performance (OP)	.365	.014	Supported

Table 7.5 Multiple Regression Analysis Result

VIII. CONCLUSION

There were some limitations in this study. For example, the study was limited to firms in the manufacturing sector; however, this sector was specifically selected because the manufacturing industry in any region accounts for a large proportion of the environmental impact and manufacturing is also responsible for the depletion of natural resources. The study was also limited to manufacturing industries in the India because the research purposefully intended to gain an understanding of green supply chain management practices

among India businesses and sought to discover how these practices relate to different aspects of corporate performance. This was seen as significant in a rapidly growing economy and particular because the India is considered to be a role model for other India cooperation council (GCC) countries who seek to diversify their economies. The sample size was also lower than expected due to a low response rate; however, the data was enhanced by the addition of the qualitative research phase.

Additionally, the study did not differentiate between early and late adopters of green supply chain practices which was due to difficulties in capturing this information. Further research may provide additional insights into how the different dimensions of corporate performance impact over time and how the outcomes of implementing green practices are realized. Finally, having eight respondents only within the qualitative part might be another limitation, however, this was due to the few number of organizations that provided their contact details in the survey and were interested to be interviewed. Future studies may improve response rate in this region by offering a summary of the survey results to interested respondents or offering a financial incentive such as I Pads won through a draw at the close of the survey.

IX. Future Scope of the Research

Extending this study to other industrial sectors in the India may allow researchers to understand how the performance of other firms is impacted by the implementation of green supply chain management practices and how they cope with mounting environmental issues either in the construction sector, transportation sector or other environmentally sensitive sectors.

As such, this study lays the foundation for future research in other sectors as well as therefore looking at its firms' position on the environmental radar and the different green practices implemented in that country, would be valuable. Further studies might also investigate the impact of EMS certifications such as ISO 14001 on different corporate performance dimensions to assess whether such certification plays any role in improving their environmental performance as well as any links between GSCM practices.

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