United International Journal of Multidisciplinary Research
ISSN: 3048-6726 (UIJMR) Impact Factor: 6.934 (SJIF)
An International Peer-Reviewed and Refereed Multidisciplinary Journal
www.uijmr.in Vol-3, Special Issue-1 ,2026

Study of Performance of Supply Chain Management In Small And Medium Scale Companies

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Abstract:

This paper examine that India is the fastest growing markets in the world. Globalization of businesses, infrastructural limitations, increasing uncertainty of supply chain networks, has forced Indian enterprises to look beyond their four walls. They face issues related to choosing and working with the right supply chain partners (suppliers, customers and logistics service providers), fostering trust between them and designing the right system of gauging performance. Thus Supply Chain Management (SCM) plays vital role for the performance of the enterprise. SCM practice draws heavily from the areas of industrial engineering, systems engineering, operations management and logistics management procurement, information technology, and marketing and strives for an integrated approach. Marketing channels play an important role in supply chain management Current research in supply chain management is concerned with topics related to sustainability and risk management, among others, whereas the "people dimension" of SCM, ethical issues, internal integration, transparency/visibility, and human capital/talent management are topics that have, As competition in the 1990s intensified and markets became global, so did the challenges associated with getting a product and service to the right place at the right time at the lowest cost. Organizations began to realize that it is not enough to improve efficiencies within an organization, but their whole supply chain has to be made competitive. The understanding and practicing of supply chain management(SCM) has become an essential prerequisite for staying competitive in the global race and for enhancing profitably. This paper provides information about SCM in small and medium enterprises. Research is related to influence of supply chain practices (SCP), Information sharing (IS) and Customer Relationship Management (CRM) on Output Performance (OP). Results of the said research is used to understand strength of relationship of three independent variables on output performance. The paper primarily focuses on the status of four major supply chain dimensions.

Keywords: Supply Chain Management, Logistics, Information Sharing, Performance,

Introduction

In India, Supply Chain Management (SCM) has gained significant importance due to opening up of domestic economy as a result of globalization. A supply chain can be described as a series of activities that may be involved in different processes to produce products and services for ultimate customers, both upstream and downstream. A supply chain, therefore, is made up of a number of companies including suppliers, distributions and the end-customers. Supply Chain Management (SCM) is a way to manage the total flows of a distribution channel from supplier's level to production, distribution and ultimately the end customer. Indian SCM service providers are also evolving rapidly.SCM as a concept and business function is evolving faster in Indian companies. In this context, the current research study has been undertaken to understand the percolation of SCM within the Indian academia and industries.

Literature Review

Ellar and Cooper (1990) has discussed in their paper about Issues related partnerships and third- party relationships. These authors investigate and categorize the different roleswithin a supply chain. The paper also discusses the risks of partnerships in terms of economic, managerial, and strategic issues. The study of cooperation and collaboration within the supply chain is presented as a key issue to increase efficiency and improve performance. Nevertheless, these authors argue that achieving high levels of integration is extremely difficult in practice.

Cooper *et al.* (1997) A discussion about integration is placed in design. These authors suggest that the supply chain is an inter-organizational process, aiming at an overall optimization. In a strategic sense, this discussion shifts the paradigm from a local optimized strategy towards an integrated and effective global performance. The differences between logistics and supply chain management are positioned in this study.In this context, these authors highlight that the operation of logistics processes constitute the basis of supply chains at operational level. Logistics processes are usually grouped under three basic dimensions, namely procurement, production, and distribution. A framework for supply chain management is presented. Such a framework comprises business processes, supply chain structures, and management components. The feedback provided by the processes is assessed by metrics, and such measures provide the basis for further improvement plans.

Sochi-Levi et.al.(2000) has discussed in their study about conceptualization regarding supply chain management design which is placed in terms of building strategic alliances and long-term relationships. In addition, they also highlight the implications of design in operation and improvement within the SC environment. Tools and techniques are presented for managing logistics. They also mentioned that such techniques are discussed in terms of inventory, demand, warehouse management, information technology, among others. A brief discussion about supply chain metrics is placed. The most common measures a represented and supply chain benchmarking is introduced.

Objectives of Study

1. To examine the nature and strength of correlation between SCP, IS, CRM and OP.
2. To study difference in all four variables between small and medium size companies.

Gap Analysis: Performance of SCM can be measured by many parameters such as Cost, Efficiency, Output performance etc. This paper is presented considering only output performance. Gap of study is SCP, IS and CRM are only three independent variables are considered. Analysis is also based on only dependent variable OP.

Research Methodology

For this research primary data is used. Information is collected through structured questionnaire. Employees of having active participation in decision making and monitoring supply chain are considered as respondents. Information is collected from 50 respondents in all. Stratified random sampling is used to collect the primary data. There are three independent variables, namely supply chain practices (SCP), Information sharing (IS) and Customer Relationship Management (CRM). There is one dependent variable 'Output Performance' (OP):

Results And Discussion

Information is collected from 50 respondents, out of these 13 respondents belongs to small companies and remaining 37 belongs to medium size companies.

Reliability of scale is tested using Cronbach Alpha test. For 50 respondents and in all 32 questions Alpha value is 0.719. It is greater than required value 0.70. Therefore, Cronbach Alpha test is satisfied and scale is reliable.

To study strength of relationship Karl Pearson's correlation coefficient is obtained and presented as follows.

	OP	SCP	IS	CRM
OP	1	.462**	.446**	.665**
SCP	.462**	1	.289*	.322*
IS	.446**	.289*	1	.261
CRM	.665**	.322*	.261	1
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Above table indicate that correlation value between Output performance and Supply chain practices is 0.462. There is positive and significant correlation between these two variables. Correlation between Output Performance and Information sharing is 0.446. This also indicates positive and significant correlation between two variables. For third pair correlation between output performance and customer relationship management value is 0.665. This is also positive and significant correlation between two variables.

Since all three independent variables have significant impact on output performance. Linear regression is obtained. Results are as follows.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2953.634	3	984.545	19.804	.000[b]
	Residual	2286.909	46	49.715		
	Total	5240.542	49			
a. Dependent Variable: OP						
b. Predictors: (Constant) SCP. IS. CRM						

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-74.993	18.763		-3.997	.000
	SCP	.333	.159	.221	2.091	.042
	IS	.446	.189	.244	2.355	.023
	CRM	1.006	.199	.531	5.068	.000
a. Dependent Variable: OP						

Above table indicate that coefficient for SCP is 0.333, for IS is 0 .446, for CRM is 1.006 and constant is -74.993. All are significant in nature. Therefore, linear equation of regression of OP is as follows.

OP = -74.993 +0.333 *(SCP) + 0.446 *(IS) + 1.006 *(CRM)

Above equation can be used to obtain output performance of a company if SCP, IS and CRM value are known.

For the study of second objective ANOVA is obtained and F-test is applied.

ANOVA							
		Sum of Squares	df	Mean Square	F-cal	p-value	Result
Supply Chain Practices	Between Groups	229.626	1	229.626	5.308	.026	Rejected
	Within Groups	2076.374	48	43.258			
	Total	2306.000	49				
Informationshar ing	Between Groups	19.551	1	19.551	.606	.440	Accepted
	Within Groups	1547.796	48	32.246			
	Total	1567.347	49				
CustomerRelati onshipManagement	Between Groups	107.780	1	107.780	3.834	.046	Rejected
	Within Groups	1349.220	48	28.109			
	Total	1457.000	49				

For comparative study of supply chain practices (SCP) between small and medium companies F-test is applied. Calculated p-value of F-test is 0.026. It is less than standard p-value 0.05 (5% level of significance). This indicate there is significant difference in SCP between small and medium companies. Finding is SCP for small companies score is 80.61 per cent as compare to 75.72 per cent for medium companies. Conclusion is CSP are significantly better in small companies.

For the variable information sharing (IS) p-value of F-test is 0.440. It is greater than 0.05. Therefore, there is no significant difference in IS of small and medium companies. This indicate IS sharing is almost same in small and medium companies.

Third independent variable is customer relationship management (CRM). Calculated p-value for this variable is 0.046. This indicate there is significant difference in CRM of small and medium companies. For small companies CRM score is 86.92 per cent as compare to 90.27 per cent for medium size companies. Conclusion is medium size companies CRM is significantly better.

Finally, for dependent variable output performance (OP) ANOVA is obtained and F-test is applied. P-value is 0.000. It is less than 0.05. Therefore, there is significant difference in OP between small and medium size companies. OP score for small size companies is 60.22 per cent and for medium size companies is 72.58. This indicate output performance of medium size companies is significantly better.

Conclusion And Recommendations

Conclusion of objective one is about relationship of between dependent variable and three independent variables. Dependent variable 'Output Performance' having significant positive correlation with all three variables. It is recommended if performance of three independent variables individually or cumulatively improved then definitely output performance will improve. Present study indicates 'Information sharing' score is64.57 per cent which is least among the three independent variables. Therefore, it is recommended that information sharing may be improved, which will result in to improvement in 'Output performance'.

Conclusion of objective two is this indicate that there is significant difference in SCP between small and medium companies. Detail study reveals that SCP for small companies score is 80.61 per cent as compare to75.72 per cent for medium companies. Therefore, it is recommended that medium size companies have scope to improve SCP. Conclusion with respect to 'Information sharing' is for both size of companies is similar. It is near about 64.57 per cent. Since it is low for both size of

companies is recommended to work on improvement on information sharing. Conclusion with respect to CRM is there is significant difference in CRM of small and medium companies. For small companies CRM score is 86.92 per cent as compare to 90.27 per cent for medium size companies. It is recommended that small size companies can improve CRM which help to improve 'Output performance'.

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