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"THE STIMULUS OF LOGISTICS ALLIANCE ON SUPPLY CHAIN PERFORMANCE IN CEMENT SECTOR OF PAKISTAN"

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Economic Efficiency, Infrastructure, Interdependence, Logistics Alliance, Organizational Commitment, Supply Chain, Technology

ABSTRACT

The administration and alliance of logistic is very important for the efficiency of the supply chain thus the research aims to examine the encouragement of logistics alliance on supply chain presentation. A questionnaire covering the determinants of collaborative practices in the supply chain like managerial assurance, infrastructure, expectation, interdependence, top management engagement and technology was employed to gather the data including 306 employees from supply chain department of cement industries. The variables infrastructure, interdependence, top management engagement, organizational commitment, and technology, were found significantly related to supply chain performance in cement industries. However, variable trust among supply chain partners did not have any influence on supply chain performance. It was found that the organizational Commitment, Interdependence, Technology, Infrastructure, and top managerial involvement for supply chain practices can result in better management practices. However, results are limited to the context of cement industries and are not generalizable. Future research with increased sample size and broader scope is recommended to obtain a clearer concept of the determinants of logistic collaboration and its influence on supply chain practices.

INTRODUCTION

The supply chain is the emerging field in management sciences. For producing economic efficiency and productivity in supply chain, the research has introduced the concept of logistic collaboration in the rapidly developing field of supply chain. The practice of modern managerial concepts, development of coordinated system have been helpful in decision-making, research and future development in supply chain management. Recent innovations provides a framework for increased efficiency and high performance levels (Lambin, Gibbs, Heilmayr, Carlson, Fleck, Garrett, & Nolte, 2018).

The world of twenty first century demands the amendments in traditional practices and introduction to new methods of organizing, maintaining, managing and supplying quality products. There is elevated need for mounting a system that can cater the evolving needs of twenty-century customers. The concept of supply chain management refers to a combination of techniques and methods to increase productivity. Latest concepts of supply chain integrate the informational technology in the field of supply chain.

The term logistic collaboration denotes the integration of two or more firms or companies to work in partnership between the companies and their existing networks consisting suppliers, producers and customers e.tc. The new paradigm of logistics collaboration being supply chain management to an upgraded level whether the focus shifts from traditional concepts of operations to the latest concept of collaboration (Stefansson, 2006). The important aspects of this collaboration includes the level of trust between the partners and the companies, the assurance of maintaining collaborative and productive relation between the organizations, the extent to which companies can depend and relay on each other, use of informational technology, infrastructure and the involvement of top managerial chain into the process.

Objectives of the Study

The major detached of this research is to determine the influence of coordinated logistic on the productivity and efficiency of supply chain management. It determines how effective are the components of collaborative logistics for supply chain process. The level of trust between the partners and the companies, the assurance of maintaining collaboration, the extent to which companies can depend and relay on each other, use of informational technology, infrastructure and the involvement of top managerial chain into the process will be assessed in relation to the performance of supply chain. The research will include the context of the cement industries to analyze these determinants.

Problem Statement

Logistic collaboration is an emerging trend in business development. In today's world companies recognize that for improving the efficacy of the firms they need to engage in long-term partnerships and collaboration. The traditional methods of individual firms pursuing to attain cost reduction or profitability have become obsolete in the twenty first century. In Pakistan, there is a need to adopt emerging concepts of the field and evaluate their influence. The purpose and detached of this work is based upon the newest dimension of logistic collaboration in supply chain practices. The research aims to study the determinant of logistics collaboration including the level of trust between the partners and the companies, the assurance of maintaining collaboration, the extent to which companies can depend and relay on each other, use of informational technology, infrastructure and the involvement of top managerial chain. The context of cement industries in Pakistan will be central to study the effects of these determinants on supply chain performance.

Research Question

1. Does the level of trust have any impact on supply chain practices of cement industries in Pakistan?
2. To whatever degree does interdependence among companies stimulus supply chain enactment?
3. Does commitment among companies effect supply chain productivity of the cement industry in Pakistan?
4. Does supply chain technology and infrastructure have any control on the supply chain performance of the cement industry in Pakistan?
5. Does the involvement of top management of cement industries influence the supply chain performance?

Research Hypothesis

H_1: Level of trust among Supply Chain Partners has no substantial impact on the Supply Chain Performance of the cement industry in Pakistan
H_2: Organizational Commitment has no significant impact on the Supply Chain Performance of the cement industry in Pakistan
H_3: Interdependence of Supply Chain Partners has no significant impact on the Supply Chain Performance of the cement indus-

try in Pakistan
H_4: Supply Chain Technology and Infrastructure has no significant impact on the Supply Chain Performance of the cement industry in Pakistan
H_5: Top Management Engagement takes not any substantial impact on the Supply Chain Presentation of the cement industry in Pakistan

LITERATURE REVIEW

Literature review presents the search for academic productions related to logistics collaboration. It outlines the information that is useful in creating ideas for the research and for enhancing knowledge in the field. Literature review verifies that the research project that has set up is in fact innovative or is only remaking the path others have made previously. It builds a work where each production found or the data presented in these productions are contributions to a study that presents a more comprehensive view of the theme. The organization of the literature review of this study includes the definition of supply chain management, the purpose of supply chain management, challenges in supply chain, supply chain performance, logistics, relationship of supply chain and logistics and dimensions of logistic collaboration.

Supply Chain Management
A supply chain can be understood as a highly collaborative organization with a reconfigurable network dynamics. This network of companies, which links various agents, from the supplier to the final consumer through manufacturing and services. It aims to effectively manage the physical, financial and informational flows to achieve business objectives. The competitiveness of a given product or service is not the result of a single organizational unit but rather the effect of coordination and optimization of activities along the entire supply chain to which that unit belongs. That is, the competition is no longer just between individual companies and now focuses on the supply chains themselves (Andersson, Hoff, Christiansen, Hasle&Løkketangen, 2010).
Purpose of Supply Chain Management

Supply Chain deals with the link between company and its suppliers to produce and distribute a specific product. Thus, it represents the steps of the entire logistic process of a product, beginning with the manufacturing and ending in the delivery to the consumer (Bourlakis, Maglaras, Gallear, & Fotopoulos, 2014).
Precisely because it covers the whole logistics process, the Supply Chain has the participation of several members: suppliers, manufacturers, warehouses, distributors, retailers and consumers. To ensure that all members involved are properly integrated into the process, there is the Supply Chain Management or Supply Chain Management.
Supply chain management is crucial because once a chain is optimized, costs will be lower and the production cycle will be faster. To deal especially with resource optimization throughout the supply chain, there is a term that is not yet so explored (Yusuf, Gunasekaran, Musa, Dauda, El-Berishy&Cang, 2014).
One of the main objectives of the supply chain is to improve end-user services.
Supply Chain Performance

From the middle of the twentieth century onwards, several nations came to live in an environment where the simultaneous process of economic globalization and technological innovations represent an imperative that cannot be ignored. This new reality is demanding of companies that want to remain active in the market constant investments in competitiveness. Companies are therefore obliged to present quality products or services at competitive prices. In Pakistan, this reality is no different, and each our companies will depend on the managerial capacity to increase their competitiveness - that is, reduce production costs and increase the quality of your product / service compared to international competitors (Emmett & Crocker, 2016).

In this sense, companies have adhered to new techniques or management models, which, in general, seek to meet, and even surpass, customer expectations through higher quality, higher productivity (effective management of inputs needed for production) and an effective model for monitoring the performance.
Supply Chain and Logistics

The supply chain is responsible for the methods and operating systems that are directly or indirectly linked to the product. As an example, activities of purchases, deposits, inventories and so on, involving everything from the production to the evaluation of the level of customer satisfaction are mentioned (Cantor, Morrow &Montabon, 2012).

Logistics, on the other hand, is one of the steps that make up the supply chain. The worries about the product moving from the company to the customer, always prioritizing delivery times. In fact, logistics has existed since antiquity, but as we know it today, it originated in the times of Napoleon Bonaparte. During the Napoleonic Wars, there was a need to move military goods and supplies in large numbers. Evolving over the years, logistics began to take care of the dynamics of products from the company to the final consumer (Dubey, Gunasekaran, Papadopoulos, Childe, Shibin&Wamba, 2017).

METHODOLOGY

Research Design

Research design is a process of providing a structure to the study. It explains the methodology used by the researcher, the sampling and data gathering process. The researcher utilized the quantitative research paradigm, which is suitable for most researches in the field of marketing and business. The quantitative research methods is a scientific way to gather knowledge and information about a particular field in logical and systematic way. It involve the use of numbers and figures to obtain information. It provides an opportunity to do experiments and evaluate the data based on these experiments. Quantitative research methods helps to investigate whether two variables are in linked with other or there are some other variables, which is influencing the target factors.
It can be useful for addressing the needs of the business. It justifies the strategies that should be adopted to improve the business and refrain from the practices that cannot produce any effectiveness in terms of business production. It directs towards new advanced in the field and the problems that should be catered. The quantitative business research have various dimensions due to which it has wide scope and generalizability. The flexible nature of quantitative research assist the research for timely and convenient data collection from large number of respondents.

Instrument

The researcher has adapted a questionnaire to determine the independent variables trust, commitments of organization. Interdependence from Mafini&Loury-Okoumba (2015), the variables technology, infrastructure, involvement of top management, and the dependent variable supply chain performance from the study of Sundaram&Pandiyan (2012).

Population

The researcher explored the effects of the determinants of logistics collaboration on supply chain performance; Pakistani cement industries were included as the population.

Sample

Sample of the study included 306 respondents from cement manufactures out of which 104 were female respondents and 202 were male respondents. The sample was collected using simple random sampling. This method of sampling is used to gather a sample from a large population giving each member an equal chance to be selected.

RESULTS AND FINDINGS

Chapter four benevolences a statistical examination of the figures composed. The researcher utilizes SPSS software for analyzing the data.

Table 1 demonstrations the physiognomies of the defendants contributed in the contemporary study. Amongst the 306 defendants, 104 (34 percent) were feminine while 202 (66 percent) were masculine. The important quantity of defendants were presently attending at cement manufacturing (167 = 54.6 percent).

Table 1: Descriptive Statistics of Respondents

	Gender			
	Frequency	Percent	Valid Percent	Cumulative Percent
Female	104	34.0	34.0	34.0
Male	202	66.0	66.0	100.0
	Company			
Lucky Cement	98	32.0	32.0	32.0

Dewan Cement	167	54.6	54.6	86.6
Attock Cement	41	13.4	13.4	100.0
Total	306	100.0	100.0	

Table 2: Expressive Figures of Replies

		TSCP	OC	ISCP	SCTI	TME	SCP
N	Valid	306	306	306	306	306	306
	Missing	0	0	0	0	0	0
Mean		3.9798	4.0007	3.8912	3.8224	3.7039	4.0150
Std. Error of Mean		.04196	.04357	.04090	.03614	.04603	.04689
Median		4.1667	4.2000	4.0000	3.8333	3.8000	4.2000
Mode		4.33	4.20	4.14	3.83[a]	4.60	4.20
Std. Deviation		.73394	.76214	.71544	.63222	.80526	.82018
Variance		.539	.581	.512	.400	.648	.673
Skewness		-1.298	-1.096	-1.126	-.889	-.460	-1.345
Std. Error of Skewness		.139	.139	.139	.139	.139	.139
Kurtosis		2.326	.844	2.149	1.577	-.104	2.148
Std. Error of Kurtosis		.278	.278	.278	.278	.278	.278
Range		3.67	3.40	4.00	3.67	4.00	4.00
Minimum		1.33	1.60	1.00	1.33	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00
Sum		1217.83	1224.20	1190.71	1169.67	1133.40	1228.60

a. Multiple modes exist. The smallest value is shown

Table 3: Inside Reliability

	Pilot Test	N of Items	Final Test	N of Items
TSCP	.845	6	.801	6
OC	.714	5	.750	5
ISCP	.758	7	.811	7
SCTI	.771	6	.672	6
TME	.845	5	.842	5
SCP	.805	5	.817	5

The Test group Appropriateness was verified by take on KMO Test by SPSS aforementioned to challenging the hypothesis strength.

Table 4: Sampling Competence

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.736
Bartlett's Test of Sphericity	Approx. Chi-Square	2642.960
	df	15
	Sig.	.000

Table 5: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873[a]	.847	.846	.19002
2	.873[b]	.847	.846	.18973
a. Predictors: (Constant), TME, OC, TSCP, ISCP, SCTI				
b. Predictors: (Constant), TME, OC, ISCP, SCTI				

Table 6: Summary

No.	Hypotheses	Sig value	Status
H_1	Trust among Supply Chain Partners has no significant impact on Performance of the cement Industry in Pakistan	.786	Failed to reject
H_2	Organizational Commitment has no significant impact on the Supply Chain Performance of the cement industry in Pakistan	.000	Rejected
H_3	The interdependence of Supply Chain Partners has no significant impact on Performance of the cement Industry in Pakistan	.000	Rejected
H_4	Supply Chain Technology and Infrastructure has no significant impact on Performance of the cement Industry in Pakistan	.000	Rejected
H_5	Top Management Engagement has no significant impact on Performance of the cement Industry in Pakistan	.000	Rejected

CONCLUSION

The study recommended managing and maintaining relationships between the companies. The increasing customer's demands and the emerging demands of the new technology demands companies to be webbed within a system that encourages collaboration. Companies should work together to find out in what whys they can address the customers' needs. There is a need for the amendments in traditional practices and introduction to new methods of organizing, maintaining, managing and supplying quality products, which can be done through strong collaboration among the organizations.

Collaboration can be maintained by understanding the demands and preferences of the customers and adopting systematic strategies for better planning and carrying out the process. It is recommended to review the examples of successful collaboration around the world and adopt them to increase the efficacy of the organization. Measures should be taken both at organizational and government level to promote collaborative practices in logistics.

Companies must strive for maintaining better commitment levels with others. Policies should be made and followed strictly for this purpose. The relationships must be developed in a way that companies would able to dependent and rely on each other. Companies must ensure the ethical practices that govern interdependence among the companies. Infrastructure of companies should ease the work performance and efficacy level of the employees so that they can work up to their maximum potentials without getting any discomfort due to the infrastructure. The introduction of information technology, upgrading of knowledge and skills according to the needs of technology related world must also be considered as the important part of logistic collaboration. Employees of the companies and the top management should get training on the current research and technology so that they can be upgraded. The linkages and strong collaboration can also be strengthened by the use of technology. Managers should function are the leaders of collaboration rather than the boss, they should set examples for employees and others companies.

The results of this research gives a basic outline for future research in the area. Extensive research on each dimension of collaborative logistic and its impact on supply chain can develop further understanding of the concepts.

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