Supply Chain Performance of Customer and Supplier Relationship on Indian Retail Sector

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***Abstract*- There is a continuous challenge for the Organizations to re-design the Supply Chain for competitive performance. Customer and Supplier Coordination play a vital role in facilitating this process. The present article investigates the effects of Customer and Supplier Coordination on Supply chain performance in Indian Retail Industry. Supply Chain Performance is taken as a composite construct of product quality, product innovation, product flexibility and Product Delivery. The Coordination Theory is used to formulate the conceptual model, and two sets of related Hypothesis are tested using statistical analysis. Survey Method is used to collect the data from Logistics and Supply Chain Managers from Retail Organizations operating in India. The Results have indicated key Coordination areas to improve competitiveness in Indian Retail Sector**

Keywords*: competitiveness, customer and supplier coordination, product life cycle, SUPPLY chain*

1. Introduction

The Indian Retail sector is all set to experience reVol.utionary changes and Global competitiveness. Unlike ever before the customer is more informed and product conscious [1]. The recent amendments in Government Retail policy 2013 and Infrastructure development have posed a challenge for the Retail Industry. In the present Global scenario, the Retail Organizations have a choice to select Suppliers for their products and the customers are spread across the Globe with diverse product taste and preferences [2]. The design of Supply chain is important for Retail Organizations to survive and compete in Global scale operations."The revolution under way will be driven not by changes in production but by changes in coordination [3]. The Organizations of Coordination supported business relationships with internal and external integration - ranks amongst the most important capabilities companies will need in the 21st century [4]. Businesses today seek design models for the engineering, implementation and further development of Coordination supported business relationships. The Coordination among Customer and Supplier plays an important role in enhancing the Supply chain performance of an Organization [5]. Neither transaction cost theory, network theory, network economics nor any other of the methods examined provide comprehensive help in answering practical questions of Coordination related issues in Supply chain [6]. Network theory, for example, describes business systems as an organizational form between market and hierarchy, provides a comprehensive description model of the design areas of a syste*m* and considers the business unit or the networked enterprise as the primary unit of reference [7]. However, a finer degree of granularity is required for describing and ultimately for designing appropriate [8] Supply chain for Organizations. The present Research article attempts to close the gap between existing theoretical tools and practical issues, and thus highlights the Coordination model of business relationship.

2. Literature Review

Initially The Organization Theory by [9] has identified the importance of Co-ordination in achievement of Organization Goals and he further

argued that ‘when ends have been adopted, the co-ordination of acts, as means to these ends is in itself an inherently logical process' [10]. However, the importance of Co-ordination is almost invisible, and its supply is recognized only in the process of on-going transactions. Table 1, Table 2(a) and (b) are explained closest case study of proposed framework.

Table 1: Literature Review

S.no	Related Areas of Coordination	Authors
1.	Organization Theory and Co-ordination	Barnard(1938)
2.	Co-ordination and Interdependence	Malone and Crowston(1994)
3.	Supply chain & Interdependent activities	Crowston(1997)
4.	Types of Co-ordination	March and Simon(1958)
5	Organization Structure	Thompson(1967)
6	Interdependence and Conflict	Victor and Blackburn (1987).
7	Co-ordination mechanisms& Interrelationships	Bialetti *et al.* 1994).
8	Inter-Departmental Coordination	Adler (1995)

Table 2(a): Literature Review: Supplier Coordination

S.no	Author	Control Variable	Finding
1	Petersen et al. (2005)	Stage of integration and supplier's level of responsibility	The relationship between project team effectiveness and design quality is stronger in the case of earlier supplier inVol.vement. Project team effectiveness is positively associated with design and financial performance, regardless of vendor's level of responsibility
2	Kouftero s *et al.* (2005)	Uncertainty, equivocality, platform development strategy	Supplier product integration improves quality in high equivocality environments. Supplier process integration enhances product innovation capabilities in small equivocality environment
3	Devaraj *et al.* (2007)	Firm size, industry type	There is an indirect relationship between eBusiness technologies and supplier integration that leads to better cost, quality, flexibility, and delivery performance
4	Jayaram (2008)	Firm size, market stability	Supplier integration affects performance

			(product cost, conformance quality, design quality, and time-to-market) under market stability conditions.

Table 2(b): Literature Review: Customer Coordination

S.no	Author	Control Variable	Finding
1	Koufteros *et al.* (2005)	Uncertainty, equivocality, platform development strategy	Customer integration has an indirect impact on quality through the effects on product innovation, especially in high equivocality environments
2	Das et al.(2006)	Types of coordination	Customer/Market coordination, I.T coordination, Logistics Coordination, Supplier Coordination, Purchasing Coordination impact on Performance
3	Frohlich & Westbrook(2001)	Linkage with Customers and Suppliers	Integration with Suppliers and Customers has a direct impact on performance
4	Enkel et al.(2005)	Customer Integration and Market Needs	Integration with Customer results in better product quality

It defines Coordination Mechanism as the process of managing dependencies within activities [9]. The problem of Coordination has been investigated by various Researchers and Practitioners, and ultimately a universal concept of interdependence as a pre-requisite to Coordination has been identified [10]. The process of the relationship between the partners to the SUPPLY chain precedes Coordination Mechanism. The Co-ordination problems arise from Dependencies that act as constraints in the process of task achievement, and Coordination mechanisms are essential to overcome these challenges [11, 12].

[13] The acquisition and creation of Resources play a vital role in performing various interdependent activities within the Supply chain. The different types of Co-ordination identified are Co-ordination between two tasks, Co-ordination between two resources, and Co-ordination between a task and a Resource [14]. In the Organizations, the kind of coordination which operates is a function to the extent whereby the situation is standardized. Tasks are then interdependent if they access the same resources. Tasks are performed by resources (e.g. personnel) on the one hand and consume resources on the other. According to [15] resources are all subjects and objects which come into contact with a task. According to [16] processes are coordinated exclusively using outputs. By this fact, coordination must, therefore, be output or part of the output in the sense of the above definition [17]. Consequently, the potential of inter-organizational networking lies in the suitable design of the coordination capability (networkability) of products and all associated

design areas such as process, IT, people, organization structure, and culture [18]. Business Process Reengineering and integrated information systems have already shown how potentials arising from the group of internal dependencies can be realized.

2.1 Customer-Supplier Coordination Areas through Information Sharing

The two types of Coordination viz: coordination by the plan is based on pre-established and calculated schedules and coordination by feedback inVol.ves the transmission of new product information and market demand [19]. The type of organization structure, centralized versus decentralized also facilitates the coordinated action of interdependent elements. The concept of task interdependence is the extent to which the relationship between groups could be categorized into one of the three patterns of workflow that exist between them, namely pooled, sequential and reciprocal. As such, the coordination mechanisms corresponding to these types of interdependence have been identified as being standardization of rules, planning and scheduling, and mutual adjustment. Added the fourth type of interdependence, the work unit of a team, and proposed that uncertainty and team size are additional determinants of coordination. They also claim that as relationship level increases, the need for group coordination also increases. To accommodate the different types and levels of relationship between functions, two distinct aspects of coordination, namely the amount of dependence and the amount of conflict between duties, were proposed and explained in Figure 1.
This paper also explained Emerging issues and new challenges in the management of logistics sector-an empirical analysis. The influence of internal locus of control on personal and job oriented factors. Implementing Reverse Logistics Activities into Existing Companies Systems on the Chennai Market this paper also explained

3. Hypothesis

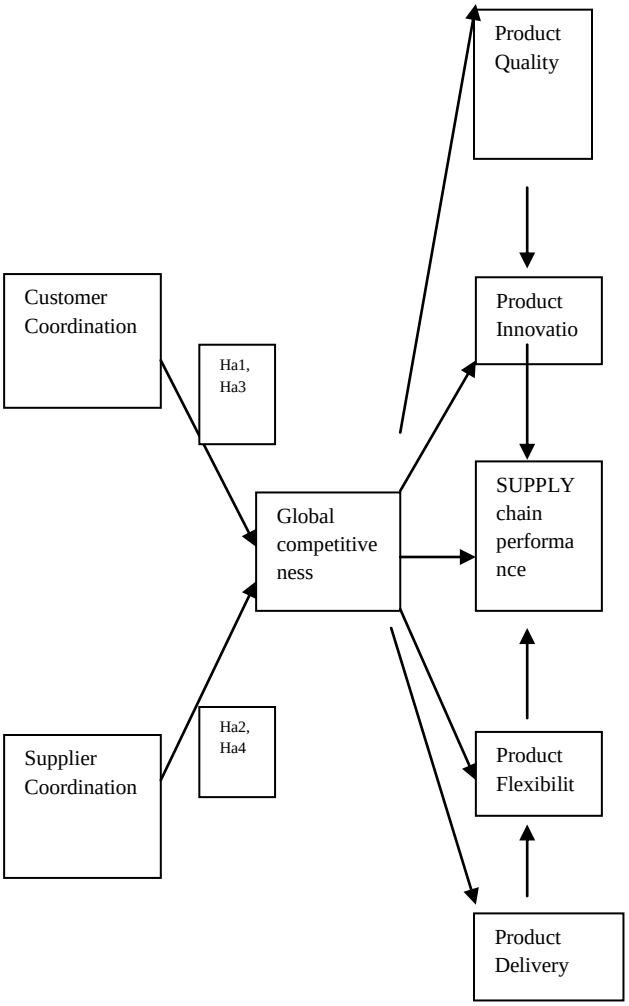

Figure 1: Hypothesis Model

4. Research Design and Methodology

The Survey Method and the Sampling procedures were followed similarly as in the case of [17] and [18]. The drafted Questionnaire was pre-tested with Retail Consultants, Academicians, and Practitioners in the Retail Industry. The Questionnaire has been modified for Research practicality with the target sample size as suggested by the Practitioners and Supply Chain Professionals. This study uses a seven-point scale Likert Scale for Constructs of independent variables(Customer Co-ordination and Supplier Coordination) and Dependent variable (Supply chain performance) which is a composite construct of Product Innovation, Product quality, Product Service and Delivery to collect the

information from the target respondents. The Information and data were obtained through a Questionnaire survey from Supply Chain, Logistics, and Channel Management, Purchasing managers who had thorough knowledge and experience of Supply Chain practices, followed in respective Retail Organizations. These respondent managers were asked to rate their Supply chain practices about understanding of Customer and Supplier Coordination given the Global Competitiveness and its impact on Supply Chain Performance. In [17] studied the influence Internal Locus of control on personal variables and job oriented factors

5. Independent Variables: Supplier and Customer Coordination

Customer Coordination and Supplier Coordination are taken as Independent Variables, and the target respondents were asked to rate their degree of acceptance with the following statements. Vendor Coordination is measured by the average response rate in (1) Implementing Supplier Rating System and Continuous Improvement Process described in (2) Implementing Long-Term Agreements linked to Incentive & Recognition Systems in (3) Rewarding Top Suppliers through Best SUPPLY selection and Supplier Management process in (4) Facilitating open Product communication and meeting Delivery schedules, (5) Reducing Supplier costs and Total cost of Ownership, (6) Facilitating Upstream Integration with SUPPLY chain partners .(Cronbach's alpha=0.7671). Customer coordination is measured by the average response rate in (1) Sharing New product Development with Customers, (2) Demand forecasting through Customer buying behavior, (3) Taking Feedback on Customer Satisfaction in terms of Product Quality and Product Delivery,(4)Implementing Customer Relationship strategies , (5) Frequency of Customer Visits and rating Customer Services,(6) Facilitating Downstream Integration with supply chain partners (Cronbach's alpha=0.6242).

6. Analysis and Result

Figure 2 explains about respondents based on their production.

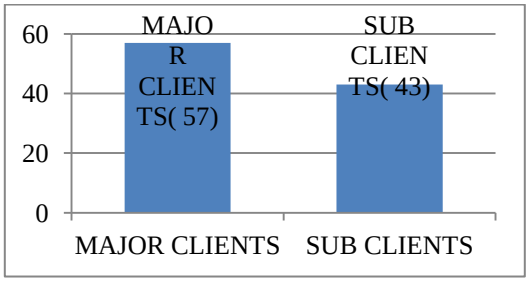

Figure 2: respondents based on their output.

6.1 Inference

57 % of respondents are the major client's deals with the automobile industry. 43% of the interviewees are the dealers and the Sun customers of auto product. Table 3 expresses the option of satisfied supplier behalf of chain performance

Table 3: respondent's opinion about satisfaction on supplier chain performance.

PARTICULARS	NO OF RESPONDENTS	PERCENTAGE
Strongly agree	21	70
Agree	8	27
Neutral	1	3
Disagree	0	0
Strongly disagree	0	0

6.1.1 Inference

70% of respondents have strongly agreed on the comfort level of supplier chain performance, 3% of respondents have the neutral position on the satisfaction level of supplier chain performance. Table 4 explains the Respondents rating customer and supplier relationship

Table 4: Respondents rating customer and supplier relationship**.**

PARTICULARS	NO OF RESPONDENTS	PERCENTAGE
Excellent	11	37
Good	13	43
Average	6	20
Poor	0	0
Very poor	0	0

6.1.2 Inference

43% of respondent have said the company has the proper rating, 37 % of the defendant have to say that Company ratings are excellent, 20% respondent says it's about an average.

7. Discussion and Managerial Implications

In this paper, we investigated the effects of two types of coordination on Supply chain performance in the context of Indian Retail Industry. More specifically, we examined the effects of Customer Co-ordination and Supplier Coordination on four dimensions of Supply chain performance viz: product Quality, Product Innovation, Product Flexibility and Product Delivery. Our results confirmed the positive impact of supplier coordination on Product Flexibility and Delivery performance found That is, supplier coordination enhances a firm's ability to handle nonstandard orders that impact the manufacturing process, especially when the demand is increasing. Our results show that provider coordination influences quality performance, thus confirming previous studies. This is particularly significant in the context of Indian Retail Industry, whereby the Government of India has further amended and opened the way for Global Retailers to operate even in tier II cities in India. Whereas study indicated that customer coordination has an indirect impact on quality through the effects on product innovation, our study demonstrates a direct influence on quality performance. Similarly, as predicted, customer coordination was found to influence flexibility performance. The collaboration between a firm and its customer reduces production uncertainty, making the company more responsive to customer demands. Thus, our most important contribution to this study is that both forms of coordination, i.e., supplier coordination and customer coordination are positively and significantly important affecting both product quality and flexibility performance. This is also consistent with work that both forms of coordination typify different Supply chain configurations. The positive effect on quality performance is typical of a functional Supply chain, whereas the positive effects on flexibility performance are typical of a responsive Supply chain.

The Results indicate the main effects and high impact of Customer – Supplier Coordination on SUPPLY chain performance in Indian Retail Industry. The concept of Supply Chain Coordination on Indian Retail Industry is at its nascent stage, and it is of immense significance to cite that the present study is among the few to highlight strong empirical support for effective Customer-Supplier coordination in influencing Supply chain performance. Among Customer-Supplier Coordination to have sufficient Supply chain performance it is important to design appropriate Supply chain coordination upstream (Supplier Integration) and Supply chain coordination Downstream (Customer Integration).The present Research has significant contributions to existing Literature in the areas of Supply chain coordination particularly concerning Indian Retail Industry

8. Conclusion and Future Research

The present Research study has highlighted the Customer-Supplier Coordination in enhancing SUPPLY chain performance in the context of Indian Retail Industry. The Research further supports the existing literature on Coordination theories for emerging Industry like Indian Retail Industry. The Research study specifically

highlights the both forms of Coordination, Customer and Supplier Coordination and its role in improving SUPPLY chain performance which is a composite construct of product quality, product innovation, Product Flexibility and Product Delivery. The Research findings have made significant managerial recommendations to Indian Retail Organizations which are desirous of integrating their Supply chains with Global Organizations. The limitations of the study are that it could include Customer Supplier Coordination mechanisms as an empirical data collection since data collection in Indian Retail Industry is a challenging task. Regarding the Data usage, we use perceptual Data, when compared to the more desirable objective Data. More or less, we do not believe that this due to the cause of unreliability in the interpretation of statistical results. The present Research on Customer-Supplier Coordination can be extended in various ways in future to examine its effects on SUPPLY chain performance. The operations of many Indian Retailers are going to be Global shortly. The Coordination mechanisms in other emerging economies and (BRIC Nations) may be examined to design better Supply chain tool for Indian Retail Industry and new influential variables like Government policy, environmental concerns, Resource availability, Talent pool availability may be further examined to contribute to the upcoming Indian Retail Sector. With the announcement of Retail Policy 2013, the Indian Retail Industry is all set to face cut-throat competition from domestic and foreign retailers. The Retail Organizations may all set to benefit from the present study, from the Global nature of research findings regarding coordination mechanisms which enhance competitiveness in Retail Industry.

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