

Role of third party logistics in supply chain management

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Abstract - Supply chain management has played an significant role in global market and has attracted the attention of numerous academicians. As reported, a Supply Chain is a structured manufacturing process wherein raw materials are transformed into finished goods, then delivered to end customers. The role of logistics in supply chain management provides plenty of significant improvements in industrial development. Third party logistics assists to supply right product to right consumers' in right quantity. The objective of this study is role of third party logistics in supply chain management and to understand the relationship between supply chain management and Third party logistics. This is helpful for the effectively & efficiently execution of supply chain management and customer satisfaction.

Key Words: Supply chain management, E- business, 3PL services

1. Introduction

In last few years there are lots of opportunities are derived from new markets and sources of supplies that are open up for all enterprises. With a advantage of these opportunities in worldwide business. Many industries faced the challenges of shipment of spare parts, raw material from vendors and finished goods to customers. The main factor which engendered to these challenges for supply chain manager and logistics is distance factor. They think of how best to obtain high levels of efficiency, reliability, and reduced cycle times.

In order to continuously reduce costs, companies begin outsourcing one or more logistical functions to 3PLs. This becomes a widespread practice in industry all over the world. 3PLs have the resources, scope, scale, and best practice experience in warehousing, distribution and transportation, thus providing services more efficiently and less expensively than what companies can do in-house [1]. The 3PL can enhance the logistics procedure by allowing the firms to concentrate on their basic adequate qualities that probably decreases the production cost and enhances the customer satisfaction. Typically these firms (3PLs) provide some services like warehousing operations, freight payments and auditing, carrier selection and rate negotiation[2].An important factor in

supply chain logistics is transportation system. Transportation system creates bond and channel system between separate activities of logistics. It occupy one third of amount in logistics costs. Transportation system strongly influences the performance of logistics. It is required in the whole production process like from manufacturing to end of delivery to customers and returns [3]. In order to select the most suitable third party logistics providers, choosing the evaluation methods is essential. We should adopt a reasonable and effective evaluation method to evaluate comprehensively, so as to assure the scientific of results.

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2. Literature review

Krishna et al. (1) investigated that the influence of cultural dimensions on complex supply chain outsourcing decision-making and implementation across international boundaries. There are criticisms with regards to the application of cultural dimensions individually.

Gustafsson et al. (2) demonstrates the effectiveness of retail power to influence the whole supply chain with improved channel method of operating the attention to detail laid the foundation for an agreement of revised packaging design with all supply chain parties with the manufacturer of the store.

Chapman et al. (3) demonstrates that the innovation in service sector is a value- creating activity that enhances performance in the marketing sector, and thus gives a competitive advantage to the firm. In Sweden, Bring has no research and development laboratory but that does not discourage the idea of carrying out value added services

Cheng (4) examine the interactions among cooperation and five other factors that affect supply chain performance in the context of third party logistics services. They develop a new research model, with degree of cooperation as a mediating construct and test the model's six research hypotheses using structural equation modelling. Furthermore, they develop a theory-driven model to examine the factors influencing supply chain performance when logistic services are outsourced.

Karagul et al. (5) concluded that at present, competition conditions get harder throughout the World. Companies that try to compete on the basis of price apply many new techniques and wish to reduce their costs and increase their profitability. One of the areas in cost reduction for the manufacturing companies is material costs. This study recommends implementing a milk-run system in order to reduce materials management and logistic costs and presents a model based on the AHP method to select a logistics company that would act as the LLP for TTF.

Thompson (6) concluded the results of experienced case study organization have had with third party logistics relationship. He also determined the characteristics of successful contract relationship by questioning both user and providers of third party logistics. He also proposed area for possible air force implementation and how air force could take advantage of commercial experience

Xu yung (7) define third party logistics as an external logistics service provider offering single or multiple logistics activities to its customers, which typically is on contract basis. From the provider's point of view, their business covers a great number of relationships involving everything from simple logistical activities to advanced logistical solutions; from the customer's point of view, the degree of outsourcing varies and the outsourced logistics activities differ greatly.

Shaikh (8) discussed different concepts of supply chain integration, customer satisfaction, advanced information technology and third party logistics providers, and their impact on customer satisfaction with theoretical framework. And also they presented an analytical model.

Karvahlo (9) demonstrate that sustainable innovation driven by the focal company requires the engagement of its suppliers in order to reduce the negative social and environmental impacts throughout the product's life cycle. Moreover, they illustrates that is possible to implement innovations that generate net social and environmental benefits for all members of the supply chain.

M.Srinivas (10) concluded that Transportation and logistics systems have interdependent relationships that logistics management needs transportation to perform its activities and meanwhile, a successful logistics system could help to improve traffic environment and transportation development.

3. Theoretical framework of third party logistics-

Third party logistics plays a significant role in reduction of production cost as well as increment of customer satisfaction. It works as intervene between manufacturer and customer. 3PLs consolidates transportation as well as warehousing and offers such services to managers who wanted to reduce operation cost (1). It the business of

managing various elements of the supply chain via contract or outsourcing. A 3PL provider manages all or part of a client's logistical requirements, which may include transportation, inventory optimization, warehousing, order fulfilment, or the integration of these and other functions. moreover, 3PL providers to offer ten key services, including strategic capacity, logistics expertise, network analysis, mode and load optimization, cost-containment strategies, vendor compliance management, system support, actionable business intelligence, best practice sharing, and risk profile reduction. There are many reasons that encourage companies to outsource "in-house" businesses to 3PL:

- Concentrate on core activities and processes;
- Improve customer service level;
- Integrate the entire supply chain;
- Reduce conflict and reciprocate on mutual goal-related matters;
- Increase efficiency, stability and flexibility;
- Establish market legitimacy;
- Avoid extensive capital expenditures;
- Increase productivity;
- Reduce risk, uncertainty and fluctuation;
- Leverage resources;
- Improve expertise, market knowledge and data access;
- Create a competitive advantage either locally or globally;
- Reduce personnel and equipment costs.

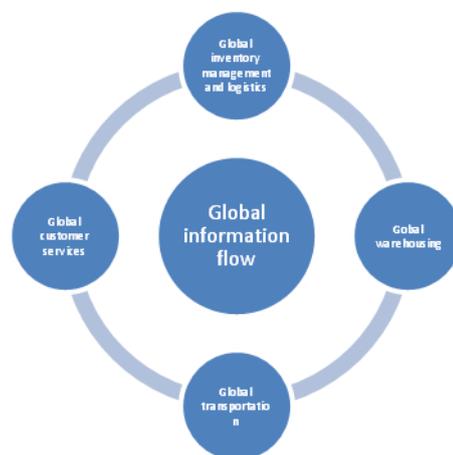


Fig .1 Framework of 3PL

1.1 Services provided by third party logistics-

In earlier period, third party logistics provided some primary services which include transportation and warehousing but nowadays third party logistics shows the provision of many other services which reduces the contact distance between manufacturer and customer. So, 3PL provides following services,[4]

- Carrier selection- 3PL helps in the selection of carrier so that damage of the product while transportation can be minimised.
- Development of distribution strategy- According to this function, 3PL develop the distribution strategy of product in different department so, that firms can supply product in less time to customers.
- Freight bill payment and audit- According to this function, 3PL reduce the time required for billing of transportation of firm by providing bill payment service. Through such service of 3pl, firm can concentrate of core works.
- Information system- With the help of information technology, 3PL has developed a service through which a customer can directly contact with a manufacturer. 3PL transfers information of order from customer to manufacturer.
- Freight distribution- According to this service, 3PL distributes a transportation of product as per the category. Such kind of function helps to manufacturer to provide the delivery at right time and right place.
- Product returns- Customers can return the products to manufacturer through 'product return service' of 3PL. Such service reduces the time of customers of product return because generally 3PL picks up a product from customer and the handovers it to manufacturer. After that, customer gets a finished new product from manufacturer through 3PL.
- Freight consolidation- According to this service, 3PL combines the process of freight into one process so that freight services can work together to reduce the time of delivery.
- Product marking- According to this service, 3PL reduces the time of packaging and labelling of product. Such functions improve the productivity of product.
- Route and network optimization- 3PL helps to decide a better route for the delivery of a product. So that a firm can reduce cost of freight.

With all above functions, 3PL also provides a service of customer brokerage, Consulting service, customer clearance, cross docking, export operation, export licensing assistance, expedited delivery, transportation, warehousing, EDI capability, selected manufacturing activities, shipment planning, traffic management, product repair, product modification, product marking, product assembly, pickup and delivery, overseas sourcing, overseas distribution, order management, order entry and processing, inventory management, product return, management and performance reports, replenish inventory, rate negotiation, intermodal services, Import operations, export operations, Fleet operations.

4. Integration of 3PL with supply chain management

The process in which a manufacturer jointly manages inters- organization process and strategically work together with supply chain management is called supply chain integration. An important purpose of this integration is the provision of maximum service to customer at faster speed with less cost and to gain expeditious flow of information, services as well as products[5]. Third party logistics service providers can help to integrate supply chain i.e. from supplies of raw material till supplies to end consumer. When it comes to supplies of raw material for plant, the production house also require every material on time because they can't bear a delay of even single minute to optimize its production level up to maximum level. Because if the production unit will deliver the finished goods on time that will be supplied to warehouses on time by third party logistics service providers, then equally it will be supplied to end customers to achieve customer satisfaction. The study of third party logistics reveals that relationship between manufacturing industries and third party provides focus on factors that directly affects on supply chain performance. It is also proved that factors which indirectly affects supply chain performance when cooperation among supply chain members in increased. Cooperation is a feature of all inter-organizational relationships between firms. Inter-organizational relationships are central to industrial supply chains and empirically evaluating the potential antecedents, effectiveness, and performance of cooperative relationships is therefore a highly valuable endeavour[6]. Third party logistics service providers are capable of making the flows of goods across the supply chain to become very effective because they possess the know-how to coordinate logistics affairs. The most significant tool of logistics service provider is information technology that enhances competence while decreasing cost. The proper use of information technology in supply chain management enhances provision of services to supply chain partner that are ultimately customer satisfaction and business performance and also it increases operation competitiveness, flexibility and productivity[2].

4.1. Implementation of information technology in supply chain management-

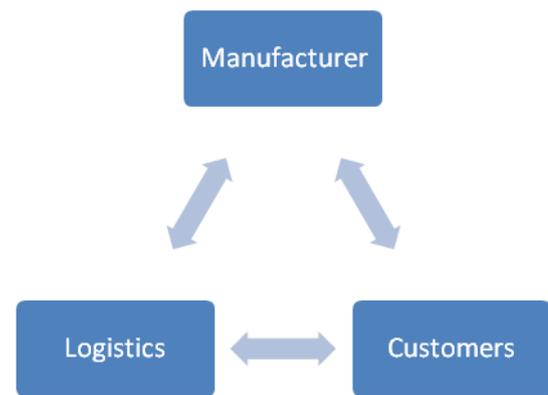
As we discussed above, that information technology is most significant factor of third party logistics, today most companies are using Enterprise Resource Planning (ERP) as an important IT tool to satisfy its customer. For example, when customer of production house entered an order entry in their database the logistic company, automatically knows it supply them finished products from plant warehouse[11]. To significantly enhance the performance of the supply chain system sharing of information between the supply chain members using electronic database interchange technology should be improved to increase the shipment performance of suppliers and decrease the uncertainty[1].

So, 3PL's are integrating different supply chain process from procurement of raw material till supplies of finished product to end user by using advance information technology. Many times 3PL's are helping to customers by doing a job on customer sites with their own staff for warehouse operation. According to this help, 3PL can launch warehousing management system that helps to the customer warehouse while stock taking process and IT audit of physically available products. The implementation of IT helps to manage different processes of supply chain by offering information about what is accessible in warehouse, what type of product is in demand, what is production process and what is entering and going out from warehouse to customers.

4.2 Role of 3PL's advance information technology in transaction method -

Transaction cost economy takes a normative economic approach to determine manufacturers boundaries, to consider that efficiency is the important is significant for inter organization attitude. Because outsourcing to 3PL firm is typically a dependent variable in transaction cost analysis. External uncertainties make it hard to anticipate demand and order requirement[7]. To improve inter organization co-ordination, a firm often demands that its its partners apply common processes, which require standard degree of sharing. By the sharing valuable information with 3PL service providers, manufacturers can respond quickly to customers changing needs. So, integration can reduce external uncertainties. Greater uncertainty leads to greater benefit of operation with 3PL providers. So it is inferred that external uncertainties in customer's requirement is positively associated with co-operation between manufacturer and 3PL [8].

5. Implementation of logistics service in E-business - Today, logistics companies are playing an important role in E- business. With the use of advance information technology logistics companies has decreased the distance between manufacturing firms and customers. The main purpose of this system is to provide the product service to customers in a short time with less cost[9]. There are many sites available on internet through which customers can order their product and they get that product in a very less time. This new approach of purchasing of products through advance information technology has triggered tremendous contribution towards green supply chain management[10].



Role of logistics between customers and manufacturer

From the above diagram we can conclude that logistics intervenes in between customers and manufacturers. In this system, customer's orders their product from online shopping sites. After that logistics companies get the information (order) of customers. Furthermore, logistics company transfers information of order to manufacturers. After getting the information of demand of customers, manufacturer sends the product to customers through logistics. Logistics plays an important role in transportation of product from manufacturer to customers. In this system, two most prominent methods of billing procedure take place. These are, cash on delivery and online transaction. With the help of cash on delivery method, customers can pay the billing amount after the delivery of product. With the help of online transaction customers an pay billing amount through two tools such as Enterprise Resource Planning (ERP), Electronic Data interchange (EDI) and customer relationship management and the ability to link one activity with another. These tools not only improve the business processes but also build infrastructure for automated information exchange between suppliers and customers that is liked with increased customer profitability/satisfaction[12]. Also, customers can return or exchange products with free of cost. Customer gets the product in very less rates because logistics companies have reduced the role of local dealers so that they get product directly from firm.

6. CONCLUSIONS-

According to the literature survey conclude that 3PL plays a significant role in any firm. Third party logistics provides important tool to enhance the customer satisfaction and to integrate the different processes of supply chain by using advanced tools of information technology. With the help of this advance technology customers can purchase product with great variety and low cost. The basic services

provided by third party logistics reduces the maximum work of supply chain management through which it can concentrate on core production. Firms are able to deliver the product to customers without any delay. This enhances the relationship between customers and manufacturer. With help of E-business, 3PL initiated the green supply chain management approach. This study may help organizations and 3PL's to enhance the customer satisfaction level with the help of advanced information technology to maintain their competitive position in the market. This study also motives researchers to work more on logistics outsourcing. An implementation of an advance technology in supply chain management improved the information transfer rate between customer and manufacturer. Supply chain performance enhances the competitive advantage of supply chains as a whole. In this study, we develop a theory-driven model to examine the factors influencing supply chain performance when logistic services are outsourced.

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BIOGRAPHIES



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