CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The working of the economic system by which goods and services are supplied to consumers involves four basic market functions: production, distribution, exchange, and consumption. Production transforms raw materials into finished goods, distribution places raw materials and finished goods in the hands of producers and consumers respectively. The function of exchange is to transfer goods from wholesale to retailer while consumption ends the process. One of the greatest challenges and one of the greatest opportunities that organizations face today is the use of supply chains to enable their continued growth and success.

1.2 SUPPLY CHAIN

Supply chain management is different from the traditional concept of logistics. Logistics typically refers to activities that occur within the boundaries of a single organization and supply chain refers to a network of companies that work together and co-ordinate their actions to deliver a product to market. Logistics focuses its attention on activities such as procurement, distribution, maintenance and inventory management. Supply chain management (SCM) acknowledges all of traditional logistics and also includes activities such as marketing, new product development, finance and customer service. SCM is the planning and execution of supply chain activities, ensuring a coordinated flow within the enterprises and among integrated companies. These activities include the sourcing of raw materials and parts, manufacturing and assembly, warehousing and inventory tracking order entry and order management, distribution across all channels and ultimately deliver to the customer. The primary objectives of SCM are to
reduce supply cost, improve product margins, increase manufacturing throughput, and improve return on investment.

Supply chain consists of all stages involved directly or indirectly in fulfilling a customer request [1]. It is a multistage system involving a constant flow of information, material and product between different stages. Each stage of the supply chain performs different functions. The complexity of the chain may vary from industry to industry and from firm to firm. Supply chain performance has become a critical issue in many industries due to increased competition. Supply chain has its own unique set of market demands and operating challenges and issue remains essentially the same in every case.

A typical supply chain consisting of different levels e.g. supplier, manufacturer, distributor and customer, who work together in an effort to acquire raw materials, convert these raw materials into specified final products and deliver these final products to retailers is shown in fig 1.1. It is, therefore, a network of companies which influence each other [2].

![Fig.1.1 A typical Supply Chain](image)

The aim of SCM is to gain an advantage in terms of customer service and cost over competitors. In order to achieve an edge over competitors every supply chain has to continuously monitor its performance. Therefore, a supply chain needs to establish a mechanism for measurement of its own performance and attempt to improve the same on continual basis.
1.3 PERFORMANCE MEASUREMENT SYSTEMS

The use of performance measures in business is hardly new; companies have been measuring costs, quality, cycle time, efficiency, productivity, etc. of products, services and processes for quite long time. Performance measures are recognized because an organisation or a group has a responsibility to know how, when and where to institute a wide range of change. These changes cannot be sensibly implemented without knowledge of the appropriate information upon which they are based. Performance measures quantitatively tell something about products, services and the processes that produce them. They are tools to help understand, manage and improve what organisations can do. Customer service and satisfaction are the two most important attributes in the supply chain. Enhanced competitiveness depends on factors such as identifying the important measures of performance for a given strategy, understanding the inter-relationships of these measures, and focusing on measures which truly predict long-term financial success of the business [3].

A supply chain is composed of all the companies involved in the design, production, and delivery of a product to market. SCM is the coordination of different functions among the constituents of supply chain to achieve the best mix of responsiveness and efficiency for the market being served. To achieve this each company now focuses on its core competencies and partners and trying to match them with other companies that have complementary capabilities for the design and delivery of products to market. Even companies may focus on improvements in their core competencies in order to keep up with the fast pace of market and technological change in today’s economy. Simultaneously, companies must learn to align their supply chains with the demands of the markets they serve for achieving successes in the competitive market.
Supply chain performance will be distinct competitive advantage for companies who excel in this area.

For achieving this there is a need to develop performance measurement that link company’s strategy to operating decisions. Traditionally, performance measures have been seen as the means of quantifying the efficiency and effectiveness of action. However, they are based upon performance of organisation in delivery, cost, shipping, manufacturing etc. In order to avoid narrow or uni-directional focus, balance set of measures may be included in performance measurement system. Keeping in mind that inadequately designed performance measure may result in dysfunctional behavior, negotiation between finance, sales, development and manufacturing needs to encouraged. Therefore, performance measures included in performance measurement system should have following characteristics.

- It should be measurable,
- It must be realistic and representative,
- It must relate commercial and distribution process,
- It should reflect responsibilities.

1.4 SCOPE OF THE WORK

Due to enormous competition in the business, organizations are attempting to improve their status through different functional areas. It has been established that the supply chain management possesses good amount of potential required for improvement in the growth of business. Literature review revealed that measurement of performance of supply chain management is restricted to individual component. As supply chain is the interconnection of different links of business, it is necessary that performance of link connecting the components,
rather than component itself, should be measured. An exhaustive list of performance measures is available in literature which can be used for measurement of supply chain.

It is also seen that many times more than one component is responsible for discharging a particular function. Though supply chain consists of different components responsible for performing different functions, literature revealed that only supplier is given importance. As rightly said that, all the links need to work together, for achieving better performance, the entire supply chain, instead of only supplier, is required to be considered.

This work, therefore, proposes to consider all relevant performance measures and submeasures to ensure that the decision making process is influenced by as many factors as possible. Performance measurement of entire supply chain management system considering all important links (and not components) is proposed to be developed by adopting following broad procedure.

The objectives of this research can be summarized as follows:

- To identify different performance measures and submeasures
- Formulate a procedure for evaluation of supply chain
- Evaluate the different links of supply chain on the basis of different measures identified.
- Find out the weaker links in the supply chain so as to improve the performance of supply chain.

1.5 ORGANISATION OF THESIS

The work has been presented in five chapters
Chapter one presents meaning of supply chain and its management, desired characteristics of performance measures and the issues in performance measurement. It identified the scope of the work.

Chapter two presents the literature survey describing different performance measures of supply chain management, methods adopted for performance measurement and concludes with comment on necessity of present work.

Chapter three describes the proposed procedure for measurement of performance of supply chain along with the framework for performance measurement system. AHP methodology has been described in detail which is also used for studying effect of different functions (Links) including logistical operation on the performance of supply chain.

Chapter four presents results when proposed procedure is applied to a sample supply chain. It demonstrates as to how a weak link is to be identified and proposes an action plan to improve its performance.

Chapter five presents conclusions of the work followed by scope for future work.