Developing Quality Matrix for Supply Chain Stages

Muhammad Shoaib and Hammad Nasir

Institutes of Business and Management
University of Engineering and Technology Lahore, Pakistan

Management Sciences, IBM Institute of Business and Management
University of Engineering and Technology Lahore, Pakistan

Abstract: Much attention has been paid on supply chain management concepts since recent years. Supply chain management plays a dynamic role in today’s competitive world. The research has focused on the development and design of quality matrix in order to increase the efficiency of operational activities and functions using the quality management matrix for supply chain processes. This research is explorative. The core components of quality management are business processes, customer’s requirement, quality practices according to the price, supplier relationships, leadership skills, human resource practices, business outcomes or results, health and safety. Different phases of supply chain process have been independently studied but the complete value chain has not been studied. Information technology is used in the organizations to effectively communicate with the employees and its systems, share of information.

Key words: Supply Chain Management Process - Quality Management - Supplier

INTRODUCTION

Supply chain management is simply related to the system of organization, connected with the employees or staff of the organization, customers, suppliers based on the quality, cost, response time and productivity, competitors, information, new and creative ideas, positive attitude and behaviors of the employees moving the organization’s products and services from local market to international market [1]. In simple words, we can also state that this process is also known as the supplier to organization process and customers.

The Supply chain management is the functions and activities of the business processes that transform the natural resources, raw materials and the core main components helps to transform the products and services into finished forms or more appropriately manufactured goods, that are delivered and offered to the end customers. The system of the supply chain management is normally used in the new and old products and services of the re-entrance in the cycle of the supply chain management processes [2].

The term supply chain management (SCM) was firstly developed and established to express and direct the need, want and demand of the consumers to integrate or mix with the core key components of the organization and business processes outcomes, from the end customers with the help of the suppliers to reduce the cost, maintain quality and, response time to increase the efficiency of the organization related to the supply chain management (SCM) process [12], which results in the increase of profit of the organization. Best suppliers consider of providing good quality products and services, the relevant information and knowledge to the customers and stakeholders of the organization [3].

The study main aim is the determination of the quality management, quality tools, management structure, continuously improvement, learning and strategic planning of supply chain management in the organization. Secondly, the study focus is on the implication of the business practitioners in terms of department of organization such as marketing, finance, human resource, information technology and many other related departments in the organization dependent upon the customer’s feedback.
This study provides an overview of the common issue that exists in the designing and implementation of a Quality Matrix for Supply Chain Stages.

The main purpose of this paper is to create the awareness between the supply chain management system and organization to run the system smoothly and effectively.

In this research study we design the introduction and background has presented the related to the supply chain management process with the relationship of organizations and customers. In the next section methodology is discussed on the basis on the approaches used in this study, performances, functional core areas, reliability, security, mobility and system design. In the section four is the evaluation of the study which shows the relationship between the supply chain management and supplier management and the other relationship is on the supply chain management and organization and customers. In the last section conclusion are made on the basis of results and evaluations.

**Background:** The research study has described the subject of quality management in the supply chain management as the process that is fragmented and dispersed in many different and significant disciplines such as, “supplier buyer activities, manufacturing practices and process integration.” He has suggested that SCQM i.e. Supply Chain Quality Management is not considered as a specific term or a phase in the literature rather the quality management in the process of the supply chain management is increasingly unconnected and lacks of treatment as a substantial aspect of supply chain management [4].

The research study identified that there are number of different total quality approaches and he related the number of these approaches as similar to the number of business processes. Every approach is related to every single and specific business process. It is suggested that many of the business processes share some of the basic features of the total quality management. Such as “customer focus, strategic planning and leadership, continuous improvement and learning lastly, the concept of empowerment and team work” [5].

The research studies was considered as the combination of the wider and extensive review of the concept of the total quality management in the perspective of the supply chain management and he added that there are approximately more than forty aspects of the quality management that directly as well as indirectly impact the implementation and development of the total quality management by dividing or categorizing the topics into “different core field areas of human resources focus, management structure, quality tools, supplier support and lastly the orientation of customers”.

Much analysis and various research studies [8-10] have highlighted the impact of supply chain management and had considered as the developing body of acquaintance stems from the research disciplines such as, “physical distribution, transportation, net worked systems of materials, logistics and transportation, services, supply base integration and information [7].

The research has described the “SCQM” as a blend of the combination of supply chain management and the total quality management. He has discussed the concept of the SCQM with many specialized people and called for many further management meetings to study the impact of SCQM on the sales and market share of the organization. It is suggested that the integration and implementation as well as the merging of these “two bodies of knowledge” total quality management and the supply chain management requires vast area of research [8].

Various research studies had conducted the research studies on the impact of the supply chain communication and partnership activities on the quality management and supply chain management.

**MATERIALS AND METHODS**

The quantitative data used in this study is based on the applied, practical and real time methodology. This real time study is based on the outcome of the overviews of observation, thoughts, grounded and opinion that direct data observation of existences is a way to measure the strength, authenticity, fact and make truth about the world.

The main role in this study is the implementation of information technology in different organizations working in Pakistan and secondly, how effectively and efficiently information technology is used and managed by the system. In this research the capabilities of supply chain management performance are considered.

The flow of business process in supply chain is from supplier to organization processes, move to process and then from organization to customers.

**Approach:** The approach of the study was performed and made on the data gathered with the help and support of research tool. It also supported the selection the best method for conducting this study for increasing the rationality and reliability of the data. This process of
business activity moves in a cycle to generate profit. In this process, information technology is used in most of the firms to automate their systems. This information technology helps to run the organization in a systematic way to fulfill the customer’s needs and expectations.

Customer’s feedback is positive then the whole cycle repeats its activities again and again in return most of the firm earn maximum profit and create worth in the market. The importance of the supply chain is vital for the development and growth of the firm.

**Performance:** The performances of this study is based on the supply chain management system mainly focusing on the supplier of quality management, reduce cost, timely delivered, quick response and support the system to run smoothly [5].

**Functional Area:** The functional area to conduct this study is based on the supplier raw material, material up to the mark, testing department of the firm check it through different techniques, then process it to the work in process department and finally finished goods are produced to fulfill the customers’ requirements [12].

**Reliability:** Designing and developing a quality matrix for supply chain management process system offers many benefits [11]. The main benefits of using these quality management principles are to enhance and increase the overall efficiency performances of the firm and the reliability of the supply chain stages. The proposed solution has stream line the processes involved in the supply chain stages. The importance of security, reliability, availability and cost effective architecture cannot be denied in any of the proposed solution designed or in the development of the supply chain management (SCM).

**Security:** In this competitive world, most of the firms are trying to make their security system of information secure especially, when the process of supply chain start is in from the initial stages. The importance of the security system and its architecture must be carefully designed when proposed solutions design are implemented in the firms. Security is evaluated from the level of encryption and the device authentication provided by each technology [13].

**Mobility:** The Mobility of this supply chain process system is based on the implement of the latest information technology to speed up the processes of the supply chain management, this technology ensures the quality of the raw material, measures the supplier response time and make effective communication in between the suppliers, organization and customers [3].

**SYSTEM DESIGN:** The firm system design is based on the firm where the role of the supplier in an organization is dynamic in order to monitor the quality of the product and services [5] which local or international supplier provide to the organization. The main focus is on the response time, cost of that product or services and productivity occurs in the organization [9]. Quality management ensures the quality of the product or services which firm offers to its customers [10].

The system of supply chain consists of the transportation, logistic, supply base integration and partner’s relationship with in the firm.

The process of the supply chain is based on the supplier, Main aspect of transportation and logistics, purchasing raw material and supply chain process that integrate with the supply chain business processes.

**Reliability:** Designing and developing a quality matrix for supply chain management process system offers many benefits [11]. The main benefits of using these quality management principles are to enhance and increase the overall efficiency performances of the firm and the reliability of the supply chain stages. The proposed solution has stream line the processes involved in the supply chain stages. The importance of security, reliability, availability and cost effective architecture cannot be denied in any of the proposed solution designed or in the development of the supply chain management (SCM).

**Mobility:** The Mobility of this supply chain process system is based on the implement of the latest information technology to speed up the processes of the supply chain management, this technology ensures the quality of the raw material, measures the supplier response time and make effective communication in between the suppliers, organization and customers [3].

**SYSTEM DESIGN:** The firm system design is based on the firm where the role of the supplier in an organization is dynamic in order to monitor the quality of the product and services [5] which local or international supplier provide to the organization. The main focus is on the response time, cost of that product or services and productivity occurs in the organization [9]. Quality management ensures the quality of the product or services which firm offers to its customers [10].

The system of supply chain consists of the transportation, logistic, supply base integration and partner’s relationship with in the firm.

The process of the supply chain is based on the supplier, Main aspect of transportation and logistics, purchasing raw material and supply chain process that integrate with the supply chain business processes.
This process model needs the continuous learning improvement with the passage of time, system design with the help of quality management. The components of all these system are directly associated, with implement and are based on customer’s feedback.

**Evaluation:** In this section, this study evaluates the major aspect regarding the process of supply chain management system influenced on the quality matrix. The top management of the firm makes policy and strategic planning for the better future of the firm. Their main aim is to build a strategic partnership and trust with the process of supply chain. This system consists of two stages, one is the dependability and the other one is the ability of each stage to make a faith between two parties. The factor trust involves the belief, welfare and not avoids the action that which is against the process to supply chain because it disturbed the whole process of the organization or firm.

**Supplier and Quality Management:** The relationship between the supplier and quality management is very significant. Both are directly linked and associated with the system of organization. The main duty of the supplier is to provide the best quality raw material, quick response time, ensure its quality, due to this quality management processes and structure management link the activities of the firm.

**CONCLUSION**

Supply chain management system basically enrolls the importance of the supplier. The supplier plays a significant role in the organization because all the major functions and activities of the firms are directly linked with it. The main function of the supplier is to provide the best quality of raw material mentioned as per agreement or contract. Most of the firms make strong policies and procedures for quality testing department. Quality and response time of supplier is very important to initiate the other processes of the firm. The process of supply chain start from the supplier, then moves to work in process and finally convert into finished goods. According to the feedback of customers, it is positive then repeats this process cycle again and again. This positive feedback is in the favor and betterment of the organizations or firms.

The process of the supply chain revolves around many aspects such as fulfilling of the customer’s request, requirement, manufacturing, supplier, quality, response time, transportation system, warehouse, retailer, logistics and many other related departments which support this process. Most of the firms are highly influenced by the cost and productivity of the quality products or services. It’s also directly links with the system of the organization for cost determination, the quality of the product or services. High cost high quality produced, low cost low or middle class product quality produced. Now days,
of the firms greatly emphasize on the system of quality management. Quality management is the separate department of every organization or firm which only monitors the product quality of raw material, which is received from the supplier side. This department has different techniques to check the quality of the raw material before it process. The role of their department is very sensitive. It needs the continuous improvement and learning how to update it with the passage of time to meet the customers’ requirements and take a place or create the space in the market and gain a competitive edge against the competitors.

REFERENCES