

“Identifying and Evaluating Supply chain activities: A case study on Auto Equipment Limited”

*“Identifying and Evaluating Supply Chain Activities:
A case study on Auto Equipment Limited”*

Dissertation submitted in partial fulfillment of the
Requirements for the Degree of
Masters in Procurement and Supply Management

Submitted by
A.H.M. Rakibul Hoque

ID # 13282006

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**BRAC Institute of Governance and Development
BRAC University**

“Identifying and Evaluating Supply chain activities: A case study on Auto Equipment Limited”

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A DISSERTATION
BY
A.H.M. Rakibul Hoque

ID # 13282006

Approved as to Style and Contents
By
Prof. Md.Mizanur Rahman

University Of Dhaka



BRAC Institute of Governance and Development,
BRAC University

Letter of Transmittal

26, November, 2015

Pro.Md.Mizanur Rahman

Subject: Letter of Transmittal

Dear Sir,

It is great pleasure for me to submit my dissertation report on the topic of “*Identifying and Evaluating supply chain activities: A case study on Auto Equipment Limited*” as a partial fulfillment of my Master’s Program.

I have tried my level best to prepare this report to the required standard. It was certainly a great opportunity for me to work on this paper to actualize my theoretical knowledge in the practical area.

I express my heart full gratitude to you to go through this report and make your valuable comments. It would be very kind of you, if you could kindly evaluate my performance regarding this report. I sincerely would like to inform you that, in my report there may include inadvertent errors or mistakes in account of my limitation of understanding and experiences. I hope my endeavor will be beneficial to the reader.

Thanking you

Best regards,

.....

A.H.M. Rakibul Hoque

Student Declaration

I am A.H.M. Rakibul Hoque mentioning that the dissertation report on **“Identifying and evaluating supply chain activities: A case study on Auto Equipment Limited”** has only been prepared as a partial fulfillment of the Master’s program.

It has not been prepared for any other purpose reward or presentation.

.....
A.H.M. Rakibul Hoque

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Finally, I record with deep appreciation the patience, understanding and encouragement shown by our parents and friends throughout the period of this study.

.....

A.H.M. RAKIBUL HOQUE

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Supervisor’s Declaration

This is to certify that the dissertation report on **“Identifying and evaluating supply chain activities : A case study on Auto Equipment Limited ”**in the bona fide record at the report has been carried out by A.H.M. Rakibul Hoque, bearing ID: 13282006 from BRAC University as a partial fulfillment of the requirement of Master’s on Procurement and Supply Management (MPSM) degree. The Report has been prepared under my guidance and is a record of the bona fide work carried out successfully. To the best of my knowledge and as per his declaration, any part of this report has not been submitted for any degree, diploma or certificate.

Now he is permitted to submit the dissertation report. I wish his all success in his future endeavors.

.....

Pro.Md.Mizanur Rahman

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Executive Summary

Along with the path of globalization, supply chains have expanded rapidly over the decades, with the aim to increase productivity, decrease costs and fulfill demands in emerging markets. In Bangladesh the practice of establishment & development of supply chain in different sectors over last few years are also very significant. Therefore, it is very essential to know the supply chain activities of an organization to develop effectively and efficiently towards the organizational goal. This study has been conducted as a case study to identify and evaluate supply chain activities of a selected organization named as Auto Equipment Limited.

Briefly, the study will be contributed for further analysis on the supply chain activities in Bangladesh perspective. Specifically, when strategies will be implemented for resolving problems in the similar types of organization this study can incorporate values significantly.

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CHAPTER 1

INTRODUCTION

Supply chain management is applied by companies across the globe due to its demonstrated results such as delivery time reduction, improved financial performance, greater customer satisfaction, building trust among suppliers, and others. According to D’Amours, Ronnqvist, and Weintraub (2008), companies resort to supply chain practices to improve their performance.

1.1 AUTO EQUIPMENT LIMITED

Auto Equipment Limited (AEL) is the Distribution type business organization dealing with various business brands like **BOSCH, SKILL, DREMEL, FISCHER etc.** and is responsible for both marketing & distributing these items in Bangladesh. It was established by Mr. Quazi Jainul Abedin (Managing Director) in 1965 as **Auto Equipment Limited**. At the very initial stage the business of Auto Equipment Limited was limited to just importing and distributing the Agricultural machineries but later it had been expanded with many other business units like RMG, Pesticides, Mosquito coils, Tractors etc. These units are monitored and controlled under a central business division called Group QA. At present, there are about 4000 people working under Group QA.

Auto Equipment Limited (AEL) a sister concern of Group QA formed in 1985 when the business had been started for automotive spares and power tool items. After the Managing Director, at present the Top Level Management of AEL includes Mr. Quazi Ehsanul Auto (Director), Mr. Quazi Kamaluddin (Executive Director) and Mr. Quazi Hedayet Hossain (General Manager) .There are about 80 people working under Auto Equipment Limited. It has been mentioned before that AEL is dealing with various brands like BOSCH, FISCHER, SKILL, DREMEL etc. The product range can be divided into two categories as Power tools and Automotive spares. At present both of these two are contributing 80% business volume of the company. The Automotive spares includes the items like Fuel injection equipment, Nozzles, Delivery valve, Horns, Filters, spark plugs, feed pumps, distributor heads etc. In contrast, the Power tools include the items like drilling, grinding, hammering & other machines generally used in heavy engineering works or projects. 20% business volume of AEL is filling up by other segments like machine accessories and service centers.

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1.2 SUPPLY CHAIN OF AUTO EQUIPMENT LIMITED

To distribute the products AEL is following multi channels including intermediary dealers, stockiest, resellers, corporate customers and the end level users. In case of Automotive product segment the items are being distributed to 30 dealers, 50 stockiest, 12 corporate customers and 35 Fuel Workshops (End level Users). On the other hand, Power tools items are being distributed through 30 dealers, 65 corporate customers and 45 listed end level customers. In the financial year 2014-15, The total market share of AEL was 23% whereas individually Automotive spares holds around 20% and the power tools segment holds about 18% of the market share.

In power tools segment AEL has to compete with the other brands including Chinese items, KANE, DE WALT etc. Automotive segment is quite different and it is the market of dependent item but the AEL is competing low cost Chinese products and grey channel items (illegally imported item).

As AEL is playing the role of distributor in Bangladesh. So, it does not include any manufacturing facilities and hence the supply chain of the organization is based on “Order to stock” to fulfill the customer demand. The supply chain strategy for Automotive and power tools are different. An overview is given below.

Basically power tools are the tools driven by Electrical power which are being used for many purposes in Bangladesh including Demolition, Cutting, grinding, drilling, hammering etc. AEL is importing the power tools from different countries like Germany, Singapore etc. Generally air and ships are used as a transportation mode for power tool items for which lead time are 3 and 5 months respectively.

On the other hand, automotive spares are dependent item, the market of which is based on the vehicle population in Bangladesh. The spares includes Fuel Injection equipment, Filters, spark plugs, components, etc. The Automotive spares are being come from directly from the plants of BOSCH located in India as most of spares used in the Indian vehicles. In this case, the lead time is approximately 3 to 5 months.

Due to the lead time of 3 to 5 months, AEL inventory policy is to become as responsive as possible. At present AEL is maintaining the inventory of about 1500 SKU (Stock Keeping Units). To monitor and control of it's inventory it uses the Accounting software Tally.ERP9

The Supply chain activities of AEL is started from the demand orders of items at lower level from various customers including both externally such as Corporate clients, Dealers, Stockiest, Resellers etc. and internally the own service centers. All demand orders are compiled into one by Sales department which

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leads to generate a sales forecasting. The sales forecasting is scrutinized at higher level and converted into purchase order which therefore is forwarded to the suppliers.

The overall supply chain activities of the company is carried out by three inter organizational units (a) supply chain planning, (b) commercial and (c) storage & distribution.

The supply chain planning includes the activities demand forecasting, inventory analysis & control, materials planning, supplier relationship management, customer order management etc. The commercial activities includes order forwarding, L/C handling, leadtime management, product costing etc. The storage and distribution unit of AEL carry out storing of items came from different supplier and distributing among the customers according to the schedule.

The interfaces between supply chain and other departments of AEL can be mentioned as- (a) sales and marketing issues such as Market analysis, Annual sales projection & policies, monthly demand forecasting, monthly supply planning, promotional policies etc. (b) Finance issues such as average monthly Inventory holding cost, fund confirmation for material flow etc. (c) Service issues such as supply of service items, technical specification analysis of product, product defect rate analysis etc. (d) human resource & admin issues such as overall coordination to implement both individual & departmental performance. Etc.

1.3 OBJECTIVES OF THE STUDY

The primary objective of this study is to make an overall evaluation of supply chain activities of Auto Equipment Limited (AEL). More specifically the objectives are as follows:

1. To describe the supply chain activities of AEL.
2. To evaluate supply chain activities of AEL.
3. To identify the problems of supply chain activities of AEL. &
4. To prescribe some suggestions.

1.4 SCOPE OF THE STUDY

The proposed study will be conducted on what types of activities are involved in the supply chain of AEL, what are their impacts, how existing AEL policies are involved to support these activities. The study will be contributed for the betterment of the organization specifically in the area of supply chain. In addition, this study might also contribute for increasing the efficiency and effectiveness of the similar type organizations in the Bangladesh.

CHAPTER 2

LITERATURE REVIEW

Supply chains have expanded rapidly over the decades, with the aim to increase productivity, decrease costs and fulfill demands in emerging markets. The objective of this chapter is to describe the supply chain, supply chain management and supply chain activities of an organization which could be applied to the case company to evaluate those activities.

2.1 SUPPLY CHAIN

According to the Mentzer et al. (2001, p .5) “ *A supply chain is defined as a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer* “.

The supply chain may include internal divisions of the company as well as external suppliers that provide input to a focal company. A supplier for this company has his own set of suppliers that provide input (also called second tier suppliers). Supply chains are essentially a series of linked suppliers and customers until products reach the ultimate customer (Hanfield , 2002, p.9)

2.2 SUPPLY CHAIN MANAGEMENT

Several authors have defined supply chain management. Simchi-Levi and Kaminsky (2000) define supply chain management as “*the integration of key business processes among a network of interdependent suppliers, manufacturers, distribution centers, and retailers in order to improve the flow of goods, services, and information from original suppliers to final customers, with the objectives of reducing system-wide costs while maintaining required service levels*”.

The Council of Supply Chain Management Professionals (CSCMP) (2004) defines SCM as: “*SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities, including coordination and collaboration with suppliers, intermediaries, third-party service providers, and customers*”.

Cooper, Lambert, and Pagh (1997) defined SCM as the management and integration of the entire set of business processes that provides products, services and information that add value for customers. Though these definitions differ slightly in wording, all communicate the importance of integration,

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communication and coordination between functions and organizations that will create value for the customer (Gillyard, 2003).

In other words, SCM is the management of material and information flows, and the management of relationships between supply chain members (Seuring 2002a, p. 2). In addition, a broader definition of SCM includes also financial flows (Stemmler 2002, p. 166-167). Therefore, the concept of supply chain management is defined in this thesis as the management of material, information and financial flows, including the management of relationships between supply chain participants as well.

SCM has a wide scope. Simchi-Levy(2000) say that Supply Chain Management takes into consideration every facility that has an impact on cost and plays a role in making the product conform to customer requirements. The objective of Supply Chain Management is to be efficient and cost effective across the entire system. Cost efficiency means consideration of the total systemwide costs, from transportation and distribution to inventories of raw materials, work in process and finished goods and that the cost is minimized. Supply Chain Management is not simply about minimizing transportation cost and reducing inventories, but rather on taking a system approach to find improvement areas.

2.3 SUPPLY CHAIN MANAGEMENT AS A SET OF ACTIVITIES

Supply chain management is increasingly being recognized as the integration of key business processes across the supply chain. Implementation is carried through by three primary elements: the supply chain network structure, the supply chain processes, and the management components. In terms of supply chain network structure, it is important to integrate decisions related to purchasing, manufacturing, stocks, warehousing and distribution as well as define goals and strategies how to achieve it. On the other hand, it is important to design a set of standard processes which will assure rational behavior of the individuals or companies that are the part of the supply chain. Last but not at least, it is necessary to define control mechanisms to be able to audit performance of supply chain according to the plan, by coordinating activities and processes in order to build links between supply chain members and making the right decisions.

According to The Henningsson (2009) the activities of Supply chain can be classified into three categories.(1)Value adding activities; that can be explained as activities which the customers are willing to pay for. These activities are directly contributing to creation of customer value and solving its problem. The strategy for these activities is to develop them.(2) Non value adding activities; which cannot be derived from the creation of customer value. These activities are supporting the value adding activities

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and/or create value for other stakeholders instead of the customer. Non value adding activities shall be minimized.(3) Waste ;, that do not create any value for neither the customer nor the company itself. The strategy for waste activities is to eliminate them. Dividing activities into these categories is useful for the company to reach a unified view upon the internal activities. To reach a unified view, the classification needs to be done in cooperation with different levels of the organization. After classifying the activities, the internal focus should not only be on minimizing and eliminating the two last types of activities. The value adding activities may not satisfy the customer’s need totally, improvements in this area may therefore lead to great leverage.

Three fundamental processes or stages in a supply chain actor are procurement, production, and distribution. An actor purchases required resources, provides with operations, and then deliver the product, a good or service, to its downstream customer. In general, a supply chain is composed by the operations of these three basic processes in each actor, connecting together in fulfilling the requirement of the end customer (Thomas & Griffin, 1996).

2.4 FACTORS THAT AFFECT SUPPLY CHAIN ACTIVITIES

In order to understand how a supply chain works, it is important to identify the factors affecting supply chain management. The identification of these factors has been based on previous work by Li (2002), and Quesada and Meneses (2010). The following sections show generic supply chain management factors and sub-factors that might affect supply chain management activities.

2.5 ENVIRONMENTAL UNCERTAINTY

Environmental uncertainty refers to the environmental issues in the product chain (Dwivedi and Butcher, 2009). Ettlíe and Reza (1992) described this as the unexpected changes of customer, supplier, competitor, and technology. It was said by Yusuf (1995) that government support plays an important role for business success. Paulraj and Chen (2007a) mentioned that environmental uncertainty is an important factor in the realization of strategic supply management plans. The increase of outsourcing activities in the industry had augmented the awareness of the importance of strategic supply management, which leads to better relationship among organizations. Under this factor, three sub-factors were identified: environment, government support, and uncertainty aspects from overseas

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2.5.1 COMPANY ENVIRONMENT

This sub-factor is related to the company's relationship with suppliers and their level of trust and commitment. Company environment is also related to the company's expectations of quality, on time delivery, competition in the sector, and the level of rivalry among firms. In order to respond effectively to demand, companies realize that imports are a good option for obtaining flexibility in response, even though working with countries from overseas implies working with uncertainty (Wu, 2006). According to a study carried out by Ambrose et al. (2010), uncertainty negatively affects company performance. But this can be reduced if a strategic relationship with critical suppliers is established (Chen et al., 2004). Thus, companies need to implement new strategies that allow them to deal with environmental uncertainties in the supply chain (Wu, 2006) in order to perform in a proficient manner.

2.5.2 GOVERNMENT SUPPORT

The level of support that the company receives from the government when importing raw materials or products from overseas or using domestic materials. It includes the use of norms, regulations, policies, and advice for the sector. The research conducted by Elzarka et al., (2011) describes how government can make a series of reforms to encourage exports by increasing manufacturing sector's competitiveness in the international market through logistics competency. The increase of international trade for acquiring resources from other countries introduces complicated matters such as language barriers, transportation, transportation costs, exchange rates, tariffs, and administrative practices (Quayle, 2006).

2.5.3 UNCERTAINTY ASPECTS FROM OVERSEAS

When requiring the outsourcing of raw materials or products, it is important to acknowledge the existence of environmental factors such as political uncertainties in other countries that can increase risk for suppliers, provoke decisions of no investment, change business strategies, and in general influence business decisions. Social uncertainties such as religion, environment, language, cultural issues, limitations of communication (Bhattacharyya et al., 2010) and also the technology used in other countries might interfere with supply chain planning and function (Bized, 2007).

2.6 INFORMATION TECHNOLOGY

Telecommunications and computer technology allow all the actors in the supply chain to communicate among each other. The use of information technology allows suppliers, manufacturers, distributors, retailers, and customers to reduce lead time, paperwork, and other unnecessary activities. It is also mentioned that managers will experience considerable advantages with its use such as the flow of

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information in a coordinated manner, access to information and data interchange, improved customer and supplier relationships, and inventory management not only at the national level but also internationally (Handfield and Nichols, 1999). Also the advantages will include supply contracts via internet, distribution of strategies, outsourcing and procurement (Simchi-Levi et al., 2003). All companies are looking for cost and lead time reductions with the purpose of improving the level of service but also to enhance inter-organizational relationships (Humphreys et al. 2001). A study carried out by Tim (2007) states that through the use of communication tools, such as the web sites, industrial organizations can build value in their supply chain relationships. According to Turner (1993), another key for supply chain management success is the use of planning tools. He also mentions that without the use of information systems, companies cannot handle costs, offer superior customer service and lead in logistics performance. Turner (1993) indicates that firms cannot effectively manage cost, offer high customer service, and become leaders in supply chain management without the incorporation of topof- the-line information technologies. Li (2001) identified 14 such information technology tools, among them electronic data interchange (EDI), enterprise resource planning (ERP), internet, and extranets. Li grouped these tools into three groups in terms of their primary purpose: communication tools, resource planning tools, and supply chain management tools. Given this classification, two subfactors are considered in this research: communication and planning tools.

2.6.1 COMMUNICATION TOOLS

Communication tools are used to facilitate data transfer and communication between the trading parts and this might include EDI, electronic fund transfer (EFT), intranet, internet, and extranet (Li 2002). Electronic Data Interchange (EDI) is used for procurement (purchase orders, order status, and order follow-up). EDI serves as electronic catalogs for customers who can get information, dimensions, and cost about a specific product. EFT provides trading partners with an effective way to transfer funds from one account to another through a value added network (VAN) or the internet. Intranets are corporate local area networks (LAN) or wide area networks (WAN) that communicate through the internet and are secured by firewalls. Usually this type of communication tool is used inside a corporation that features different locations. On the other hand, extranet allows business to communicate and share business with external collaborators with a certain degree of security and privacy. Another type of communication tool is the internet, a uniform interface that allows global communication with the use of browsers (Bowersox et al., 2007).

According to O'Neill (2008) the advances in information technology have made communication tools easier for users, allowing its presence in components to extend in the supply chain. Another significant

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communication tool is the internet based information and communication technology (ICT), mentioned by Tan et al. (2009). This study suggested that the use of ICT is a strategic communication tool that improves the organization's competitiveness, allowing cost reduction and permitting the company's effectiveness.

2.6.2 PLANNING TOOLS

Supply chain management planning tools are intended to integrate the resource planning activities in a firm or organization. Some of the most common planning tools are: material requirement planning (MRP), manufacturing resources planning (MRPII), and Enterprise Resource Planning (ERP). A MRP is a tool that allows an organization to schedule production activities to meet specific deadlines based on the bill of materials, inventory levels, and master production schedule. An improvement of MRP tools is MRPII which integrates manufacturing capabilities and capacities with the benefits of MRP. An ERP tool allows the organization to integrate all processing information tasks related to all processes in the value chain. This is usually a single system that might include order management, inventory fulfillment, production planning, financial planning, and customer service in a company. It is the backbone of the logistic systems for a variety of firms (Bowersox et al., 2007). Some other IT tools exist that can be used to execute or manage the various activities and relationships in the entire supply chain (Kumar 2001). These may include: data warehouse (DW), vendor managed inventory (VMI), distribution requirement planning (DRP), and customer service management (CRM).

2.7 SUPPLY CHAIN RELATIONSHIPS

Supply chain relationships play an important role in achieving the firm's goals. The coordination and integration of activities with suppliers and understanding of customer's needs results in greater benefits for companies. According to Fraza (2000), supply chain management is directly related to relationship management, which includes suppliers and customers. Strategic supplier partnerships and customer relationships are main components in the supply chain management practices (Li et al., 2005), leading to information sharing, which is one of the five pillars in achieving a solid supply chain relationship (Lalonde, 1998). Two sub-factors are considered in the model relationship with suppliers and customers.

2.7.1 RELATIONSHIPS WITH SUPPLIERS

Companies are inclined to work with different suppliers in different ways. It is important that the relationship with suppliers satisfies their company needs. Hines (2004) mentioned that in commodity products, it is common to find an adversarial relationship mainly based on price between buyer and

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supplier. This type of relationship with suppliers does not allow for cost reduction in the supply chain. It may be beneficial to network the supplier, to develop partnerships and alliances that will benefit both partners. This could be based on production, personal, and or symbolic networking, that will turn on strategic alliances (Hines, 2004), allowing the information sharing, risk sharing, obtaining mutual benefits and coordinating plans, permitting the improvement of the supply chain.

2.7.2 RELATIONSHIPS WITH CUSTOMERS

The global markets offer a variety of products of different quality and cost. As a result, companies are always competing and trying to reduce costs and improve quality. According to Burgess (1998) and Hoek (1999), customers look for more choices, better service, higher quality, and faster delivery. The relationship with customers has turned a strategic issue for today's companies.

2.8 VALUE-ADDED PROCESS (MANUFACTURING)

Value-added products can be commodity processes or products that already exist; you only have to use smart modifications and apply them. According to Bishop (1990), value-added is defined as *“adding those manufacturing or service steps to a commodity product, which the customer perceives as increasing its value”*. Customers always want to pay the cost that they think is correct, and if they get something additional to the product, they got value-added. Two factors are significant when we talk about value-added: flexibility and quality. And, as stated by Benetto, Becker and Welfring (2009), production processes contribute to improved value-added. For example, Dramm (undated) affirms that the forest products industry is mainly focused on acquiring the highest value throughout the manufacturing process at the lowest cost, improving efficiency, quality, and productivity. Thus, it is important to include the production system as a part of the value-added process

2.8.1 FLEXIBILITY

The complex markets, fierce competition and fast changes in demand require that companies be ready to react promptly to customers' needs. Flexibility can be understood as the ability to react and adapt quickly to changes in the market due to an increase or decrease of customers' requirements, accelerating or decelerating the manufacturing processes when it is requested. Bowersox, Closs, and Cooper (2007) mention that a logistical competency of a firm can be measured by how well it is able to adapt to unpredictable situations.

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2.8.2 QUALITY

Quality is not a bonus for the customer; it is expected. Quality is also important for the acceptance of a product. High costs, low productivity, and loss of market share are directly related to poor quality (Dramm, undated). Quality is meeting or exceeding the expectations of your customer (Bishop, 1990). This could be achieved, for example, by the use of quality metrics, which improves the production system (Juran, 1988). Achieving better efficiency, quality and productivity, and acquiring the highest value of a product at lower cost will improve the business performance of a company.

2.8.3 PRODUCTION SYSTEM

A study made in the automotive glass business showed how changing the industrial structure of the production system adds value to processes, which will help to expand their business future (Just-Auto, 2010). This value-added could be achieved by reducing activity time, cost processes, and identifying bottlenecks that will improve the production processes. As a result, it will give value-added to the products (Mehta, 2009).

2.9 SUPPLY CHAIN MANAGEMENT PERFORMANCE

SCM performance is defined as the operational excellence to deliver leading customer experience (Simchi-Levi et al., 2003). Beamon (1999) mentions some features present in effective performance measurement systems and these include the following: inclusiveness (measurement of all pertinent aspects), universality (allows for comparison under various operating conditions), measurability (data required are measurable), and consistency (measures consistent with organization goals). Also, the strategic goals include key elements such as the measurement of resources (generally cost), output (generally customer responsiveness) and flexibility. Stevens (1990) states that to build up an integrated supply chain requires the management of material flow from three perspectives: strategic, tactical, and operational. From these perspectives, the use of systems, facilities, and people must be seen as a whole and work in a coordinated manner. He also mentions that a company can measure the supply chain performance by inventory level, service level, throughput efficiency, supplier performance, and cost. Lear-Olimpi (1999) also stated that logistics play an important role in pursuing supply chain excellence which will lead to improved business performance (Lear-Olimpi, 1999). Another critical sub-factor of successful supply chain management is the analysis of the supplier market (Purchasing, 2007). An important point according to Canbolat, Gupta, Matera and Chelst (2008) is outsourcing, which is significant in the supply chain management for the opportunities and risks that it offers. Then, this factor comprises four sub-factors logistics, supplier markets, supplier performance, and materials sourcing.

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2.9.1 LOGISTICS

Logistics is defined by Bowersox, Closs, and Cooper as “*the responsibility to design and administer systems to control movement and geographical positioning of raw materials, work-in process, and finished inventories at the lowest total cost*” (Bowersox et al., 2007). The research of Autry, Zacharia and Lamb (2008) establishes that logistics must be focused on the coordination and collaboration of activities, logistics social responsibility, strategic distribution planning, and technology and information systems.

2.9.2 SUPPLIER MARKETS

According to Yushan and Cavusgil (2006), changes in the market create sensible companies regarding firm-supplier relationship. For manufacturers it is more important to build supplier’s trust and to rely on suppliers, focusing on customer orientation, competitor orientation, and inter-functional coordination. The current competitive environment makes manufacturers aware of the need to reduce costs and to develop new products quickly. This is when supplier’s expertise plays an important role. Superior supply chain management requires significant information with respect to supplier markets. Implementation of strategies in the supply chain will make the precious firm-supplier relationship difficult to copy by competition (Eltantawy, 2005).

2.9.3 SUPPLIER PERFORMANCE

When looking for successful supplier performance, it is important to emphasize relationship quality. Researchers such as Walter, Kaufman, and Palmatier, propose relationship quality as a “multi dimensional construct consisting of trust, satisfaction, and commitment.” Steward, Wu, and Hartley (2010) consider factors such as product quality; responsiveness to requests for change; sales, service and/or technical support; total value received; and overall cost performance as a measurement of supply chain performance. They also found that “supplier performance is higher when the supply manager perceives trust and satisfaction on the part of the supplier’s account executive

2.9.4 MATERIAL SOURCING

Companies in any manufacturing sector are always looking for low-cost raw material, domestic or imported. With the objective of improving their competitive advantage, some of them see importing as an appealing option. As there are some advantages when importing resources, such as lower labor cost and lower cost of resources, there are also some disadvantages that companies have to take into account when evaluating whether or not to work with offshore companies. Importing raw materials, components or products increases the dependence on suppliers (Lockamy and McCormack, 2010), and some risks are

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identified such as culture, language, foreign exchange rate, regulations, quality, political and economic stability, and transportation delays (Canbolat et al., 2008).

2.10 BUSINESS MANAGEMENT

Business management consists of leading, planning, organizing, monitoring and controlling all the involved actors and activities in a company to achieve goals and objectives. It is described by Ford and Mouzas (2010) as “*the process of managing networking between companies*”. Fast changes in customer demand, globalization of markets, and changing technology require companies to focus their efforts on improving competitiveness, trying to achieve customer’s satisfaction through adding more value to their products (Hung, 2010).

Thus, improving business process performance is critical for business management (Linzalone, 2008). Also, process strategy is used to improve manufacturing performance, and as result business performance (Thomas et al., 2008). Marketing strategy is viewed by managers as a tool for improvement of their financial returns (Peterson, 1989). And innovation should be seen as part of business management, allowing the implementation of new processes, products, and services to respond promptly to customers’ requirements (Leavy, 2010).

2.10.1 PROCESS STRATEGY

Process strategies are utilized by companies to improve their manufacturing performance and as a result business performance (Thomas et al., 2008). Sultan (2006) states that process strategy management requires the identification of objectives, the creation of policies and assignation of resources for the plan’s implementation.

2.10.2 PROCESS PERFORMANCE

Companies are expected to provide superior quality at low cost. To achieve these goals, they have to look for tools and strategies that help them obtain high process performance. Rework rate, defect rate, and inventory turnover rate are measures of process performance (Pakdil, 2010).

2.10.3 MARKETING STRATEGY

Marketing strategy is defined “*as an organization’s integrated pattern of decisions that specify its crucial choices concerning products, markets, marketing activities and marketing resources in the creation, communication and/or delivery of products that offer value to customers in exchanges with the*

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organization and thereby enables the organization to achieve specific objectives” (Varadarajan, 2010). Managers are always confronting the problem of how to implement marketing strategies in the company. It might be better to increase advertising, to create and invest in loyalty programs, and to improve product or service quality by focusing on financial returns of marketing (Rust et al., 2004).

2.10.4 INNOVATION

Verhees and Meulenber (2004) mention that innovation is the creation of a new product and the process of acceptance and implementation of the new product. There are three levels at which innovation can be studied: the sectorial, regional, and project level. According to Meeus and Oerlemans (2000) innovation allows companies to grow and survive in the complex markets. Also, according to the Organization for Economic Co-Operation and Development (2005) innovation is defined as *“the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organizations, or external relations.”* Another definition of innovation was done by Schramm (2008) as *“The design, invention, development, and/or implementation of new or altered products, services, processes, systems, organizational structures, or business models for the purpose of creating new value for customers and financial returns for the firm.”*

2.11 CUSTOMER SATISFACTION

The customer’s perception is not always the same as the product manufacturer’s perception. Customers may give more value to low cost, on time delivery, delivery date certainty, or receiving a customized product (Simchi-Levi et al., 2003). According to Kurata and Num (2010), manufacturers and retailers are always looking for practical after-sales policies that will permit them to enhance customer satisfaction levels. Furthermore, an analysis conducted by Ou, Liu, Hung and Yen (2010) showed that customer-firm-supplier relationship management improves operational performance and customer satisfaction. Based on this, a sub-factor customer service is identified.

2.11.1 CUSTOMER SERVICE

The goal of the companies is to give customers the best service in an efficient and effective manner (Handfield and Nichols, 1999), without forgetting about information such as product description, product availability, order status, shipping dates, and assisting them in all what they need (Lambert and Cooper, 2000). Quayle (2006) states that customer service is defined by demand forecasting, service levels, order processing, parts/service support, and aftermarket operations.

CHAPTER 3

RESEARCH METHODOLOGY

To fulfill the purpose of the thesis, methodology development, the thesis research adopted the case study as the research strategy. The case study is one of the most common strategies applied in conducting social science researches; some other strategies are for examples, the experiment and the survey. Depending on the types of research purposes, the preference in selecting the research strategy would be varied; many social scientists convince this is the only appropriate strategy when it comes to the exploratory investigation. Also, the case study strategy is especially valid in answering “how” questions regarding to contemporary events (Yin, 2002). In this study, the activities associating with the coordination in a supply chain will be identified and evaluated, by investigating a real case.

3.1 DESIGN OF THE STUDY

The design of the thesis research is to develop the methodology based on literature researches but involve the empirical evidence at the same time, to support the theoretical finding with the empirical data. The empirical circumstance was considered during the developing period; also the outcome of the methodology would be validated and refined through performing a case study. The defining case to perform the case study would also evolve with the theoretical finding during the research period, in optimizing the outcome of the thesis research, combining both the theoretical and empirical study.

At the beginning of the research period, a large amount of literature researches was conducted in the research areas of Supply Chain from published journal article and books, in acquiring enough knowledge background and formulating the purpose of the research. Supply Chain is well developed research areas, evolving over time in fitting the content of contemporary global development and different environment settings. So the challenge at the beginning of the research was to scrutinize supply chain, one of most popular research areas containing broad research topics; identifying and evaluating the activities of supply chain in an organization, to create the purpose of the thesis research.

Refining the research purpose through a series of theoretical and empirical study, the research purpose was finalized to develop a methodology based on a theoretical perspective and validate the methodology through an empirical case. In the case study, the current state of supply chain activities and the requirements for supply chain coordination in the in the case would be investigated as the method to

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identify problems and improvement areas associating with the coordination in the supply chain. In comparison the developed methodology framework and the performed case, the analysis of methodology development for problem identification in supply chain coordination and improvement suggestions in enhancing the coordination in supply chains would be given. Also, at the end of this report, a conclusion of the thesis research would be provided. To achieve the objectives, the following process has been taken under focus. 1) Developing questionnaires. 2) Identifying supply chain functions. 3) Evaluating supply chain functions. And 4) Recommending the suggestions.

The important measures of this study are Target population, sample size, sampling techniques, data collection etc.

3.2 TARGET POPULATION OF THE STUDY

Target population has been considered as all employees and customers who has the important stake to AEL.

3.3 SAMPLE SIZE

For the convenient & limitation of the study the sample size has been selected as 20.

3.4 SAMPLING TECHNIQUES

Non random sampling techniques have been used due to the availability and accessibility of required information.

3.5 DATA COLLECTION

During the period of the thesis research, several different means for data collection were applied, which encompass both theoretical and empirical date. The main leverage for theoretical data collection is through literature reviews, which provide required knowledge in conducting the thesis research. A case study was performed to support achieving the research purpose with empirical data. One of the principles of data collection in case studies is to use multiple sources of evidence to increase the convincingness and accuracy of finding or conclusion. There are six most commonly used sources of evidence for data collection in case studies addressed in Yin (2002); among them, four were applied to collect the empirical data in the thesis research, namely documentations, archived records, direct observation, and interviews.

The sources of secondary data collection from the internal materials of the involving companies in the case study, documents and archived records, provide stated details of information, which enables to corroborate information from other sources. Also with the stated information, these sources provide stable

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data which could be reviewed repeatedly. The first-hand information of empirical data could be gathered through direct observations during the visit of the case organization.

Direct observations allow the investigator to collect data in real time, and provide contextual information of the covering event. And from interviews, the insightful information interpreted through the eyes of specific interviewees is acquired. This source of evidence could also provide shortcuts to identify the prior situation and other sources of evidence (Yin, 2002). More detailed description of the sourcing channel in different data collection approaches, and the applications in the thesis would be introduced in the following sections.

3.5.1 DOCUMENTATIONS AND ARCHIVED RECORDS

Secondary data gathering for the empirical study was proceeded through reviewing the hand-out materials acquired during visiting of organization in the case study, and the internal materials of the cooperated companies in the thesis research, including the supplier, case company, and the supplier involving in the case. Reviewing the empirical materials of documentations and archived records regarding to the case, some facts of the supply chain and information of the involving companies in the case were gathered; this facilitates the works of defining the supply chain and performing data collection for the case study.

3.5.2 DIRECT OBSERVATIONS

One of the data collection approaches used for collecting first-hand empirical data in the thesis research is direct observations, visiting the operations sites of the case to observe and record real time information. Three times study visits had been performed during the thesis research period; with different areas of interests, the investigations were also corresponding to different purposes. During the study, several questions were also asked to inquire the required data; also notes were taken as the main recording method for relevant information.

At the beginning of thesis research period, the first-time study visit was performed to get the background information of the procedures in the case company in targeting and defining the supply chain for the case study. The information of the operations in the case company was provided by tour guide explaining the functions and operations in areas, with the emphasis on the central business in the case company.

During the study, several questions were asked to the personnel involving in the operations for information inquiry regarding to the case. A case study template was created, with information inquiry questions and record sheet, as the preparation of the detailed case study data collection.

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3.5.3 INTERVIEWS

The most commonly used empirical data collection approach in the thesis research is to perform semi-constructive interviews, to acquire quick pictures of the background information, professional advices for research direction, and real time information for the case study. An interview template was created and applied during the research period, as the protocol to perform interviews and keep the performed interview records in a more systematic way. During the interviews, notes were taken as the recording method.

At the beginning of the thesis research, the purpose of interviews was defining the chain for case study. With the background information of the supply chain of case, the target for the case study was able to select. The interviews for the background information involved interviewees from the case, with the areas in distribution arrangement of material supply to the case company in planning procedure from ordering to delivery of central business, and operations of arrival materials supplied in the case company.

3.6 DEVELOPING QUESTIONNAIRES

The questionnaires have been developed based on two steps-

- a. Preliminary investigation through literature; where several books, articles, reports has been utilized to get the concepts.
- b. Preliminary investigations through discussion: where expert opinions have been taken from the supervisor and other professionals to implement the concepts.

3.7 LIMITATIONS OF THE STUDY

The study was limited to identify and evaluate supply chain activities precisely in terms of time constraint and accessibility of information. The study has been conducted within a limited time period for which some selective methods have been applied to fulfill the objectives. The study was limited to the sample size of 20 due to the accessibility of information which otherwise if increased the accuracy of the outcomes might be enhanced.

CHAPTER 4

DISCUSSIONS, ANALYSIS AND FINDINGS

This last chapter presented the research methodology used in this dissertation and established a foundation for the data collection and analysis. This chapter analyzes the data collected from the selected case company and respondents and aims to interpret the data in relation to the research problem. The chapter consists of four main sections in order to focus four research questions. This is followed by details of the plan for case and cross-case analysis.

4.1 OBJECTIVE 1: DESCRIBING THE SUPPLY CHAIN ACTIVITIES OF AUTO EQUIPMENT LTD.

A generic supply chain of AEL is given on Figure 4.1 which shows how the material, fund and information are being moved on the basis of which the supply chain activities of AEL can be divided into some major categories such as Logistics, planning, purchasing, inventory management, order management and Customer relationship management.

4.1.1 LOGISTICS

The activity includes inbound transportation into organization, outbound transportation to customers etc.

4.1.2 PLANNING

The activities involve the coordination with other organizational units, maintaining proper flow of material according to the demand generated.

4.1.3 PURCHASING

The purchasing issues include strategic sourcing, consolidating and optimizing supplier base, assuring the best value for money.

4.1.4 INVENTORY MANAGEMENT

The inventory management function involves balancing supply with demand, maintaining safety stock, reducing excess stock and reducing obsolete stock.

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4.1.5 ORDER MANAGEMENT

The order management includes customer motivation; order execution, lead-time reduction etc.

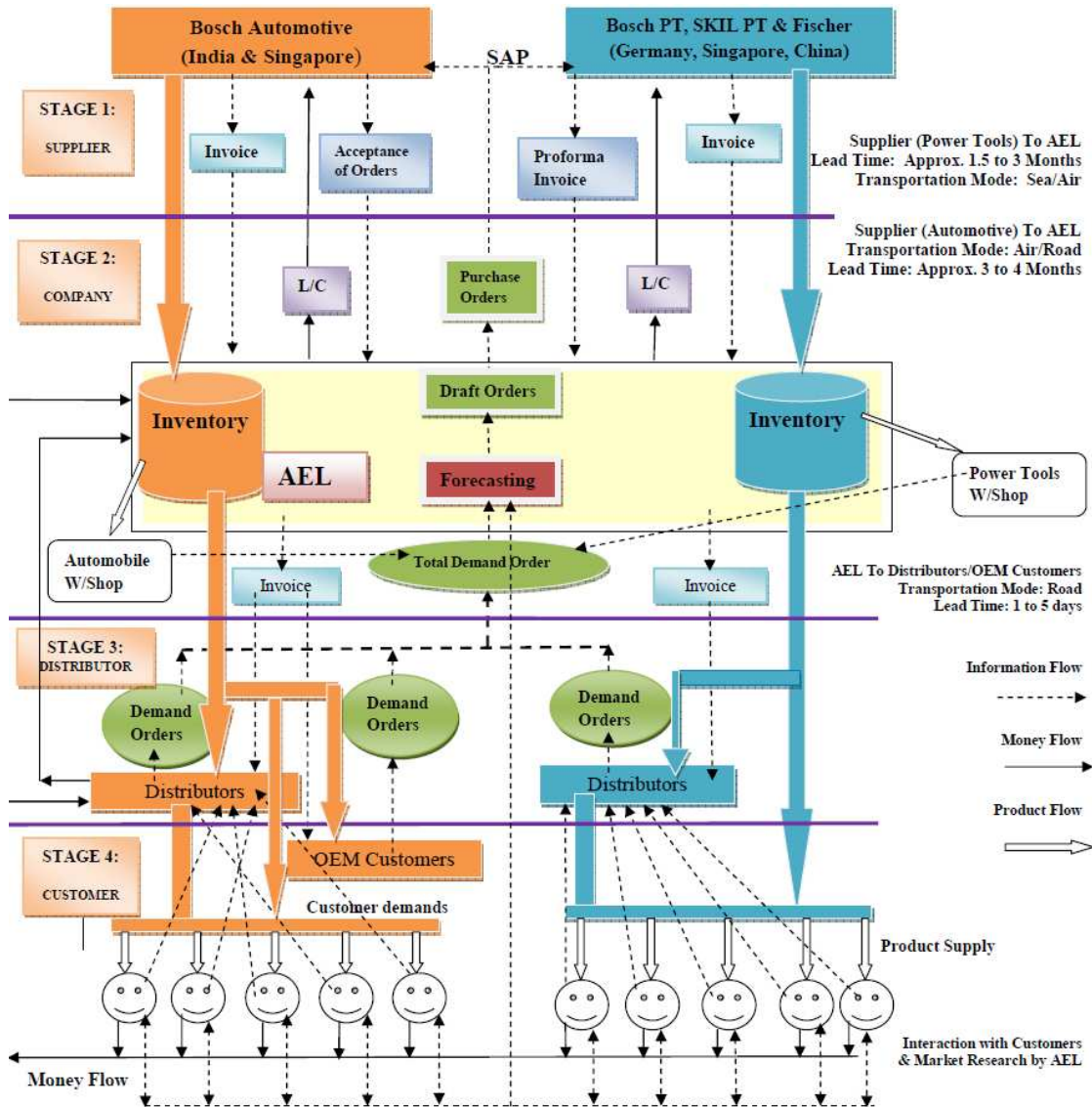


Figure 4.1: Supply chain flow of Auto Equipment Limited

4.1.6 CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

The CRM activities involve improving customer responsiveness, developing customer loyalty, customer motivation, managing customers etc.

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4.2 OBJECTIVE 2: EVALUATING THE SUPPLY CHAIN ACTIVITIES OF AUTO EQUIPMENT LTD

To evaluate the supply chain activities as mentioned before some prescribed indicator can be utilized against each of those as shown in Table 4.1.

SL No.	Supply Chain Activities	indicators
1	Logistics	Delivery lead-time
2	Planning	Demand-supply gap
3	Purchasing	Cost of supply
4	Inventory Management	Inventory Turnover ratio
5	Order Management	Order fill rate
6	Customer Relationship Management	Customer satisfaction

Table 4.1: Measures of Supply chain activities

Based on these measures a questionnaires has been developed as attached in the annexure and conducted a survey among total 20 interviewee including 12 customers and 8 employees. Therefore the outcome of the survey has been plotted in a diagram shown on figure 4.2 where the measures of the supply chain have been shown in terms of efficiency (%).

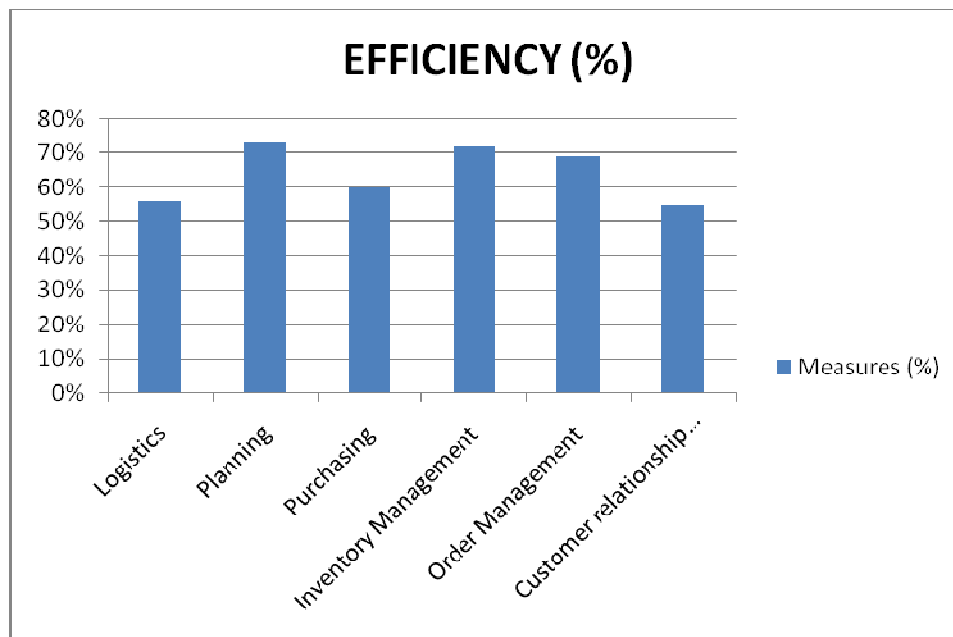


Figure 4.2: Efficiency (%) of supply chain activities of AEL

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4.3 OBJECTIVE 3: IDENTIFYING THE PROBLEMS OF SUPPLY CHAIN ACTIVITIES OF AUTO EQUIPMENT LTD

To identify the problems of the supply chain activities the political, Environmental, social and technological issues (i.e. PEST) have been considered based on which a set of open ended questionnaires have been developed and conducted a survey of same population as mentioned before. Therefore, the outcomes of the survey are being accumulated in the Table 4.2.

SL No.	Issues	Survey questions (open ended)	Problems identified
1	Political	What are the major problems of Auto Equipment Ltd. influenced by Political issues?	<ul style="list-style-type: none"> • Political instability • Higher finance cost • Higher taxation on import
2	Economic	What are the major problems of Auto Equipment Ltd. Influenced by Economic issues?	<ul style="list-style-type: none"> • Economical instability • Exchange rate fluctuation • Lower purchasing ability of customers • Restriction on credit access • Cross-border activities (grey channel)
3	Social	What are the major problems of Auto Equipment Ltd. Influenced by Social issues?	<ul style="list-style-type: none"> • Unethical business practice of competitors • lack of dealer’s loyalty • lack of consumer's awareness
4	Technological	What are the major problems of Auto Equipment Ltd. Influenced by Technological issues?	<ul style="list-style-type: none"> • Changing of demand pattern • Technology gap • R & D gap • Logistical & infrastructural gap

Table 4.2: Problems of the supply chain activities of Auto Equipment Limited

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4.4 OBJECTIVE 4: PRESCRIBING SUGGESTIONS ABOUT SUPPLY CHAIN ACTIVITIES OF AUTO EQUIPMENT LTD

The performance of the supply chain activities can be improved by following some significant activities prescribed by SCOR metrics as shown in Table 4.3

Performance attribute	Performance attribute definition	Metrics
Supply Chain Delivery reliability	The performance of the supply chain in delivering: the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer	<ul style="list-style-type: none"> • Delivery performance • Fill rates • Perfect order fulfillment
Supply Chain Responsiveness	The velocity at which a supply chain provides products to the customer.	<ul style="list-style-type: none"> • Order fulfillment • Lead times
Supply Chain flexibility	The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage.	<ul style="list-style-type: none"> • Supply chain response time • Production flexibility
Supply Chain costs	The costs associated with operating the supply chain.	<ul style="list-style-type: none"> • Cost of goods sold • Total Supply chain management costs • Value added productivity • Warranty>Returns processing costs
Supply Chain Asset management efficiency	The effectiveness of an organization in managing assets to support demand satisfaction. This includes the management of all assets; fixed and working capital.	<ul style="list-style-type: none"> • Cash to cash cycle time • Inventory days of supply • Asset turns

Table 4.3: Performance attributed (Source: SCOR)

In addition, there are several initiatives through which the supply chain efficiency of Auto Equipment Ltd. Might be increased

1. Increasing distribution channel
2. Effective inventory control
3. Reduction of demand supply gap
4. Enhancing information technological facilities
5. Enhancing customer motivation program
6. Building long term strategic relationship with key supplier
7. Negotiating the best value of the organization and for competition.

CHAPTER 5

CONCLUSION

The efficient delivery of the product to the consumer at the right price, in the right place and at the right time will result in good business for each link of supply chain. This takes strategic planning and effective collaboration with all partners. In brief, the supply chain activities can dramatically change the performance of an organization if handled effectively and efficiently that's why supply chain should be focused more precisely in any organization to achieve organizational goals. Finally it could be mentioned that this case study has been conducted in a small scale due to the limitations of time and accessibility of information although the effort has been maximized to fulfilled research and educational requirement.

References

Aluri, A., & S Munnang, S.S. (2011) Asset and inventory management in the hotel industry using RFID technology: an experimental study with economic analysis. *16th Graduate Student Research Conference*

Ashish, A.T. (2007) *Competitive advantage of a firm through supply chain responsiveness and scm practices* (Doctoral dissertation)

Bechtel, C. & Jayaram, J. (1997), *Supply chain management: a strategic perspective*, *International Journal of Logistics Management*, Vol. 8 No. 1, pp. 15–34.

Boddy, D., Cahill, D., Charles, M., Fraser-Kraus, H., & Macbeth, D. (1998), *Success and failure in implementing partnering*, *European Journal of Purchasing and Supply Management*, Vol 4 No. 2, pp. 143-151

Council of Supply Chain Management Professionals, retrieved January 5, 2012 from: www.cscmp.org

Cooper, M. C., Lambert, D. M., and Pagh, J. D. (1997), *Supply chain management: more than a new name for logistics*, *The International Journal of Logistics Management*, Vol. 8 No.1, pp. 1-14

Croom, S., Romano P. & Giannakis M., (2000) *Supply chain management: an analytical framework for critical literature review*, *European Journal of Purchasing and Supply Management*, Vol. 6, pp. 67-83

Fantazy, K.A., Kumar, V., & Kumar, U. (2010). Supply management practices and performance in the Canadian hospitality industry. *International Journal of Hospitality Management*, 29(4), 685-693.

Feldmann, M., & Müller S. (2003) *An incentive scheme for true information providing in supply chains*. *OMEGA* Vol.3, No. 2, pp.63–73

Gammelgaard, B., & Larson, P. D. (2001). Logistics skills and competencies for supply chain management. *Journal of Business Logistics*, 22(2), 27-50.

Gibson, B. J., Mentzer, J. T., & Cook, R. L. (2005). Supply chain management: The pursuit of a consensus definition. *Journal of Business Logistics*, 26(2), 17-25

Gillyard, A. E. (2003) *The relationships among supply chain characteristics, logistics and manufacturing strategies, and performance* (Doctoral dissertation) Retrieved from Dissertations and Thesis database

Hoske, M. T. (2009). The wisdom of Wal-Mart’s supply chain strategies. *Manufacturing Business Technology*, 27(5), 6-6.

“Identifying and Evaluating Supply chain activities: A case study on Auto Equipment Limited”

- Jones C. (1998) *Moving beyond ERP: making the missing link* Logistics Focus, Vol. 6, No.7, pp. 2–7.
- Kothari, T., Hu, C., & Roehl, W. (2005) E-Procurement: an emerging tool for the hotel supply chain management. *International Journal of Hospitality Management*, 24(3), 369-389.
- Maloney, D. (2009). Home Depot's supply chain remodel. Retrieved from <http://www.dcvelocity.com/articles/20090801verticalfocus/>
- Mentzer, J. T. (2001), *Supply Chain Management*, Sage, Thousand Oaks, CA
- Mentzer, J. T., DeWitt, W., Keebler, J. &S., Min, S. (2001). Defining supply chain management. *Journal of Business Logistics*, 22(2), 1-26
- Simchi-Levi, D., Kaminsky, P., and Simchi-Levi, E. (2000), *Designing and managing the supply chain*, Irwin McGraw-Hill, New York, NY
- Oliver, R.K., & Webber, M.D. (1982), *Supply chain management: Logistics catches up with strategy*, *Logistics: the Strategic Issues*, London, UK: Chapman & Hall
- Ricker, F., & Kalakota, R. (Fall 1999) Order fulfillment: The hidden key to e-Commerce success. *Supply Chain Management Review* 62-65. Retrieved from <http://www.logistech.us/lsi/resources/SCM9911ecomm.pdf>
- Ruteri, M.J. & Xu, Q. (2009). Supply chain and challenges facing the food industry sector in Tanzania. *International Journal of Business and management*, 12(4), 73.
- Tan, K. C., Lyman, S. B., & Wisner, J. D. (2002), *Supply chain management: a strategic perspective*, *International Journal of Operations and Production Management*, Vol. 22, No. 6, pp. 614–631.
- Tan, K.C., Kannan V.R., Handfield R.B. & Ghosh S. (1999) *Supply chain management: an empirical study of its impact on performance*, *International Journal of Operations and Production Management*, Vol. 19, No. 10, pp. 1034-1052.
- Tirschwell, P. (July 14th,2008) Target reconsiders supply-chain strategy. *The Journal of Commerce*. Retrieved from http://www.ittc.com/uploadedfiles/News/07_14_08_target_reconsiders_supply_strategy.pdf
- Van Hoek RI. (1998) *Measuring the unmeasurable—measuring and improving performance in the supply chain*. *Supply Chain Management*, Vol. 3, No.4, pp.187–92.
- Wilson, D. (2009). Today’s logistics management challenges. *Dairy Foods* , 110(12). 66.
- Wyndham Hotels & Resorts 2012 Corporate Information. (2012).Retrieved from <http://www.wyndham.com/corporate/recruiting/disciplines/corporateoffice/main.wnt>.

“Identifying and Evaluating Supply chain activities: A case study on Auto Equipment Limited”

Wyndham Hotels & Resorts 2012 Corporate Information. (2012). Retrieved from <http://www.wyndham.com/corporate/recruiting/disciplines/corporateoffice/main.wnt>

Yin, R. K. (2002). *Case Study Research: Design and Methods*. California: Stage Publications Ltd.

Zhang, X., Song, H., & Huang, G. (2009). Tourism supply chain management: A new research agenda. *Tourism Management*, 30, 345-358.

Annexure

(A)

BRAC INSTITUTE OF GOVERNANCE AND DEVELOPMENT

BRAC UNIVERSITY

MASTERS IN PROCUREMENT AND SUPPLY MANAGEMENT

Interview checklist (Evaluation of Supply chain activities of AEL)

NOTE: *The research is for academic purpose only and your response will be treated with ultimate confidentiality, Please tick (✓) and write where appropriate on your point of view(s) on the subject area.*

- i. Name of your organization:
- ii. Name of respondent:
- iii. Designation of respondent (position):
- iv. Years of experience in procurement:

SL No.	Issues	Questions	Weight of the options					Your comments if any
			1	2	3	4	5	
1	Logistics	How much satisfy you with the delivery lead time of AEL ?	Very low	Low	Medium	High	Very High	
2	Planning	What is the improvement of demand supply gap in AEL ?						
3	Purchasing	How do you rate the cost benefit of AEL ?						
4	Inventory management	How much you satisfy with inventory policy of AEL ?						
5	Order Management	How much you satisfy with the order fill rate of AEL ?						
6	Customer relationship management	How do you measure the customer satisfaction of AEL ?						

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(B)

BRAC INSTITUTE OF GOVERNANCE AND DEVELOPMENT

BRAC UNIVERSITY

MASTERS IN PROCUREMENT AND SUPPLY MANAGEMENT

Interview checklist (identification of supply chain problems by PEST analysis)

Open ended questions

v. Name of your organization:

vi. Name of respondent:

vii. Designation of respondent (position):

viii. Years of experience in procurement:

1. What are the major problems of Auto Equipment Ltd. influenced by Political issues?

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1. What are the major problems of Auto Equipment Ltd. influenced by economical issues?

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1. What are the major problems of Auto Equipment Ltd. influenced by social issues?

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1. What are the major problems of Auto Equipment Ltd. influenced by technological issues?

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