DISSERTATION REPORT

On

Supply Chain Management Practices of Apex Holdings Limited

Submitted by:

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Letter of Transmittal

Jan 14, 2022

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Subject: Submission of Dissertation Report.

Dear Sir,

With humble honor and respect, I am submitting my dissertation report on "Supply Chain Management Practices of Apex Holdings Limited" as per partial accomplishment of requirements for the MBA degree, this dissertation has been carried out under the supervisor of you.

This report is an integral part of our academic courses in completion of the MSCM program which has given me the opportunity to have an insight into Supply Chain Management Practices of Apex Holdings Limited, real scenario of Apex Holdings Limited.

In completing the report, I tried my best to blend all my knowledge and implied every available details and also attempted to avoid unnecessary amplification of the report.

I humbly respect you to accept this report for your kind evaluation.

Sincerely,

Md.Rakib Howlader

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Letter of Authorization

Certified that this dissertation report titled "Supply Chain Management Practices of Apex Holdings Limited" is the bona fide work of Md.Rakib Howlader, who carried out the research under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



Amir Husen

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Acknowledgement

At first I would like to thank All Mighty Allah for making it possible for us to complete our work properly within the given time. Most importantly I would like to thank my dissertation supervisor Amir Husen, who was always ready to guide me and solved all the difficulties that I faced during preparing my report.

I would like to mention some people with due respect and honor who assisted me, without any hesitation to complete our dissertation report within the due time. Therefore, I would like to thank them all from the bottom of my hearts.

Executive Summary

Apex Holdings Limited (AHL) is a holding company for the management of a wide range of manufacturing and export-oriented enterprises, ranging from Frozen & Convenience Foods, Textiles & Apparels, and Chemicals & Agro businesses. The company was formed and registered in Bangladesh in 1998. The sponsors of AHL had set up its first export-oriented manufacturing enterprise in 1980 and have ever since grown into a sizable group of companies. As the number of companies under the management increased, the need for a management company to facilitate coordination and to maintain control over the individual company became necessary. I preferred this attachment in Apex Holdings Limited (AHL), which is a 100% export oriented garments industry. It is well planned and equipped garment, inspection firms and merchandising unit. It is fully approved by several multinational inspection firms.

This report is intended to explain the whole Supply Chain Process of Apex Holdings. Here we firstly tried to find the current practices of supply chain on the first part of the report. This analysis emphasizes on the major aspects of supply chain within a country which are Supply Chain Strategy, Sourcing and Procurement, Material Management, Manufacturing and Quality Control, Logistics and transportation. We have arranged them as per information could be gathered from both inside and outside of the company.

After the analysis this report focuses on the findings of the analysis. A SWOT analysis is there to guide through the findings of the analysis. At the end few steps of recommendations are suggested in order to indicate a greater future for the company.

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Chapter: 01 Introduction

1.1 Introduction of the Study

The market- based economy of Bangladesh is the 39th largest in the world in nominal terms, and 29th largest by purchasing power parity; it is classified among the Next Eleven market economies and a frontier market. According to the IMF, Bangladesh was the world's seventh fastest growing economy with a rate of 7.3% real GDP annual growth. Dhaka are the principal financial centers of the country, being home to the Exchange. The financial sector of Bangladesh is the seventh largest in the subcontinent. It has also developed self-sufficient industries in pharmaceuticals, steel and food processing. Bangladesh telecommunication industry has witnessed rapid growth over the years, receiving high investment from foreign companies. Bangladesh also has substantial reserves of natural gas and is Asia's seventh largest gas producer. Offshore exploration activities are increasing in its maritime territory in the Bay of Bengal. It also has large deposits of limestone.

1.2 Objectives of the Study

1.2.1 Broad Objective

The broad objective of the study is to know about the Supply Chain Management Practices of Apex Holdings Limited.

1.2.2 The Specific Objectives

The specific objective of the study are as follows

- To identify the marketing strategy of Apex Holdings Limited;
- To find out the different types of problems of marketing activities of Apex Holdings Limited; and
- To give suggestions to overcome those problems.

1.3 Scope of the Study

The study mainly focused on the marketing activities of Apex Holdings Limited the report highlights sales and marketing policy of Apex Holdings Limited.

1.4 Methodology of the Study

Data Collection Method

A certain methodology used in order to fulfill the objectives of the report, making maximum utilization of the scopes and to avoid the limitations as much as possible to prepare the outcome of this study. To prepare this report I mostly depend on the experience and secondaryinfom1ation because it was difficult for me to collect primary information.

1.4.1 The Primary Sources

The sources as follows

I. Face-to-face conversation with the Executives and officers of Apex Holdings Limited.
II. Informal conversation with the client.
III. Practical work exposures from the different desks of the various departments of the Branch covered.

1.4.2 The Secondary Sources

The secondary sources data and information are:

a) Annual Report of Apex Holdings Limited.
b) Periodicals published by Apex Holdings Limited.
c) Various books, articles, compilations etc. regarding general.

1.5 Time Schedule of the Study

SL.NO	Particulars	Time Duration
1	Data Collection	**10**
2	Data Analysis	**30**
3	Report Rearrangement	**15**
4	Report Editing	**20**
5	Report Evaluating & Binding	**15**
	Total	**90**

1.6 Limitations of the Study

Since our study is based on both primary and secondary data, there is a possibility of getting fake information. If the surveyed personnel provide us with any information about their opinion of their organization, then the report findings may be erroneous. Above all, this study is weak in some points. The notable ones are as under:

i. The survey was conducted in a very sho1t time so we were not able to collect more information.
ii. This survey made on the crisis of Bangladesh, so it was difficult to collect more samples.
iii. Only the big and the reputed Apex Holdings Limited consider here as samples lack of experience in this field.
iv. Another limitation of this study is the person's private information were was disclosing some, data and information for obvious reasons, which could be very much useful.
v. Lake of proper authority to conduct the interview program.

Chapter: 02 Profile of Apex Holdings Limited

1.1: Overview of the Company

Apex Holdings Limited (AHL) was inevitably founded as a management company to run a large number of export-oriented manufacturing companies. The company was founded and registered in Bangladesh in 1998. AHL sponsors were involved in a variety of manufacturing industries, including frozen foods, textiles, apparel, specialty chemicals, and laboratory testing services. AHL sponsors founded the first export-oriented manufacturing company in 1980 and have since grown into a significant group of five manufacturing companies in three key areas of the industry. As the number of companies operating increased, the need for management companies arose to facilitate the coordination and management of each company. Apex Holdings Limited (AHL) was founded to act as the management company for all companies under the control of AHL sponsors. The directors of Apex Holdings Limited have control of all individual companies.

(Source- apexholdings.com)

1.2: Vision, Mission and Quality Policy of Apex Holdings Ltd.

The vision of Apex Holdings Ltd. Is to achieve long term sustainable quality level through continuous improvement. And the mission is to satisfy buyer expectation by providing better quality products.

Policy of Apex Holdings Ltd.:

Apex Holdings Ltd. has committed themselves to the following policies-

- To understand buyer demand and expectations.
- Strive for prevention of failure and defect reduction.
- To skill development of the employees through advanced training.

1.3: Organizational Structure

The Chairman of the Apex Holdings Ltd. is the business owner and follow up all the companies by himself. The Vice Chairman along with the other directors is responsible for the garments manufacturing companies. The Board of Director of Apex Holdings Limited are following-

1. Chairman
2. Vice Chairman
3. Managing Director
4. Director

Garments manufacturing companies that are included with Apex Holdings Ltd. are following-

- Apex Spinning and Knitting Mills Limited
- Apex Textile Printing Mills Limited (Focusing Unit)
- Apex Lingerie Limited
- Apex Fashion Wear Limited

1.4: Factory Concern Department and Branches

I am working in Apex Textile Printing Mills Limited. This company has following department with some branches-

Knitting- Knitting, Inspection, Quality Control

Dyeing- Batch section, Dye house, Dyeing laboratory, Quality control, Finishing

Garments- Merchandising, Sample Section, Cutting Section, Sewing Section, Finishing Section

Maintenance Section- Electrical & Mechanical

Industrial Engineering (IE) Department, Planning Department, Quality Department, R&D Department, Security Department, Supply Chain Department. Admin Department, Human Resource and Development

1.5: Organogram of Apex Textile Printing Mills Ltd.

Factory related all operation is controlled by HOO (Head of Operation). All the other departmental head had to report to him. GM Production is responsible for the production of the whole company including cutting, sewing and finishing. The rest of the positions i.e. Sr. Manager, Manager, Asst. Manager, Sr. Executive, Executive, Officer and in charge are shown in below organogram-

(Source- Internal Data of Company)

1.6: Products Produced by Apex Holdings Ltd.

Apex Holdings Ltd. produced different types of items according to buyer's requirement. Major buyers working with Apex Holdings Ltd. is H&M, ZARA, Walmart, Hema, Morrison, Lindex etc. Below is listed the products produced by the company-

T- Shirt- very easy to produce, price range is between $4- $5

Polo Shirt (Boys and Girls)- semi critical products, price range is between $10 -$12

Short and long pant – very basic types of knitted pant produce by Apex

Skirt- produce for only baby girls

Coverall- produce for only infant

Hoods Jacket- produce for Baby boys and girls

Tank Top- Vastly produce this product for H&M buyer.

Boxer- most produced underwear item, price range $5- $8

1.7: CSR Policy of Apex Holdings Ltd.

Apex Holdings Ltd. has integrated corporate social responsibility into their operations and choose to develop their personnel holistically. Planting 1000+ trees every year, providing safe drinking water and on-site medical facilities for all employees and their families, and providing daycare centers with qualified childcare providers for working mothers are just a few of their activities. They also hold regular wellness training workshops for their employees, focusing on financial literacy and nutrition. They are committed to investing in their employees. They have developed a salary management method called the Fair Wage Method with the help of the International Labor Organization (ILO) to address wage discrepancy issues in the worldwide garment manufacturing sector. Apex Holdings Ltd. consider these projects as more than just corporate social responsibility and a way to develop the community and the larger global sector.

- Medical room with available full-time doctors and nurses
- Day-care center staffed with certified child caregivers.
- Dining hall and canteen wherein employees can have their lunch and snacks.
- Separated prayer rooms for men and women.
- Safe drinking water dispensers available throughout the factory premises.
- Female welfare officers providing consultancy and employee awareness.
- Workers Participatory Committee for worker counseling and grievance handling



Figure 1 Social policy of Apex Holdings Ltd.

Chapter: 03 Conceptual Frameworks

3.1 Supply Chain Management (SCM)

Supply chain management (SCM) is the centralized management of the flow of goods and services and include all process at transform raw materials into final production. By managing the supply chain companies are able to cut and deliver products to the consumer faster.

Supply chain management is the integrated process-oriented planning and control of the flow of goods, information and money across the entire value and supply chain from the customer to the raw material supplier. In essence, supply chain management integrates supply and demand management within and across companies. A process for designing, developing, optimizing, and managing the internal and external components of the supply system, including material supply transforming, materials and distributing finished products or se1vices to customers, that is consistent with overall objectives and strategies.

The integration of business processes from end user through 01iginal suppliers that provides products, services and information that add value for customers. A supply chain is a network of facilities that procure raw materials, transform them into inte1mediate goods and then final products, and deliver the products to customers through a distribution system. A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturers and suppliers, but also transporters, warehouses, retailers, and even customer themselves. Each stage in a supply chain is connected through the flow of products, information and fund. These flows often occur in both directions and may be managed by one of the stages or an intermediary. Here we can see raw mate1ials supplier supply industrial product to the manufacturer, and make the product sale to distributor, distributor sale this product to the retailer by small lot, and final consumer get the product from the retailer.

Supply chain stages:

- Raw material supplier
- Manufacturer
- Wholesaler/distributor
- Retailer
- Customer

3.2 Strategic Management

Strategies are plans for achieving organizational goals. It has a great impact on what the organization does and how it does it. Strategies can be long term, intermediate term and long term. To be effective, strategies must be designed to support the organization's mission and its organizational goals.

Strategic management is the process of setting goals, procedures, and objectives in order to make a company or organization more competitive. Often, strategic management includes strategy evaluation, internal organization analysis, and strategy execution throughout the company.

3.3 Reasons for Forming Supply Chain Management

Practices experienced in the traditional management of the supply chain raised the need for conversion to a new paradigm of supply chain management (SCM). The traditional supply chain and manufacturing processes relied on experience and intuition of managers and were designed with long supply cycle times, large batch sizes, capacity based on annual volumes, volume-driven technology, and numerous suppliers for the same parts on the short-te1mbase contracts. With traditional management processes, the goal of business activities was to maximize the efficiency of an individual functional unit by achieving competitive edges based on cost reduction. Under the traditional supply chain, efforts of manufacturers to meet the increased changing of customer requirements caused decreased margins, poor service perfo1mance, increased overhead costs, poor production process reliability, increased downtime due to changeovers, and high inventory levels of raw materials and finished product. None of these conditions are viable in a competitive market. Most product supply systems are out of balance with customer requirements.

3.4 The Four Phases of Supply Management

The four phases of supply management all require many perspectives & inputs best obtained through a cross-functional approach. These four phases of supply management are as follows:

1. **Generation of Requirements:** The generation of requirements is a critical activity that results in the identification of the optimal materials & services to purchase, together with the development of specifications & statements of work describing these requirements. Approximately 85 percent of the cost of purchased material, se1vices & equipment is "designed in" during this phase. Thus supply management should be involved up-front during the generation of requirements to ensure that all commercial issues such as cost, availability, substitutes & so on, receive appropriate consideration.
2. **Sourcing:** The objective of sourcing is the identification & selection of the supplier whose costs, qualities, technologies, timeliness, dependability & service best meet the firm' s needs. The development of supply alliances is a sourcing activity.
3. **Pricing:** The objective of pricing is the development of prices that appropriately reward the supplier for its effo11s & which result in the lowest total costs of ownership for the customer film. While negotiations occur throughout the supply management process, their most significant role normally is during the pricing phase.
4. **Post-Award Activities:** This impo1tant activity ensures that the firm receives what was ordered on time & at the price & quality specified. Post-award activities include supplier development, technical assistance, troubleshooting & the management of the contract & the resulting relationships.

3.5 Supply Management Systems

Virtually all firms have supply management system even though many do not appear to be aware of this truth. A cross-functional approach to supply management allows each functional areas affected by the procurement of materials, equipment & services to be involved at a poiI1t where it may contribute to the lowest total cost. For example, garment manufacturing has expertise in technical & design; operations have it in the productivity implications of different materials; quality addresses the ability of prospective suppliers to meet quality requirement; & supply management addresses the commercial issues involved. Functions that should be included up-front (but seldom are under traditional approaches) are more likely to be involved so that they may contribute their insight. Customer service & maintenance are examples of functions with valuable information that should be considered early in the product's development. Unfortunately, such activities n01mally do not participate early enough to voice their concerns & needs. This may result in the purchase of equipment that is difficult to maintain, which may result in unavoidable downtime. Early in the development stage for new products or services (n01mally, after the objectives have been established & agreed to), one or more carefully selected suppliers is invited to join the in-house cross-functional team. Such action reduces the development & operation cycle & total cost.

3.6 Strategic Supply Management Activities

Supply management must focus on ten strategic activities:

1.Environment Monitoring: Supply management must understand supply markets & monitor the supply environment to identify threats & opportunities. These threats & opportunities include material shortages that affect one or more industries that supply the film. Sh01tage will affect both the price & availability of purchased materials & supplies. The film should take actions to minimize the impact of such shortages by monitoring changes in the supply environment.

2.Integrated Supply Strategy: Supply management must develop & manage the firm's supply strategy as an integrated whole instead of a series of unrelated strategies. The corporation's strategy is the key driver of the supply strategy. The technology, marketing & production strategies are all inputs to the supply strategy. Conversely, the supply strategy is an input to the technology, marketing & production strategies.

3.Commodity Strategies: Supply management must develop & update sound commodity supply strategies. The following activities must be performed in order to ensure the

effectiveness of the firm's commodity strategies:

- □ Strategy updating.
- □ Technology access & control.
- □ Supply management organization.
- □ Risk management

4.Data Management: Supply management, accounting & information technology must cooperate in the collection & application of supply data with the objective of facilitating strategic supply planning. Strategic supply planning requires data that provides information for processes that span over functional & company boundaries. The responsibility for planning, collection & compilation of supply data should not be placed on supply management alone. Rather, it should be an inter functional activity where the leaders are supply management & information technology personnel. Suppliers should also be included in the planning of data collection & application after careful internal consideration & analysis of each supplier relationship.

5.Corporate Strategic Plans: Supply management must join marketing & operations as the key players in the development of each of the firm's corporate strategic plans. Supply management provides input to the strategic planning process on threats & opportunities in the supply world. Threats may be potential key material shortages or price increases. Opportunities may in the form of likely new technologies, materials & equipment that may lower the firm' s cost of operations. Production & marketing am vitally involved.

Supply management provides input on constraints that may affect strategic initiatives.

Supply management's knowledge of the firm's supply world may be a source of vital input during the strategic planning process.

6.Strategic Sourcing: The firm must design & manage its supply base in line with the firm' s strategic objectives. Several actions must be taken in the area of supply base management or strategic sourcing:

- □ Periodically review the firm's base of active suppliers.
- □ Identify the appropriate type of relationship.
- □ Optimize the supply base.

7.Strategic Supply Alliances: The development & management of supply alliances frequently are two of the most critical & most strategic activities undertaken by any firm. Institutional trust is a prerequisite to supply alliances.

8.Supply Chain/Supply Networks: The development & management of a firm's supply chain or supply network parallels the development & management of supply alliances, but is infinitely more complex. Information technology & relationship skills are essential prerequisites for personnel assigned to this task.

9.Social Responsibilities: Supply management must develop & implement programs which protect the environment, which facilitate the inclusion of minority-owned, women owned & small business in our economy & which promote values in the workplace.

10.Understand Key Supply industries: Supply management's impact is directly proportional to its knowledge of the industries in which it buys. Supply professionals study & understand the industries which provide key materials, equipment & services, their cost structure, technologies, competitive nature & culture. We see that supply management has both strategic & tactical responsibilities. When both are executed efficiently & effectively, supply management becomes a key to the organization's survival & success.

3.7 Sourcing Analysis in Procurement

Strategic sourcing analysis is a collaborative and organized approach to leveraging suppliers and organizational strategy to yield long-term cost-saving benefits.... Itisimp01iant to assess whether the benefits of strategic sourcing are light for your organization. Sourcing, also known as procurement, is the practice of locating and selecting businesses or individuals based on set criteria. Sourcing is carried out in business in many different areas and for different reasons. One of the most common uses of sourcing is in supply chain management.

3.8 Material Management

Materials Management, Procurement, and Logistics ensures that all of our products are at the right place at the right time. They are in charge of inventory management, managing and planning materials, the logistical procurement of goods and services, and delivering K+S products to customers. Mate1ial Management is responsible for purchasing the highest quality equipment and products at the lowest possible cost for the organization.

Production Control, Purchasing, Master Scheduling (Demand Planning) and Warehousing. Controlling costs of Purchases with PPV also is key. Material management is a scientific technique, concerned with Planning, Organizing &Control of flow of materials, from their initial purchase to destination.

3.9 Manufacturing Process

Direct procurement is sourcing the goods, mate1ials or services that serve as the input for the organization's manufacturing process. Direct procurement is a vital process that directly impacts the company's own output of goods or services. Manufacturing, procurement is the connection process of purchasing and arranging in bound movement of all items, supplies, materials, finished inventory and general supply services from the suppliers into manufacturing process or assembly plants or warehouses

3.10 Logistics Management

Logistics management is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost. The roles of logistics feature transpo1tation/delivery, storage, packaging, cargo handling, distribution processing, and information processing, and many systems have been put in place to deliver products from the production location or factory to the consumer quickly and on time.

3.11 Logistic Drivers of Supply Chain Management

The forces that are reshaping the way businesses are being conducted in the contemporary hyper competitive environment world -wide and the concepts underlying the philosophy of supply chain management. There are three logistical drivers:

1. Facilities
2. Inventory &
3. Transportation

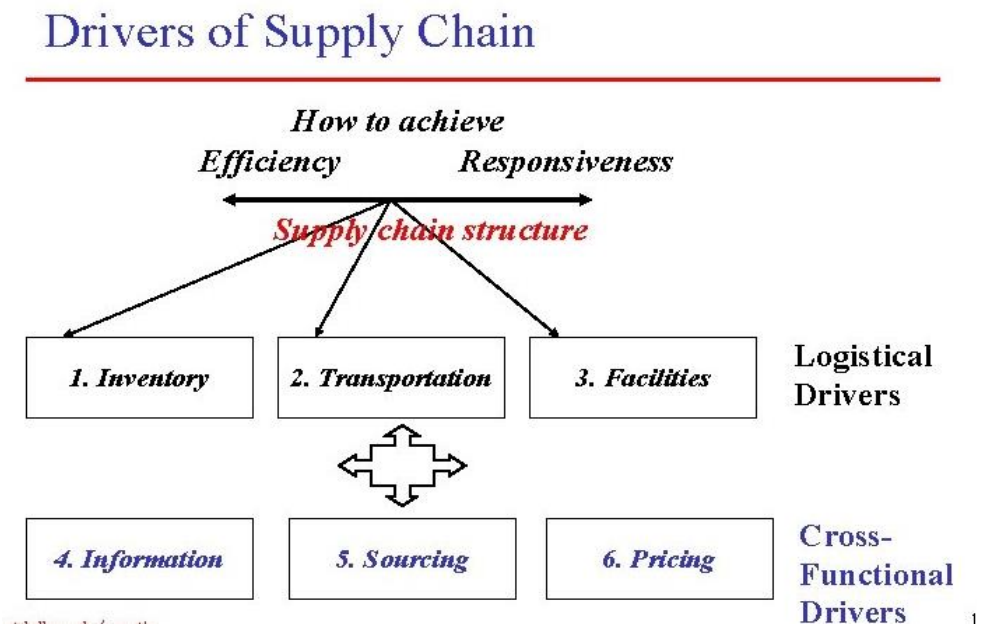


Figure 2 Logistics drivers

Facilities: The actual physical locations in the supply chain network where product is stored, assembled, or fabricated. The two major types of facilities are:

• Production sites and (Plant)

• Storage sites.

• Decisions regarding the role, location, capacity, and flexibility of facilities have a significant impact on the supply chain's pe1formance.

• For example, in 2013, Amazon increased the number of warehousing facilities (and, as a result, experienced an increase in Prope1ty, Plant and Equipment (PP&E) located close to customers to improve its responsiveness. In contrast, Best Buy tried to improve its efficiency in 2013 by shutting down retail facilities even though it reduced responsiveness.

• Facility costs show up under Property, Plant and Equipment (PP&E) PP&E if facilities are owned by the firm or under selling, general, and administrative if they are leased.

Inventory: Inventory management is the supervision of non-capitalized assets, or inventory, and stock items. As a component of supply chain management, inventory management supervises the flow of goods from manufacturers to warehouses and from these facilities to point of sale.

The four types of inventory most commonly used are Raw Materials, Work-In-Progress (WIP), Finished Goods, and Maintenance, Repair, and Overhaul (MRO). When you know the type of inventory you have, you can make better financial decisions for your supply chain. That includes choosing the best inventory management software to keep track of all that inventory.

1.Raw Materials

Materials that are needed to tum your inventory into a finished product are raw materials. For example, leather to make belts for your company would fall under this category. Or if you sell artificial flowers for your interior design business, the cotton used would be considered raw materials.

2.Work-In-Progress

Inventory that is being worked on is Work-In-Progress (WIP), just like the name sounds. From a cost perspective, WIP includes raw materials, labor, and overhead costs. Think of the inventory under this category as being a part of the bigger end-product picture. If you sell medical equipment, the packaging would be considered WIP. That' s because the medicine cannot be sold to the consumer until it is stored in proper packaging. It' s literally a work-in- progress.

3.Finished Goods

Maybe the most straight-forward of all inventory types is finished goods inventory. That inventory you have listed for sale on your website? Those are finished goods. Any product that is ready to be sold to your customers falls under this category.

4.Overhaul / MRO

Also known as Maintenance, Repair, and Operating Supplies, MRO inventory is all about the small details. It is inventory that is required to assemble and sell the finished product but is not built into the product itself. For example, gloves to handle the packaging of a product would be considered MRO. Basic office supplies such as pens, highlighters, and paper would also be in this category.

C. Transportation: Transportation provides the flow of inventory from points of origin in the supply chain to destinations, or points of use and consumption. Most businesses manage both inbound and outbound logistics. Inbound logistics involves the procurement of materials and goods from supplier locations. A transportation strategy, to be effective in supply chain management, is fitting the movement of goods to the corporate supply chain. It is not playing one carrier off against another. Rather it is a way to respond to the dynamics of the business, its customers, suppliers' and operation.

3.12 Roles of Inventory

Traditionally, a relatively high level of inventory has been kept in a company. The reasons for building inventory can be found in inventory's five functional roles: economies of scale, balance of supply and demand, specialization in manufacturing, protection from uncertainties, and inventory as buffer.

1.Purchasing or producing a bulk of items (i.e., economies of scale) enables a company to cut costs by allowing setup cost reduction, po1ice discounts, and spreading the factory overhead expenses.

2. Inventory provides balance between supply and demand. Supply and demand do not always match at any given time for reasons such as seasonal demand pattern or seasonal supply pattern. To maintain a stable workforce and production scheduling, and to avoid problems due to capacity limits, production can be used to build invento1y. Peak demand can be anticipated by building inventories in excess of current demand.

3.Inventory enables a manufacturer to specialize in the item by obtaining focused factory and learning-curve effects. Focused factory is a small factory dedicated to a specific product with a single product line to maximize productivity and quality. According to learning curve effect, a worker can gain skill and efficiency from their own experience from the repetitious practice with the long product runs.

4.Inventory serves to protect uncertainties in demand and supply. Inventory is necessary in case demand for finished goods fluctuates or if the suppliers' ability to meet the buyers' demand is not reliable. Raw material inventory is required in case of supply shortage and price increases. WIP inventory is needed to avoid a shutdown and stabilize workflow. Finished goods inventory improves customer service levels by avoiding stock outs due to variability in demand and manufacturing lead-time.

5.lnventory is used as buffer in the supply chain. It takes time to transit inventory from one operation to another within a company or one node to another in the supply chain (i.e., supplier to manufacturer, manufacturer to distributor, and distributor to customer). A certain amount of inventory throughout the chain ensures the independence of each operation team or channel member. Raw materials inventory isolates the supplier from the user, in-process inventory isolates production departments from each other, and finished goods inventory isolates the customer from the manufacturer.

3.13 Overview of Inventory Control Model

To help solve the problems of inventory, mathematical models which describe the inventory situation have been developed and applied in many industries. Inventory control models can be used to desc1ibe either replenishment from an outside vendor or internal production. Therefore, inventory control and production planning are often synonymous.

Examples of these models are Simple Economic Order Quantity (EOQ) model, EOQ with quantity discounts, Mate1ial Requirements Planning (MRP), Newsboy model, Lot size - Reorder point (Q, R) model, and Periodic-Review system. Which model to apply is determined by several factors: order repetitiveness (i.e., single order vs. repeat order), order quantity (i.e., fixed quantity vs. variable quantity), knowledge of demand (i.e., constant demand vs. variable demand, independent demand vs. dependent demand), and inventory review frequency (i.e., periodic vs. continuous review), and knowledge of lead time (i.e., constant lead time vs. variable lead time)

3.14 Inventory Management in the Supply Chain

Inventory management is one aspect of SCM. The main goal of SCM is to better manage inventory throughout the chain via improved information flow aimed at improved customer service, higher product variety, and lower costs and used the te1m "Networked

Inventory Management" (p.16) for the inventory aspect of SCM. The efficiency of SCM can be measured by inventory performance such as the speed of inventory passing through the chain and the load of inventory throughout the chain. Inventory of various forms from raw materials through WIP to finished goods is fed into the chain from suppliers, production, and subsequently distribution centers to customers. This flow of inventory requires responsibilities of channel members for the planning, acquisition, storage, movement, and control of materials and final products. High levels of inventory are found when the chain members less communicate due to lack of information sharing between chain members and inefficiency of SCM.

3.15 Pitfalls in Inventory Management:

Based on knowledge and expe1ience from supply chain management in garment industry are found relevant to this project:

□ No Supply Chain Metrics: In a supply chain with multiple sites, each site will often have its fairly autonomous management team. The objectives of the va1ious teams may differ, and even be conflicting. Inventory may for example be reduced at a Site A of a supply chain, and thereby, seen from a local perspective, the performance is enhanced. But the inventory decrease may also decrease Site A's flexibility. Because Site A now responds more slowly to changes,

Site B, which is Site A's customer will have to increase its inventory (of Site A pairs) in order to maintain its flexibility and level of customer service. The lack of supply chain metrics has prevented managers at Site A to see that their local improvements has not lead to improved overall performance of the supply chain. The objective of supply chain metrics is to give the basis for evaluations of the performance of the whole supply chain as one system.

□ Inadequate Definition of Customer Service: Too few and in-concise metrics for customer service. The evaluation of performance becomes difficult, and certain aspects of customer service may be overlooked.

□ Inaccurate Delivery Status Data: Customers are not correctly informed of delivery dates of orders and of late deliveries. Companies can often not readily retrieve the information needed to do so.

□ Inefficient Information Systems: Databases at different operation sites that describe system environment, inventories, backlog, future production plans, and so on are often not linked. Inf01mation must be retrieved manually, and this can be a long process. Planning cycles may therefore be long, using highly uncertain demand forecasts. The wrong products are made, and inventories arid backlogs grow.

□ Ignoring the Impact of Uncertainties: Too often supply chains do not track uncertainties such as suppliers' delivery times, the quality of incoming materials, manufacturing process time, transit times, and so on. This leads to non-optimal stocking levels. In some cases, uncertainties are properly tracked, but there is no follow-up.

□ Simplistic Inventory Stocking Policies: Stocking policies are often not linked to knowledge of the unce1iainties mentioned above. Stocking policies are often based on the quantity usage of the items stocked. This says nothing about the uncertainty associated with the usage. Analysis show that stocking levels could be greatly reduced by hai1sferring stocking policies from being quantity based to being uncertainty based.

□ Organizational Barriers: Entities in a supply chain may belong to different organizations within the same company. The organizations will independently measure the performance of the entities. While each entity is occupied with achieving local goals (much like in pitfall 1), important synergies may be lost.

□ Incomplete Supply Chain: Supply chain managers are often focused only on the internal supply chain. Going beyond the internal supply chain by including external suppliers and customers often exposes new oppo1tunities for improving internal operations.

Chapter: 04 Analysis of the Study

4.1 Strategic Management

Supply Chain Management includes planning and management of all stages that are involved directly or indirectly in fulfilling customer request. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies.

As a garments manufacturing company Apex Holdings Ltd. does not use any forecasting method or SOP meetings. They impose strategies based on the situation for example, once they produced garments worth 800 core but they sold only few (worth 500) and remained some garments which worth 300 core. Then they made a strategy by setting a target toward their sales executives that, if they meet the target to sale remained garments they will be rewarded.

4.2 Sourcing Analysis and Procurement methods

Supplier Evaluation Process

- Approved Suppliers will be evaluated based on the year performance. Performance will be recorded through supplier performance report.

- Material Store Process

- After approving from the Q/C Department All the purchase Items are stored in Factory by the store keeper for the production purpose

- The Finished Goods are stored in the warehouse

- The Safety Stock of Finished Goods is maintained by the store department both manually & computerized way on monthly basis

4.3 Sourcing Process & Supplier List:

Apex Holdings Ltd. maintained both local & foreign suppliers. The suppliers are carefully selected on the basis of the quality of the raw materials, lead time, and efficiency and on time delivery of the materials needed. With the increasing demand local supplier list is increasing day by day. Apex have 43 local regular suppliers. Apex procures 95% of raw materials from foreign suppliers of China, Japan, Thailand, Taiwan, Indonesia, South Korea, Malaysia.

Vietnam & India and 5% of raw materials are procured locally. Approved supplier list is strictly followed at all times of the whole procurement process.

4.4 Procurement Steps:

Each & every Company has unique models for their organization. Apex Holdings Ltd. are following a procurement steps which are given below-

1. Prepare Specification & Check Budget
2. Prepare Purchase Requisition
3. Check & Authorize Requisition
4. Obtain Quotations
5. Select Supplier (Purchasing Panel)
6. Issue Purchase Order
7. Receive Goods
8. Receive & Check Invoice
9. Prepare & Authorize Payment Voucher
10. Pay Supplier Invoice

4.5 Procurement Process:

Store keeper generates the requisition for the items.

1. Requirements are approved by GM (Plant)/ Plant Manager/QC officer

2. Indent will be prepared based on Requisition form.

3. After receiving the purchase requisition document from the factory GM will ensure that only specified items have been purchased from approved suppliers.

4. Specifications/Quality/Quantity/Model/Other Info1mation's shall be desc1ibed in the Purchase Order/Work Oder after receiving requisition of material.

5. After reviewing, Managing Director/Director will approve the pm-chase order / work order.

4.6 Purchase Order Process:

Apex Holdings Ltd. maintain a unique pm-chase order number. They use pm-chase order date, Vendor's Name & Address, The Quantity, Unit Price, Item details, Quality /Model. It also follows some terms and conditions for the suppliers, where they focus the delive1y date, VAT & AIT rules.

1. Unique Purchase Order Number
2. Purchase Order Date
3. Vendor Name & Address
4. Quantity
5. Item & Specification
6. Quality/Model
7. Price
8. Delivery Date

Two types of pm-chase order are prepared as the company is not using SNOP Software. One type of purchase order is prepared manually and other type of purchase order is prepared systematically. But Apex have some limitations, because a sophisticated ERP is not use here.

4.7 Purchasing Process:

1. All Purchased Products will be recorded into the Pm-chaser sister File.

2. Vendor Shall Maintain delivery date, specified quality standard as mentioned in the PO strictly

3. For the Items like spare parts, bearing, belts, scale, paraffin wax, chemicals etc. are purchased by the purchase officer from the open market after ve1ifying the required specification, quality & price.

4. Purchase Materials supplied to the factory shall only be accepted if the quality parameters meet the requirements.

5. Upon receipt of procured materials store keeper informs concerned department for quality check.

6. Concerned departmental in charge or his nominee checks the quality, quantity and condition of the procured items and gives verification report.

7. If the Items are accepted, store keeper prepares a Goods Receive Note (GRN) and sends copy to the Head Office for reference of the accounts & procurement department.

8. Store Keeper also updates his stock ledger and stored the item is a designated place with proper identification.

9. All International purchase will be done through approved vendors either through Letter of Credit (L/C) or through registration of LCA (Letter of Credit Authorization)

4.8 Material Management:

Material management involves Planning Programming, organizing directing, controlling and coordination the various activities concerning the material. Materials management is the branch of logistics that deals with the tangible components of a supply chain. Specifically, this covers the acquisition of spare parts and replacements, quality control of purchasing and ordering such pa1ts, and the standards involved in ordering, shipping, and warehousing of the pa1ts. Material Management is concerned with control of materials in such a manner which ensures maximum return on working control material management is concerned with the location and purchase of needed their storage and movement. It also arranges to keep on account for them it is also responsible for planning their movement through manufacturing processes, store rooms and distribution channels.

The warehouse of Apex located in Chandra, Gazipur which is the central distribution center. 80 percent of the work in warehouse done manually.

4.9 Functions of Material Management

- Raw material purchasing
- Warehousing
- Quality management
- Logistics management
- Transportation of materials

These functions discussed further in the following page.

4.10 Raw Material Purchasing

Bangladesh's' garments market is growing at 15-20 percent a year due to the expansion of zone as the government looks to provide incentive for all by 2021. Apex Holdings is dependent on raw material imports from China, Hong Kong and Germany. The demand for garments is not only for the abroad, it also has a big market in the culture and industrial sectors.

Main raw materials of garments are yarn, fabric, dyes & chemical etc. Fire and flame retardants, compounding materials like calcium carbonate, stabilizers, and plasticizers may also be required. Finished goods are kept in warehouse and maintained though ERP system.

4.11 Production Planning

Apex Holdings Ltd. is looking forward to managing expertise and obtaining technology to provide better enginee1ing solutions through supplying quality Garments, fabrics, yarns and better Customer Service. Now at the eve of the 21st century globalization, Apex has become an integral part for infrastructural development. Apex has purchased all machineries in new conditions from Germany, Italy, India, China and local market. Now the company uses Germany to produce quality garments for the customers. The production and planning process of Apex is very much confidential as it's managed by the factory production department. They use an ERP system to smoothen the production plan. From the entrance of raw mate1ials in the warehouse to become finished goods everything is recorded in ERP.

4.12 Manufacturing Process of Garments Products

• Product Analysis and set up a target for Line- Here normally track down the basic activity of the item by investigating the products and conclude where need assistance. Here it is decided which worker operates in which operation. Line target is set up here also. The line supervisor follows up the line production and is responsible for meeting the target line.

• Set up machine layout on the basis of Target- To ensure the target of the line machine arrangement need to be done. As per the product variation machine arrangement may vary from one line to another.

• Line balancing- Line balancing is an instrument utilized for to capacitate the flow of line production. If the line is not balanced properly then the target will not be achieved on that line. In sewing line, some works have higher capacity and some have lower capacity which caused bottleneck in the line. This bottleneck is resolved by line balancing tool to maintain the optimum production flow.

• Bundle Input to Line- After finalizing the line balancing, bundle wise cut panel fed into the line from cutting department.

• Sewing- Different worker sew different parts of a garment to complete a total garment here. According to machine lay out, skilled operator or worker is set during sewing operation.

• Online and end line quality check- Garments quality is checked in two stages. One is middle of the line and other is end of the line. Middle of sewing, front and back part of garments quality is checked. And full garment body is checked at the end of the line.

• Finishing section- If the quality of the full garment body is passed then the garments are sent to the finishing section. The finishing section finished the garments as per buyer requirement and pack them in a carton.



Figure 3 Worker are stitching to make garments products

4.13 Logistics Management

They maintained inbound and outbound logistics and there is no cross docking. The raw materials for garments come through the inbound logistics of the company by road mostly. Their main advantage on logistics is that their main factory and warehouse are situated at the same place. So that, they can easily move the raw mate1ials to the production area without much cost. From there they distribute their finished goods throughout different regions by trucks and covered van.

As mentioned earlier the main distribution center of Apex situated in Sreepur, Gazipur. From there all the finished goods are distributed in different locations. To distribute the finished product Apex use truck, pick up in a cost effective way.

4.14 Material Handling Equipment of the Organization

For material handling purpose our organization use many types of equipment. They are-

- Hand trucks
- Pallet Jacks
- Pallet bucks
- Platfo1m trucks
- Order picker

Chapter: 05 Findings

5.1 Key Findings

• Wastage management is not so effective that can cause raise in the price of the garments.

• As a new company brand value is low. It will take time to create great brand value in market. And the department of Brand need to be strong and implements cost reducing idea.

• Need to developed Information Technology depa1tment for more operative and fast work.

• It has huge manpower in the industry. It is good for the business. However, they are unskilled that reduced the high productivity of manpower.

Chapter: 06 Recommendations and Conclusion

6.1 Recommendations

Some necessary steps are recommended below on the basis of collected data, observation, experience staff's opinion and my knowledge and judgments. For the probable solutions of the identified problems ensure better process of Apex Holdings Ltd. in future.

• The entire department should be well informed regarding their goals and objectives. It is essential to execute company objective into individual target.

• The head office manager should ensure proper distribution of works responsibility personally and strictly monitor the activities of the officer. Also needs to be built up interpersonal relationship.

• Apex Holdings Ltd should provide an effective training program for the junior level officers as though they can perfo1m their task efficiently.

• A philosophy of working for customer and provide quality products & services instead of working for boss and compai1y's profit must be introduced.

• Job description should be classified and proper training facilities should ensure to improve the performance of bottom line management. Employees should be more expert & trained to use the ERP software.

• Modern technologies should be implementing to capture the growing demand of the customers and compete with other garments industries.

• Salary structure should be revised for the satisfaction of the employees comparing with the other commercial p1ivate company.

• Advertisement is the key factor for the business organization upholds it for market and for making market share and goodwill in future. That's why should give priority on it.

• Company should be more involved in corporate social responsibilities, which in return will make their brand more affection towards the minds of the customers.

• Revenue is increasing every year and intense competition is arising soon as many new company also coming in the industry, so they need to increase their customer loyalty.

6.2 Conclusion

In this age of modem technology and inventions it is very hard to stay competitive for the organization. Though concept of organization is less than a hundred years old, it is ruling all over the world. Sometimes organization determines the nature of rules and regulation. This organization is a single entity but included many human beings into its arena. Thus organization is the combined effort a group of human being.

Organization really does not do anything man or woman dose it. As a result, organization becomes profitable. Share of the companies get higher price in the market. Behind everything there is human being.

So, people are the main assets. They are current which means the organization. Human Resource works with these assets, which is more valuable than other product like service, money or any other thing.

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