

Supply Chain Management Process of Textile Industry: A Case Study on Bangladesh

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ABSTRACT

This research examines a descriptive analysis of Bangladesh's textile industry's process of export, import, and logistic system for yarn dyeing. Bangladesh's industrial sector, which includes the textile industry, is vital to the country's economic growth. In addition to meeting a significant portion of Bangladesh's foreign demand for clothes and apparel, the textile industry provides for about 100% of the country's internal demand. The textile industry is a complex supply chain that manufactures garments, complements, raw materials, and other items. As a traditional management tool, SCM enables manufacturers to work toward increasing the quality of their products, lowering the cost of their products and services, and speeding up product delivery and reaction times in a highly competitive market. Based on primary data of an organization which is Union Limited, a well-reputed and big textile base organization as well as secondary data from internet databases, journals, review articles, etc., this study was constructed. reduced stocks, reduced costs, increased productivity, more agility, shorter lead times, higher profitability, and increased customer loyalty are all aspects of the textile industry's successful supply chain management. This study discusses the overall processing of how a textile industry imports yarn, and how they deliver the final product to the consumer. This research paper will give the concept of the overall processing of the textile industry of Bangladesh.

Keywords: Supply Chain, Material Collections, Yarn Dyeing, Import to in-house process (es), Export process (es).

INTRODUCTION

In the modern world, technology transfer is unrestricted, and supply chain management has emerged as a major arena of competition between multinational corporations and various areas. The coordinated collection of methods known as supply chain management (SCM) is used to plan and carry out every stage of the worldwide network that is involved in obtaining raw materials from suppliers, converting them into completed commodities, and delivering goods and services to clients. It consists of planning, resource synchronization, information exchange across the chain, and measures of global performance. Bangladesh's industrial sector includes the textile industry, which is significant and vital to the country's economic growth. In addition to meeting a significant portion of Bangladesh's foreign demand for our clothes and garments, the textile industry provides for about 100% of the country's home demand. In July 2023, yarn data was recorded as 22,602.000 BDT mn. Compared to the prior figure of 17,741.000 BDT mn for June 2023, this is an increase. Bangladesh Imports: 289 observations totaling 7,790.000 BDT mn on average between July 1999 and July 2023 are included in the monthly updated yarn statistics.

The goal of this study is to provide an overview of Bangladesh's yarn-collecting and dyeing supply chain. It also lists Material Collections in the Textile Division, Sources of Materials from import and local, Flow Chart of Material Collection Process (Import), Material Collection Process (Local), Import to In-house Process of Dyes and chemicals for Yarn Dyeing, Import Status Dyes & Chemicals for Yarn Dyeing, Export (Yarn Dyeing) process (es), Export of Hank Yarn & Cone Yarn and some other things of the textile which refers the textile division.

OBJECTIVES OF THE RESEARCH

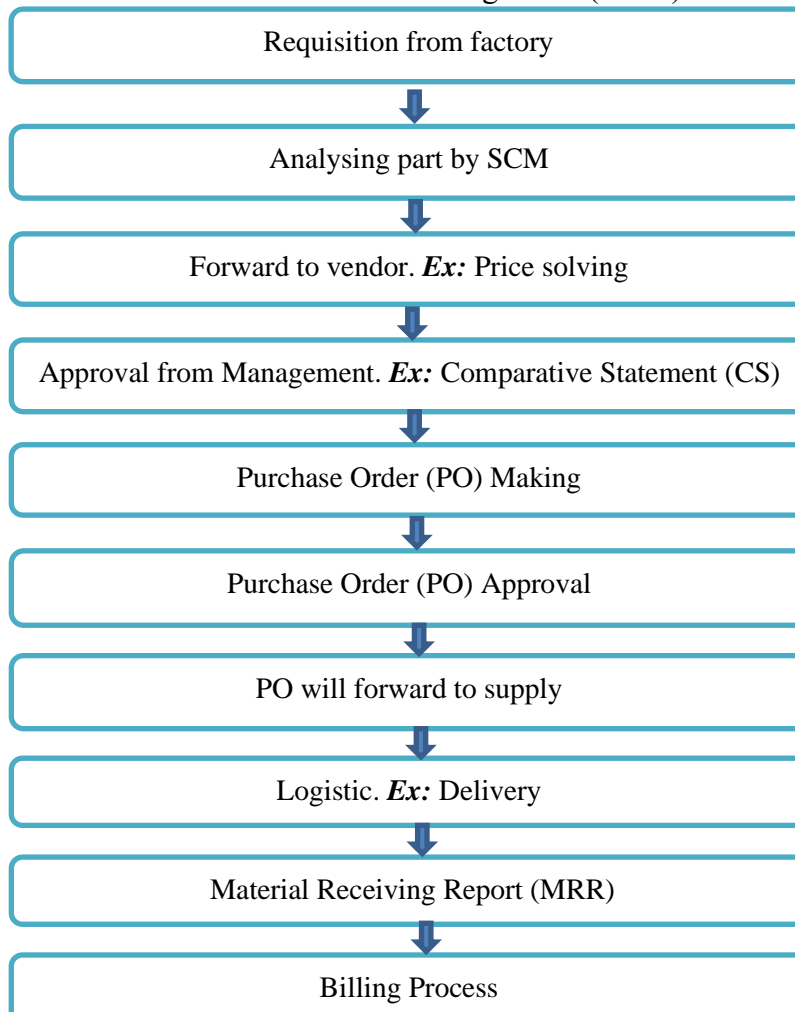
This paper, study aims to get the overall knowledge regarding the Supply Chain Management Process of the Textile Division in Bangladesh. As well as to identify the overall Supply Chain Management components and strategies of the Textile Division.

I am describing the overall process of Supply Chain Management in the textile division. These are:

- + *Material Collections in the Textile Division.*
- + *Import to in-house (Yarn Dyeing) process(es).*
- + *Export (Yarn Dyeing) process(es).*

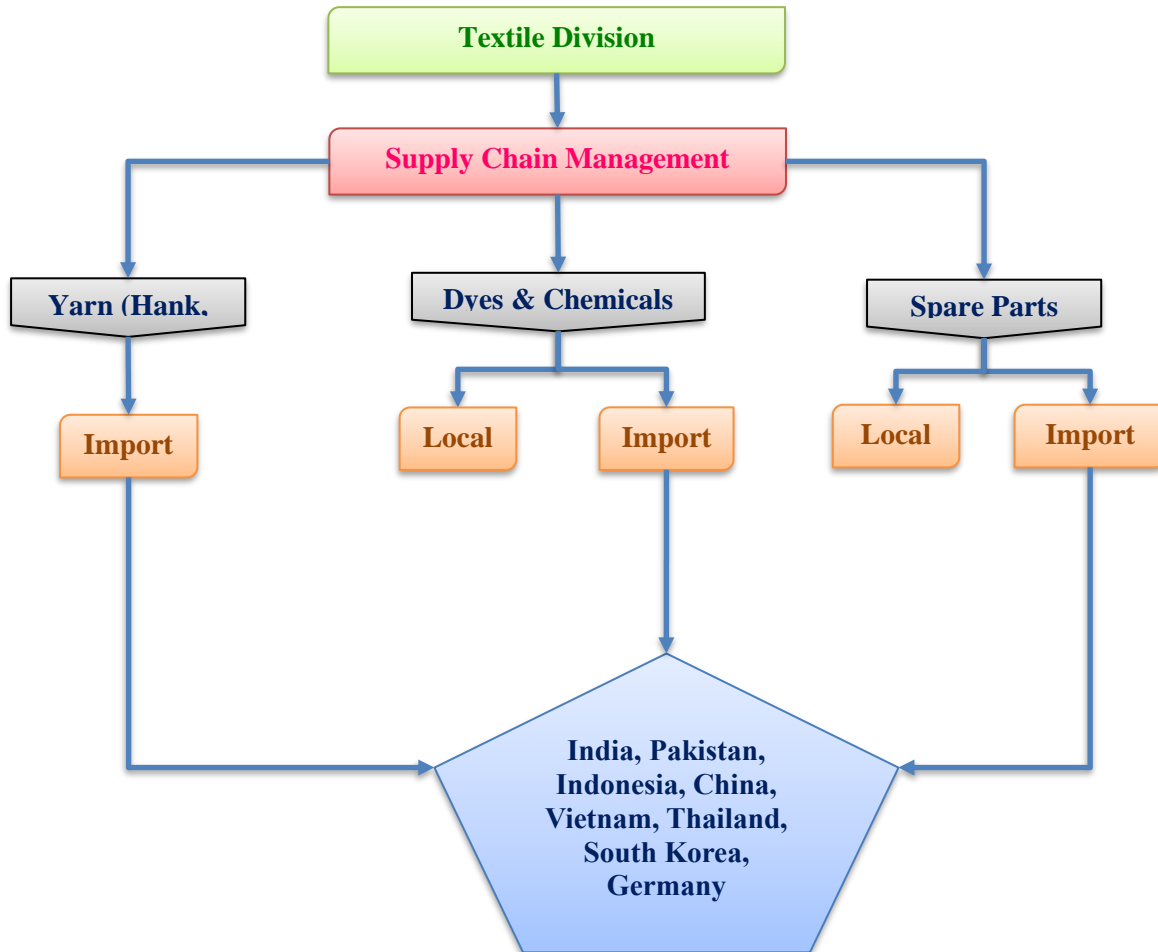
LITERATURE REVIEW

Basic Supply Chain Process in the Textile Division of Bangladesh (Local):



Material Collections in the Textile Division

The most important part of the textile division is the material collection. Because, if the organization doesn't collect the actual material, they won't be able to make the actual yarn as the buyer wants. Most of the organization collects its material from several countries as well as locally. Those are given below:



Sources of Materials from import and local:

The organization imports **Yarn, Chemicals, and Spare Parts materials** of Textile from several countries. For instance:

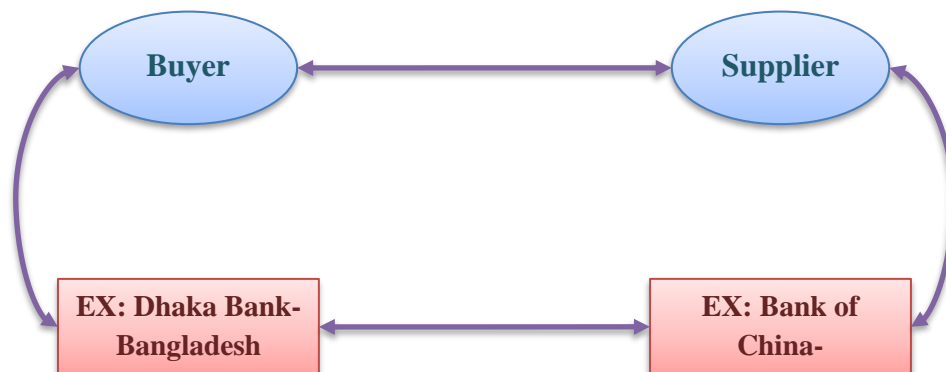
Germany	Indonesia
China	Pakistan
South Korea	Vietnam
Thailand	India

As well as organizations collect **utility chemicals** and **spare parts** materials locally. It may be from any organization. So many organizations deal with other organizations.

Material Collection Circle of Import

First of all, it is mentioned that when the organization is importing any material, that is going to control the **Commercial Department**. According to the system, Supply Chain Management has also a

commercial department. When the organization needs to import its materials from another country. Some processes must be followed.



The supply chain department must contact the supplier when the organization imports any material. After that, the buyer will give a requisition for purchasing to the supplier. Then, the department will contact a bank in his country, where the **Letter of Credit (LC)** will be set. As well as the supplier will contact his preferred bank from his country which belongs to his country. After that, both banks will contact each other as LC partners.

The LC application is submitted to the Bank. Requirements for imports for material collection are;

- Letter of Credit Authorization Form (LCAF).
- Import Form.
- Proforma Invoice (PI)
- Application
- Insurance Papers

And some other documents must be needed. After that LC draft copy is collected from the bank. A draft copy will be sent to the supplier. Then the supplier will recheck that information, if there is something that needs to change, then the supplier will inform the bank. The bank will send those draft documents to the buyer.

After getting the notice from the bank, the organization will send a **Bank Acceptance Letter** for the withdrawal of the documents. Here are some types of LC that the organization is going to deal with.

Such as:

- **Deferred LC:** It means there will be some terms and conditions that the supplier will collect the material, but the payment method may happen within 90 days, 120 days, or 150 days as per LC conditions.
- **At sight LC:** It refers that the material will be collected with payment without any period condition. So according to the LC condition, buyers will send a message through Swift to the suppliers, that the buyer got documents.

So, after getting the original documents, they will send them to the **Clearing and Forwarding Agent (CNF Agent)**. The CNF Agent is in a Shipping spot such as an airport or Shipping Port. CNF Agent is a source that the material will release from the custom. It is their responsibility. A CNF Agent is an agent who has the license to do this. After some procedure, the CNF Agent will release the material from the port. After that by logistic support, the material will be in the warehouse of the organization. After that, the factory will check the quality of those products.

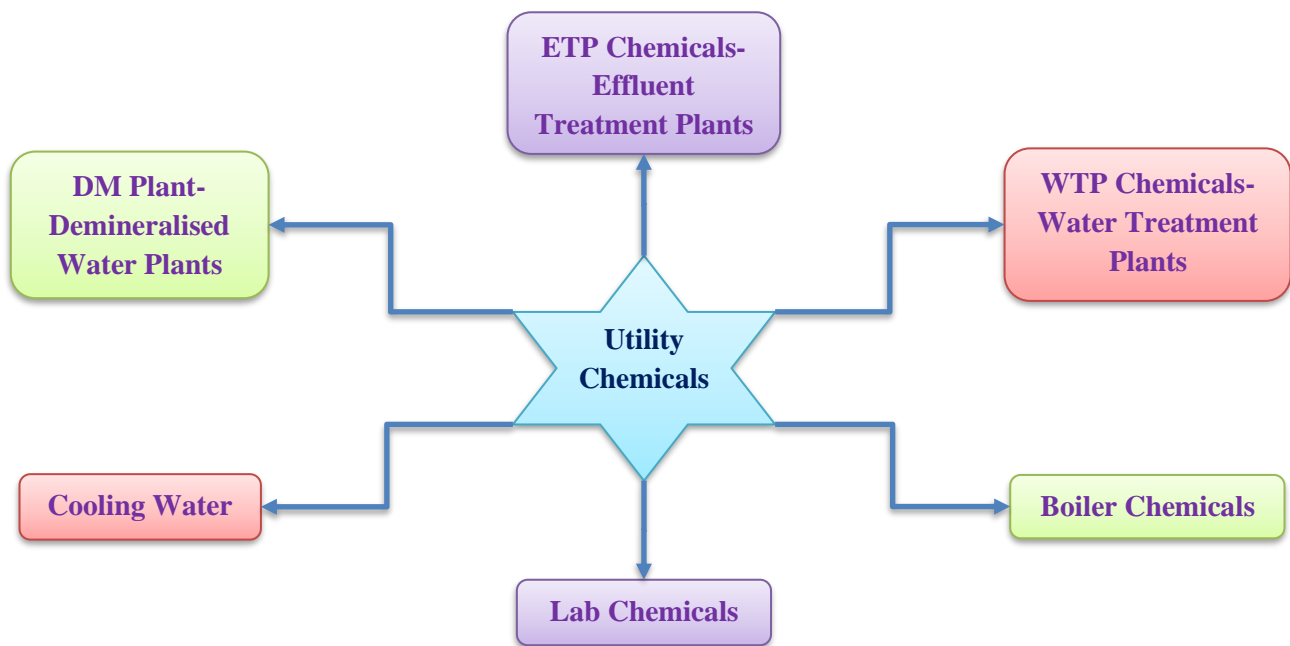
Sometimes the organization does **Telephonic Transfer (TT)**. It refers to when the supplier needs to take advance money for production. It seems that sometimes the supplier’s raw materials cost, labor cost, etc. is needed for a large amount of production. It is mentioned that the organization doesn’t need to make a Letter of Credit (LC) for this transaction. That time the organization goes with Telephonic Transfer (TT) for pre-orders. Although there is a restriction about advance money from the government. Such as an organization cannot deal with a supplier of more than \$5,000, \$10,000, or \$12,000. It depends on the overall order.

It is important to know, there is a policy about shipping methods. If the organization’s product is less than **25kg**, then the organization will deal with the **Courier**. As well as if it is less than **100kg**, it will deal with **Air**. And if it is over **100kg**, then it will deal with the **Ship**.

Material Collection Process (Local):

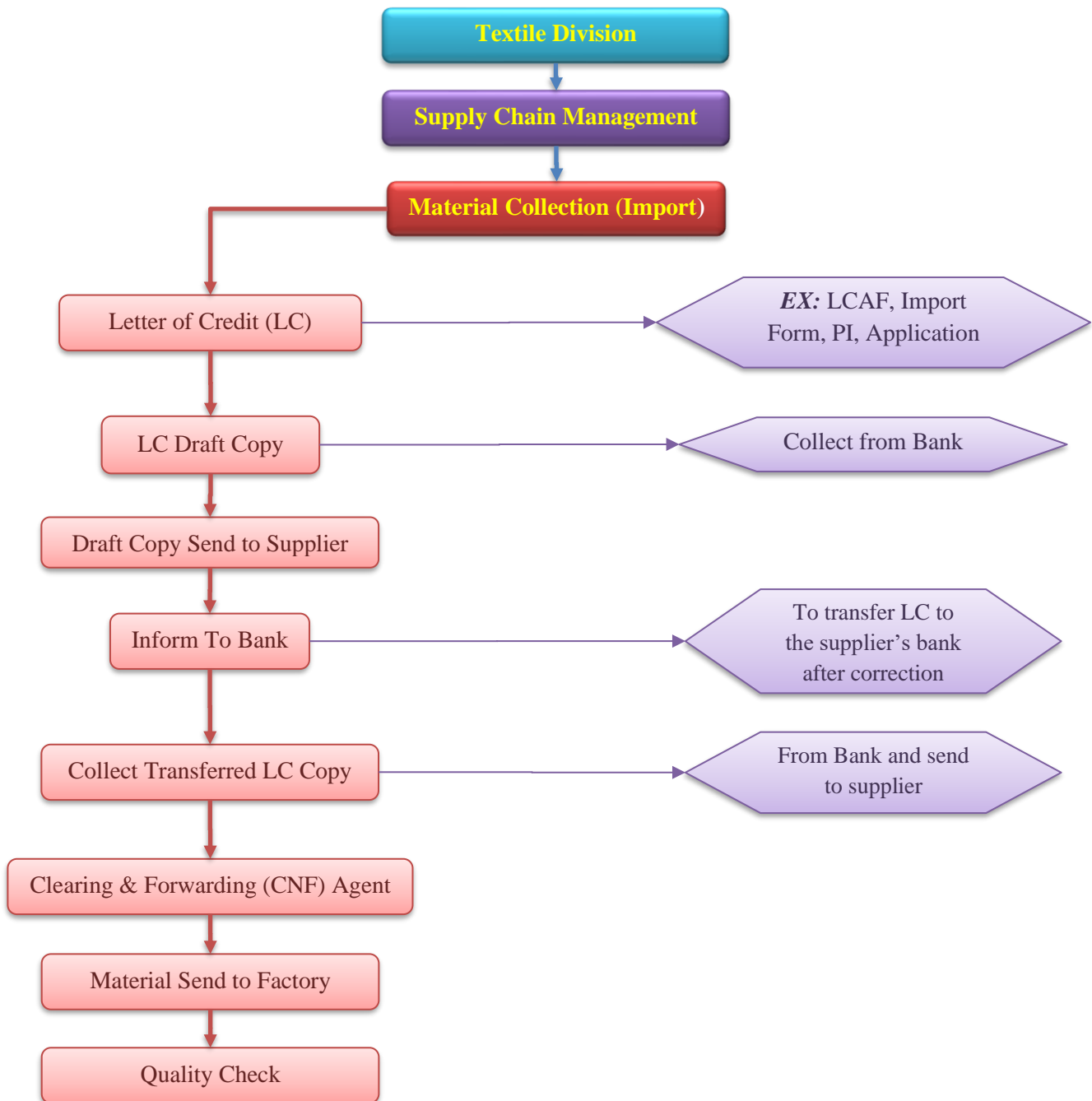
Utility Chemicals and some instant materials are locally collected by the supply chain management department. When SCM needs to collect material locally they prepare a requisition. After that, they analyze the requisition. And then they go for their formal processing to collect materials locally. For instance, the organization most of the time collects utility chemicals locally.

Some **Utility Chemicals** that are collected locally are:



Flow Chart of Material Collection Process (Import):

When the organization imports its material from different countries, the organization follows a formal procedure, those are given below:



Company-supplier sourcing, procurement, and managing inventory of the material collection:

Approved Vendor List: The Commercial Department upholds an inventory of raw materials and packing materials vendors in compliance with the International Standard Organization's recommended format. The Quality Analyst must approve such a vendor list. Additionally, Commercial keeps track of vendors for repackaging supplies and finished goods. Such a vendor list requires approval from the business unit or quality analyst.

Vendor Enlistment: It is necessary to enlist each local dealer in advance. Suppliers transmit letters and all required documentation to the Materials Controller in the format specified. Next, if necessary, the ad visits his location and looks into his suitability as a provider. The supplier receives a letter certifying him as an approved vendor to conduct business with the organization following a positive outcome.

Preferred Supplier: Commercial can take into consideration the preferred supplier idea of choosing and authorizing a supplier based on the cost, reputation, dependability, and timeliness for things that require a unique design or method to follow. To determine which supplier should be chosen as a preferred supplier, a thorough item-by-item cost analysis is conducted and reviewed regularly. Following that, a contract is completed with that provider.

Vendor Profile: The following details are included in the vendor profile that is created by the commercial department:

1. Provide the vendor's address details.
2. The contact person's name and comprehensive address.
3. A product list.
4. Sound financial standing.
5. A list of more businesses they serve.
6. The manufacturing address.
7. Purchase history of this supplier from Zaman Fashionwear.
8. This supplier's quality analysis reports, problem notices, and non-compliance reports.
9. Status of claim.

Vendor Evaluation: Every year, the vendor has to be assessed. Such vendor evaluations must follow the guidelines provided. The evaluation is shared with the vendor, who is then requested to make the necessary improvements.

Procurement: The business management function known as procurement ensures that the external resources that a company requires or could need to achieve its strategic goals are identified, sourced, accessed, and managed. As to CIPS Australia, Procurement is the facet of business management that guarantees the identification, sourcing, access, and administration of external resources required or potentially required by a company to achieve its strategic goals. The purpose of the procurement is to investigate supply market possibilities and to put in place resourcing plans that provide the company, its stakeholders, and its clients with the best potential supply outcome.

The following is a discussion of the actions that the procurement department took:

- Planning for Material Requirements.
- Requisitions.
- Comparative Statements.
- Quotation Collection and Negotiation.
- Quality Analysis Reports.
- NCR and Test Reports.
- Expiry Items.
- Approval of Block Lists.

- Acquisition from Exclusive Suppliers.
- Acquisition with Exceptions

International Commercial Terms for Shipping:

In Bangladesh, Textile industries follow the **International Commercial Terms (Incoterm)- 2020**. Incoterms are known as a series of pre-defined commercial terms published by the International Chamber of Commerce (ICC) relating to international commercial law. Though Incoterm changes approximately every 10 years.

Bulk Production of the export process of Yarn Dyeing:

After getting approval from the buyer, such as when the lab dip confirms the actual color of the Yarn, the buyer confirms the actual amount of production. Bulk production refers to the final and actual product in the fashion industry. Most enterprises choose manufacturers based on their ability in the Bulk Production Process. After getting the final requisition from the buyer, the management of the supply chain proceeds their formal way and the factory gets the approval for how much production they need to produce. For example, A buyer got 5 pounds or 10 pounds of yarn for a sample, but when they give the order, it may produce such as 50,000 pounds, 80,000 pounds, etc.

This is the overall processing of sample approval from the buyer of the organization when they need yarn.

Sales vs Stock Coverage (Yarn export process):

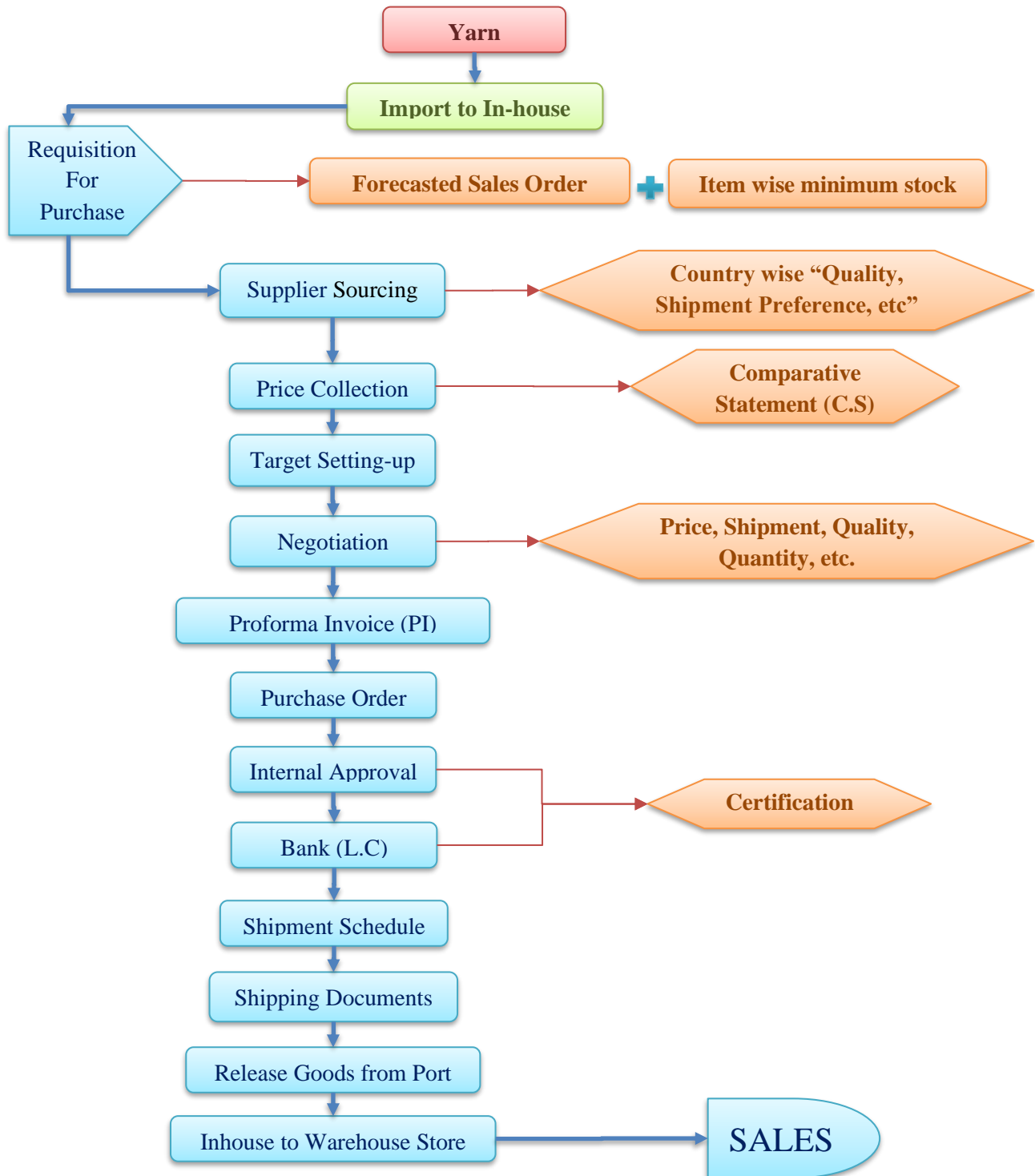
Stock coverage is an inventory management formula that lets you know the exact amount of inventory available in your warehouse to cover demand. Here the sales depend on the stock coverage also. The organization follows a format of sales and stock coverage. By maintaining that format, the organization makes decisions about sales. Here Days of Stock (DOS) should be maintained. A sample picture of Sales vs Stock Coverage is given below:

Yarn
Sales Vs Stock Coverage Report Daeyu
As on 21-07-2022

SI No	Unit	SKU	FCL	Supplier	PO No	In-Transit and On process		Warehouse Qty LBS	Total Stock	Available Stock Without Export LC & PI	Sales Average Issue/Month		Stock cover Trend DOS		FDOS Trend		Export Info		New Import requirements LBS	Remarks	
						Lead Time	Qty LBS				A/D Current Run Rate (2021)	Sales forecast per month considering current order	Based on Current Run Rate	Based on forecasted Run Rate	Based on Current Run Rate	Based on forecasted Run Rate	PI w/o LC	LC in Hand			
1	SRD Cone	50% BCI Cotton 50% Acrylic 2/30	2	Zhangjiagang Billions International Co.,Ltd	-2022	75	220,460	65,732	286,192	191,999	136,410	150,000	87	83	67	58	31,567	62,626	250,000	45 days for export PI + LC	
1	SRD Cone	50% BCI Cotton 50% Acrylic 2/30	2	Zhangjiagang Billions International Co.,Ltd	Oct-Nov (2021)	75	220,460	65,732	286,192	191,999	72,905	120,000	109	78	137	63	31,567	62,626	250,000		
Note: Export execution plan for the existing order within 45 days. FDOS considering added quantity on process.																					
Prepared By SCM											Checked By SCM										

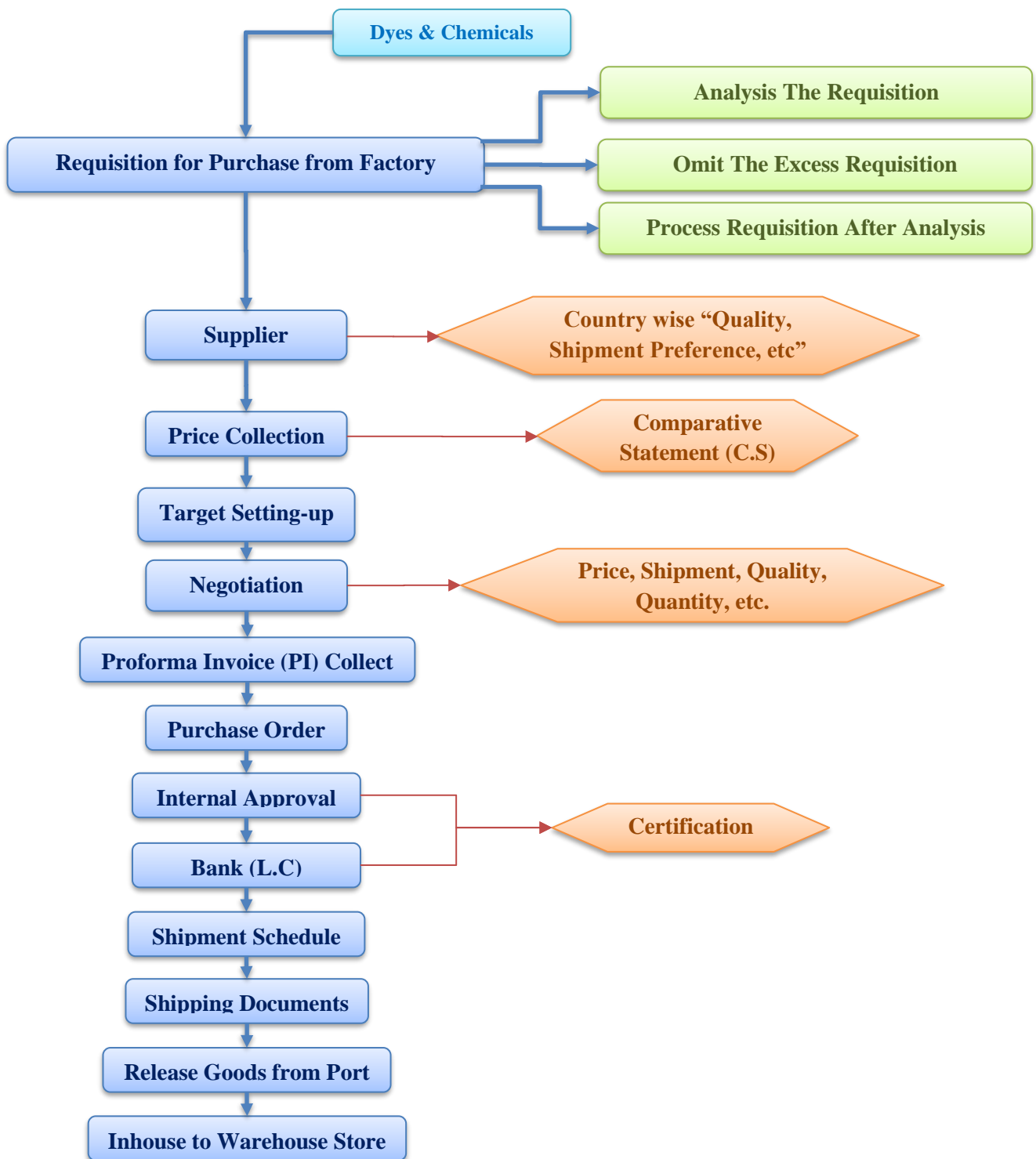
Import to in-house (Yarn Dyeing) processes:

In the textile division, importing in-house yarn dyeing is important. It refers to a sequence when the organization does import in-house. Those are given below as a flow chart:



Import to In-house Process of Dyes & Chemicals for Yarn Dyeing:

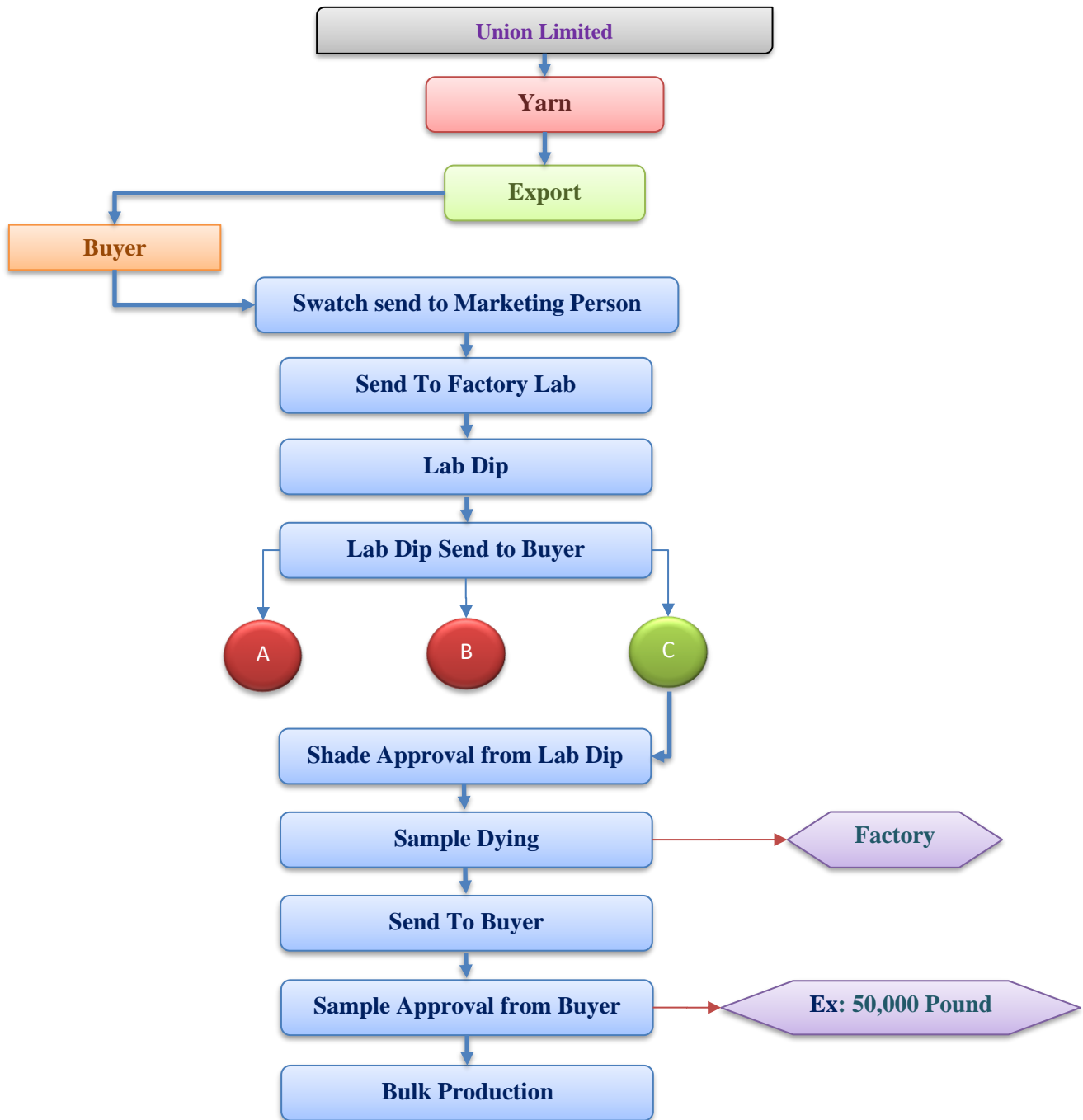
Dyes and chemicals are important for getting the actual yarn the buyer wants. The overall process of import to the in-house process of dyes and chemicals for yarn dyeing is given as a flow chart for better understanding:



Export (Yarn Dyeing) process (es):

A yarn dyeing process is an interaction between a dye and a fiber, as well as the movement of dye into the internal part of the fiber. Generally, a dyeing process involves adsorption (transfer of dyes from the aqueous solution onto the fiber surface) and diffusion (dyes diffused into the fiber).

The overall process of yarn dyeing (export) is given below:



Distribution:

The distribution system of the *textile industry* is a very complex affair because the supply is not to meet immediate demand – it is to replenish stock at the immediate customer location, which in turn will be used to fulfill demand. However, the complexity of the distribution network presents itself in the form of an opportunity – because the perfectly effective and efficient distribution system can be a strong comparative advantage. The products of textile organizations are not served directly to the customers; but via retailers.



Methodology:

The analysis of this research is based on primary and secondary data, including online databases, journals, etc. In the primary data, this research paper finds data from the organization of Union Limited which is a renowned group of companies in Bangladesh; Face-to-face discussions with employees and top-management authority, Day-to-day desk jobs, Factory visits, and Oral unstructured interviews of the responsible officer. As well as secondary data from the Website of Union Group of Companies Limited, Enterprise Resource Planning (ERP), Office documents, and Relevant file study as provided by the officers concerned.

After collecting the data, I prepared those data and processed them by Microsoft Office. All the data was circulated by the office. Detailed analysis, working variables, and working definitions have been embodied in the research paper.

Discussion:

According to the review of the research paper, there are different types of sectors and processes in the textile industry. It is evident to us that the textile industry plays a major part in enhancing Bangladesh's economic progress. The effective implementation of supply chain management would enable suppliers to deliver completed goods to customers on schedule. To enhance business operations in several aspects such as inventory fluctuations, stockouts, delayed deliveries, quality issues, etc., SCM is crucial to the industrial sector. Effective communication, supply chain visibility, event management skills, and performance metrics are all necessary for successful supply chain management.

Conclusion:

Bangladesh is currently holding the top position in the world in the textile sector. It also stands at the juncture of economic emancipation. The stage is set for rapid growth and development in every sector of the economy. According to my report and from my experience of the internship period, I would like to say that if we can establish a good chain of supply then we can get the best return from every sector. Because in our country, still Supply Chain Management is not fully known to people. As well as the people who are working in an organization, have to know the proper system of the supply chain.

Supply chain management is essential since it can aid in achieving several corporate goals. Controlling production procedures, for example, can enhance product quality while lowering the likelihood of recalls and legal action and assisting in the development of a powerful consumer brand. A supply chain is the network of all the personnel, businesses, resources, tasks, and technological advancements involved in producing and circulating a good. An entire supply chain is included, from the procurement of raw materials from the supplier to the producer to the final delivery to the customer.

This paper has identified the overall process of Supply Chain Management in the textile division. As Union Limited is currently holding a big and good position in the textile manufacturing division, it will help to know the overall supply chain process system.

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