

Report On  
Supply Chain Management of Mutual Food Products Ltd.

By

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An internship report submitted to the BIGD, BRAC University in partial fulfillment of the  
requirements for the degree of  
Masters in Procurement & Supply Management

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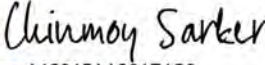
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## Declaration

It is hereby declared that

1. The Project report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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**Supervisor's Full Name & Signature:**



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Mr. Hasan Maksud Chowdhury  
Professor, BRAC Business School,  
BRAC University

## **Letter of Transmittal**

Mr. Hasan Maksud Chowdhury  
Professor, BRAC Business School  
BRAC University  
66 Mohakhali, Dhaka-1212

Dear Sir,

This is my great honor to submit the project report that I have prepared this report based on my information collection on June-August from Mutual Food Products Ltd from Procurement and Supply Chain department. The title of the report is “Procurement and Supply Chain Management of Mutual Food Products Ltd”. This report has been prepared to fulfill the requirement of my MPSM program at my assigned organization, Mutual Food Products Ltd. The report is the final outcome of successful completion of my Report Writing about MFPL. In my report I have described the work process followed by my assigned department and tried to identify some drawback of the process and gave some recommendation by using my learnings from my Masters in Procurement and Supply Management.

I would like to articulate my gratitude for your excellent guidance in preparing the report. It would be a great achievement for me if you find this report informative enough to fulfill the requirements. I am really grateful to you.

Sincerely yours,

---

Chinmoy Sarker

Masters in Procurement and Supply Management

ID: 18282013

BRAC Institute of Governance and Development (BIGD), BRAC University

Date: 06.01.2021

## **Non-Disclosure Agreement**

This agreement is made and entered into by and between Mutual Food Products Ltd and the undersigned student at Brac University Chinmoy Sarker

## **Acknowledgement**

I would like to express my deepest appreciation to all those who provided me with the opportunity to complete this report. The accomplishment and completion of this report would not have been viable without the contribution of some cooperative people, who gave valuable time from their busy schedule to guide me in doing report writing. I would like to extend my heartiest gratitude to all those who directly or indirectly contributed to complete of the report.

At the beginning, I would like to convey my gratitude and appreciation to my honorable academic supervisor Mr. Mr. Hasan Maksud Chowdhury for providing valuable guidelines in preparing the report. I am deeply grateful to him for his supervision during the entire period. Without his guidance it would not be possible for me to prepare this report.

Furthermore, I would like to acknowledge with much appreciation to my workplace supervisor Mr. Shofiul Islam, Head of Procurement Mutual Food Products Ltd and Mr Alamgir Hossain Head of logistics and distribution, Mutual Food Products Ltd for their intimate and tremendous support and cooperation.

## **Executive Summary**

Mutual Group is primarily a 'Contract Manufacturing & Distribution company' with the legacy of establishing two global brands, 'Horlicks' and 'Dano', as the household name in Bangladesh. It started its journey as trading company back in 1962. No other company in Bangladesh carries such a long and consistent track record of upholding global MNCs business interest in Bangladesh market. Mutual Food Products Ltd is the 3<sup>rd</sup> Party manufacturer of GlaxoSmithKline Bangladesh Ltd (Consumer-care). GSK is one of the major consumer healthcare companies in Bangladesh. They have a powerful brand like Horlicks in their product line which is currently holding 95% market share in Health Food Drinks category i.e. Horlicks, Boost, Maltova, Sensodyne, Ino and Glaxose-D.

MFPL offers exclusive services of Procurement of Raw & Packaging materials, contract manufacturing, nationwide Logistics and warehousing to retail distribution network for GlaxoSmithKline, Consumer Division, Bangladesh. All Brands processed and packed in this factory includes Horlicks and its other variants. Manufacturing process, facility, material handling, waste handling is maintained as per Global Food management system along with GSK's further stringent internal quality procedures.

My report represents MFPLs procurement and supply chain activity where I worked and make this report as partial requirement of completing my masters in Procurement and supply management from BRAC University. I got the opportunity to observe the company's general supply chain operations while working in the organization and finally made this report based on those experiences.

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## List of Acronyms

MFPL	Mutual Food Products Limited
GSK	GlaxoSmithKline
MPSM	Masters in Procurement and Supply Management
TQM	Total Quality Management
SOP	Standard Operating Procedure
SCM	Supply Chain Management
SWOT	Strength, Weakness, opportunities and Threat
FMCG	Fast Moving Consumer Goods
GMP	Good Manufacturing Practices
KPI	Key Performance Indicator
MNC	Multinational Company
FSSC	Food Safety System Certification
QA	Quality Assurance
R & D	Research and Development
CCF	Change Control Form
BOM	Bill of Material
NPI	New Product Initiative
HACCP	Hazard Analysis and Critical Control Point

SKU	Stock Keeping Unit
RM	Raw Material
PM	Packaging Material
FG	Finished Goods
3PL	Third Party logistics
ISO 22000	Food safety Management System
ISO 9001	Quality Management System
FIFO	First in First Out
FEFO	First Expired First Out

# **Chapter 1 Introduction**

## **1.1 Rationale of Study**

Supply is the total amount of a specific goods and services that is available to the consumers.

Supply chain is the network of all the people, organizations, resources, operations and technology engaged in procurement, planning, vendor development, manufacturing and selling products, from the supplier's supply of source materials to the manufacturer, to the end consumer. Supply chain management involves coordinating and integrating these flows both within and among companies or service from supplier to customer. It also described as planning, designing, executing, controlling and tracing supply chain operations with the aim of generating net value, constructing a competitive infrastructure, leveraging global logistics, synchronizing demand supply and evaluating global output. Management of the supply chain is managing the flow of products and services. It includes RM, PM, FG movement and storing raw materials, inventories of work-in-progress and finished products from point of producer to point of consumption. The supply chain management needs to be provided by interconnected or interlinked networks, channels and business nodes

The reason behind creating this report is to complete a part of my MPSM curriculum identified as project report. This report has been prepared on how Mutual Food Products Ltd manages the supply chain process including procurement, operation management, RM-PMs supply network vendor development, Vendor management, warehousing, inventory, manufacturing, quality assurance, logistics and distribution support and present scenarios for distribution process. A survey was conducted where 25 vendor participated. Also SWOT analysis and suggestions are going to be discussed The title of the report is 'Supply Chain Management of Mutual Food Products Ltd.

Considering the problem, I would like to SWOT analysis supply chain management and provide suggestions for improvement of Mutual food products ltd.

## **1.2 Organizational Overview**

Mutual Food Products Ltd is a 'Third Party Manufacturing & Distribution company' with two established global brands, 'Horlicks' and 'Dano'. MFPL started its journey as trading organization since 1962. Mutual Food Products Ltd is the third party manufacturer of GlaxoSmithKline Bangladesh Ltd (Consumer-care).

GSK is one of the major consumer healthcare companies in Bangladesh with powerful brand like Horlicks in their product line which is currently holding 95% market share in Health Food Drinks category. Moreover, their other brands Sensodyne and Glaxose are also growing in a good manner. From sales team experience it is observed that Sensodyne is doing excellent in retail market and it will carry major portion of market share in toothpaste industry in near future.

Over the period of 50 years it has expanded its capability in Manufacturing, Logistics and Retail distribution and have become one of the largest 'Extended Supply Chain Company' in Bangladesh. No other company in Bangladesh carries such a long and consistent track record of upholding global MNCs business interest in Bangladesh market. (MFPL Organizational Website)

Mutual Food Products Ltd is Group's core SBU, is the only 3P manufacturer GlaxoSmithKline (GSK) Bangladesh ltd. It is an 'extended supply chain company', offering exclusive services of sourcing and procurement of raw & packaging materials, contract manufacturing, nationwide Logistics and warehousing to retail distribution network for GlaxoSmithKline consumer healthcare, Bangladesh. (MFPL Organizational Website)

Brands processed and packed in this factory includes Horlicks and its other variants (Junior Horlicks, Mother's Horlicks, Chocolate Horlicks, Lite Horlicks, Women's Horlicks), Maltova, and Boost. Manufacturing process, facility, material handling, waste handling are maintained as per Global Food management system along with GSK's further stringent internal quality procedures. Mutual Food Products Ltd has 1 manufacturing unit with store and six depots in different locations of Bangladesh. (MFPL Organizational Website)

Mutual Food Products Ltd factory is located at Konabari, Gazipur about 50 Km away from Dhaka. It was built in 2002 with state of the art machineries under direct supervision of GlaxoSmithKline UK to exclusively process and pack Health Food Drink brands of GlaxoSmithKline Consumer Health division. All the local supplier of MFPL within 25 km. The site boundaries of MFPL clearly identified. Access to the site is controlled. The site maintains in good order. Vegetation are tended or removed. Roads, yards and parking areas are drained to prevent standing water and shall be maintained.

### **1.3 Mission, Vision, Objectives and strategies of Mutual Food Products Ltd**

#### **Mission:**

Improvement of the quality of human life by enabling people to do more, feel better and live longer

#### **Vision:**

- Growing a balanced business with meeting business partners interest
- Delivering more products of value
- Simplifying the process of operation with maintaining core values
- Being a responsible business, employee and customer.

### **Core Values:**

MFPL & GSK Bangladesh work together to follow their core values. Organizations follows following core values:

- Consumer first
- Respect
- Transparency
- Integrity

### **Strategic Goals and objective:**

- **Balanced Business:** MFPL is creating more balanced, refined business and product portfolio to earn revenue, satisfy customer goal and improving shareholders interest. This is applied to MFPL's 5 business areas- Food, Milk, Mutual trading, Logistics & distribution,
- **Delivering More Products:** Develop and deliver more product according to business partners demand.
- **Simplifying Business Operating Model:** For avoiding complexity and achieving more efficient operating, Mutual Group is trying to simplify their business operating model.
- **Being a Responsible Business:** This is another most important strategic goal MFPL is trying to achieve. For MFPL, how it delivers success is equally important to what they are actually achieving every time. Being a responsible to business, employee, customer and environment.

**Quality Statement of MFPL** "Quality is at the heart of everything we do"- from material sourcing to finished goods delivery to consumption through Vendor Audit, Incoming Material test, Manufacture, Finished goods Quality Assurance, product development and supply to market.

## **1.4 Objective of the study**

To identify the current situation of Operation and Supply Chain Management process of Mutual food products ltd. Specific objectives of the study given below:

1. Present scenario of Supply Chain Management of MFPL and assess the future needs of Supply Chain Management.
2. Present scenario of Procurement and Vendor Management of MFPL & assess the future needs of Supply Chain Management.
3. Present scenario of Operation Management of MFPL
4. Distribution Management of MFPL and assess the future needs of Supply Chain Management.

### **Limitations of the study:**

There were few limitations on the study. Those are given below:

- Confidential data of the organizations. Organizations never want to disclose that information's. Though my senior colleagues helped and cooperate me a lot to make this report more informative. But I have some obligations to disclose every confidential data.
- Another obstacle was COVID 19. Due to COVID 19 Data or information collection was delayed.



## **Chapter 2 Methodology**

### **2.1 Sources of data**

#### **2.1.1 Primary sources of data**

The report is prepared from my work on Mutual Food Products Ltd, supplier evaluation data, vendor survey, production data Other than that report was made from the information provided by:

1. Md Shofiul Alam; Head of Procurement, Mutual Food Products Ltd
2. Md Alamgir Hossain; Head of Supply Chain & Logistics, Mutual Food Products Ltd
3. Md Akbar Hossain; Head of Warehouse, Mutual Food Products Ltd
4. Md Halimuzzaman; Head of Production, Mutual Food Products Ltd

#### **2.1.2 Secondary sources of data:**

Secondary data refers to a data which is collected by others who is someone other than the user. As this report is made from a daily experience so the internet data search organizational records, Organizations supplier evaluation data and data that was originally collected for other research purposes were used for the discussion of some topics.

#### **2.1.3 Data collection process:**

Information that was required collected from relevant department i.e., Supply chain, procurement, Production, Warehouse and QA. Every department was so supportive and provided me all relevant information and support. A questionnaire was developed for vendor survey and shared with vendor. Vendor return the questionnaire with answer.

## 2.2 SWOT Analysis

Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is a tool which examines strengths and weaknesses (internal factors) of a organization or industry together with opportunities and threats (external factors) of the marketplace environment. This analysis provides the basic outline in which to perform analysis of decision situations. In this study SWOT analysis to be conducted for a manufacturing industry on its different function.

	Helpful To Achieving the objective	Harmful To Achieving the objective
Internal Origin (attributes of Organization)	S Strengths	W Weakness
External Origin (Attributes of Environment)	O Opportunities	T Threat

Fig 1: SWOT Analysis

## **Chapter 3 Supply Chain Management of Mutual Food Products Ltd**

### **3.1 Present scenario of Supply Chain Management of MFPL.:**

A. **Supply chain:** Supply is the total amount of a specific goods and services that is available to the consumers. Supply chain is “a network of manufacturers and service providers that work together to convert goods from the raw materials stage to the end user” (Bozarth and Handfield, 4). Supply chain management (SCM) is the oversight of materials, information, and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordination and integration of these flows among companies or service from supplier to manufacturer to customer. It also described as planning, designing, executing, controlling and tracing supply chain operations with the aim of generating net value, constructing a competitive infrastructure, leveraging global logistics, synchronizing demand supply and evaluating global output. Management of the supply chain is managing the flow of products and services. It includes RM, PM, FG movement and storing raw materials, inventories of work-in-progress and finished products from point of producer to point of consumption. The supply chain management needs to be provided by interconnected or interlinked networks, channels and business nodes.

B. Main function of supply chain management of MFPL:

- a. Production planning
- b. Inventory management
- c. Vendor management
- d. Distribution management
- e. Channel management
- f. Payment management
- g. Financial management
- h. Logistics management

i. Customer Complaint Management

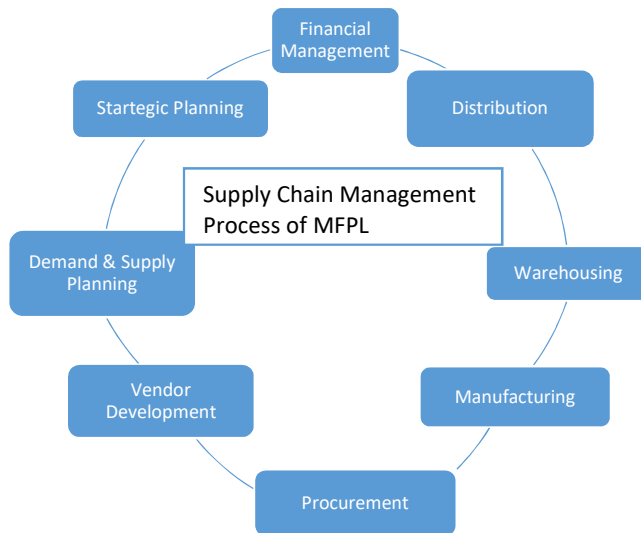


Fig: 2: Supply Chain Management Process of MFPL

End to End Supply Chain visibility of MFPL:

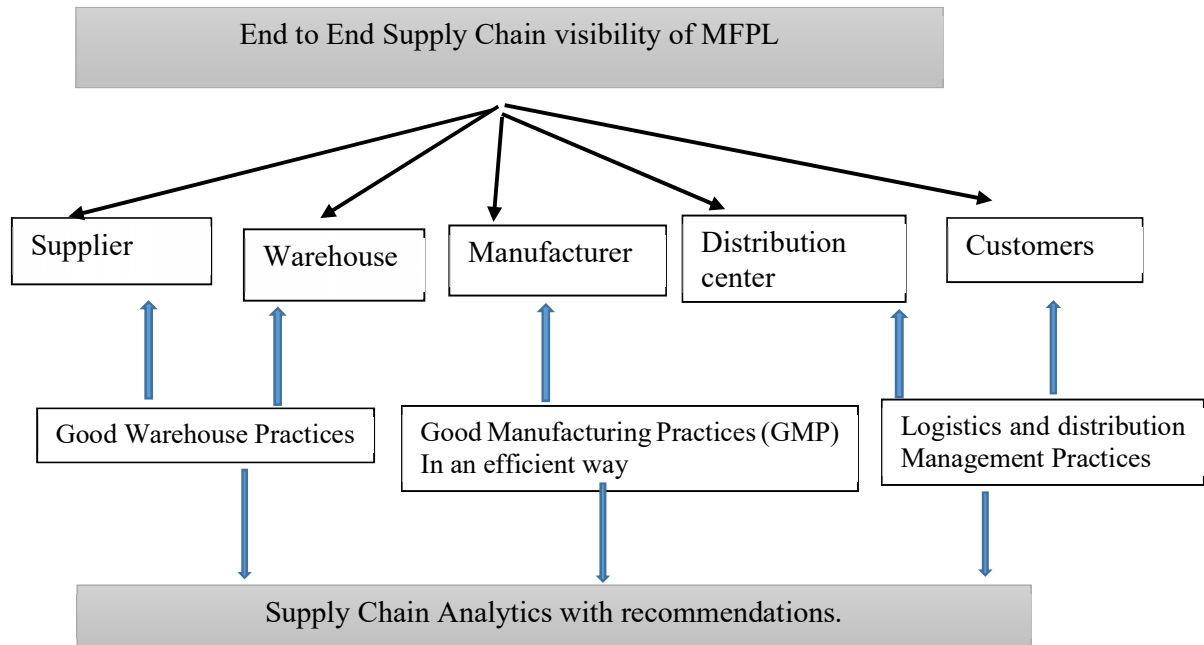


Fig: 3: End to End Supply Chain visibility of MFPL

## SWOT Analysis of Supply Chain Management of MFPL

	Helpful To Achieving the objective	Harmful To Achieving the objective
Internal Origin (attributes of Organization)	<b>S-Strengths</b> <ol style="list-style-type: none"> <li>1. Highly Skilled supply chain team</li> <li>2. Procurement and supply chain policy</li> <li>3. Vendor management</li> <li>4. Good Practices adopted by organization</li> <li>5. Investment on R &amp; D and Specification Management.</li> <li>6. Innovative Products</li> <li>7. 3P business partner of a Well recognized MNC.</li> <li>8. High Product quality and able to make global brand with its very modern manufacturing system</li> <li>9. Stable Market Share</li> <li>10. ERP software</li> </ol>	<b>W-Weakness</b> <ol style="list-style-type: none"> <li>1. Increasing of Raw and Packaging material cost</li> <li>2. Labor Cost increasing</li> <li>3. Low Inventory at site</li> <li>4. No export</li> <li>5. Supply disruption</li> <li>6. Timescale, deadlines and pressure</li> <li>7. Cash flow, cash drain</li> </ol>
External Origin (Attributes of Environment)	<b>O-Opportunities</b> <ol style="list-style-type: none"> <li>1. Rural market</li> <li>2. Income power of people increasing</li> <li>3. Export potential</li> <li>4. Reduction of product conversion cost</li> <li>5. New products of different SKUs</li> <li>6. Market share very high</li> <li>7. Focus on own brand products</li> </ol>	<b>T-Threat</b> <ol style="list-style-type: none"> <li>1. Counterfeit products in market</li> <li>2. Imported product in Market</li> <li>3. Loss of resources</li> <li>4. Legislative effects</li> <li>5. Rapid change in technology</li> <li>6. RM-PM price depends on global economy.</li> </ol>

### **3.2 Present scenario of procurement and vendor management of MFPL.**

Procurement is the process of obtaining goods or services for an organizations business purpose from its external sources (Supplier or supplying agency). The procurement process is unique in an organization. Procurement operation defines processing of a demand as well as end receipt and demand. Procurement operation of MFPL includes so many activities includes:

1. Procurement planning
2. Specification and standard development
3. Supplier selection
4. Evaluation of supplier
5. Price negotiation
6. Requisition for procurement
7. Review of requisition
8. Create purchase order
9. Making purchase
10. Goods/Service receive
11. Storage and inventory control
12. Payment to vendor

Procurement of RM and PM from approved supplier is one of the organizations corporate strategy because through this process MFPL get assurance that the goods, services and works are in proper quality, quantity and location to meet buyers expectation and those are produced at best possible price (Weele, 2010). Procurement of best quality products at reasonable price, minimum cost in processing and distribution of products nationwide can earn more profit.

- 3.2.1 Supplier Focus** This constructs were examine on how the company selects and manage it suppliers to ensure they attain the expected quality specification demanded by the organization. This construct will also have conceptualized the supplier selection criteria, number of suppliers, information exchange and services, supplier involvement and the length of the relationship between supplier and the company.
- 3.2.2 Supplier:** MFPL has 13 National suppliers and 11 International suppliers. Supplier is selected based on required material, Suppliers capacity, Suppliers quality audit, Supplier Confidence Level and Products compliance to specification.
- 3.2.3 Supplier Risk Classification:** Risk assessment of all new materials to be done based primarily on the inherent food safety risk of the material, taking into consideration the intended use of the material and the nature of the operation. Material risk classification to be reviewed minimum once/ 2 years or need basis by QA.
- 3.2.4 Supplier Confidence Level:** Based on the supplier track record as regards quality, performance (Release parameters / monitoring parameters) and audit status responsiveness, a confidence level is assigned to the supplier. Supplier confidence level to be reviewed by QA minimum once / year.
- 3.2.5 Supplier Audit Planning – Principles:** Frequency of audits based on risk and confidence level of supplier. For approved suppliers. Prioritization of audits High risk materials from Low confidence suppliers.
- 3.2.6 Pre - Audit Checks:** Collect information on product specific issues which need to be investigated during the audit. Pre-assessment questionnaire sent to the supplier.
- 3.2.7 Audit Execution:** Conduct a wrap up meeting with the supplier to discuss the identified gaps and the deadline for their closure.
- 3.2.8 Audit Reporting:** Audit reporting to be done through Electronically – Supplier assessment report and sent to Supplier, Procurement, Factory Supply Chain Manager.

Based on audit report supplier is approved or not. Approval Categorization may be Approved, Conditionally Approved and Not Approved

**3.2.9 Agreement:** A general requirement deals with all aspects common to all products. It consists of a single document, which contains the list of all products covered by the agreement. Product specific requirement deals with all aspects (technical or others) specific to a product type. Quality Agreement shall be established between supplying site and organization. Organization shall verify that the information contained in the agreement complies with local registered details. The complete quality agreement contain quality and technical conditions of manufacture and supply of products involved.

**3.2.10 Checking of supplier site at material reception:** Change for RM/PM risk classification as per audit inputs. The manufacturing site, the material received should be checked during sampling, especially in the case of material supplied by traders and suppliers having multiple manufacturing sites. Results of checks will form a part of the release criteria. The approved supplier list should be updated on the basis of the supplier performance and communicate to relevant stake holders like supply chain.



## SWOT Analysis of Procurement and Vendor Management of MFPL

	Helpful To Achieving the objective	Harmful To Achieving the objective
Internal Origin (attributes of Organization)	<p style="text-align: center;"><b>S-Strengths</b></p> <ol style="list-style-type: none"> <li>1. RM &amp; PM Specification</li> <li>2. Approved Vendor</li> <li>3. SOP on Vendor Evaluation and audit</li> <li>4. Vendor Audit &amp; Yearly Audit Plan</li> <li>5. Agreement with supplier</li> <li>6. Skilled food safety audit team</li> <li>7. Complaint management of vendor</li> <li>8. Cost transfer to vendor</li> <li>9. Noncompliance product rejection</li> <li>10. Agreement with each vendor</li> </ol>	<p style="text-align: center;"><b>W-Weakness</b></p> <ol style="list-style-type: none"> <li>1. High Investment on technology</li> <li>2. Necessary change management and adoption</li> <li>3. Frequent change to specification and artwork.</li> <li>4. RM-PM price Increase</li> <li>5. Time consuming new vendor approval process</li> <li>6. Speed of delivery of product by vendor</li> <li>7. Long procure to pay cycle</li> <li>8. Advance payment required for few supplier</li> </ol>
External Origin (Attributes of Environment)	<p style="text-align: center;"><b>O-Opportunities</b></p> <ol style="list-style-type: none"> <li>1. Leverage supplier capabilities and innovation.</li> <li>2. Make partnerships with vendor</li> <li>3. Business relationship development</li> <li>4. Open access to larger market</li> <li>5. Strong ability and experience in phase of new products.</li> <li>6. Risk mitigation and supplier management policies</li> <li>7. Emergency supply management policies</li> </ol>	<p style="text-align: center;"><b>T-Threat</b></p> <ol style="list-style-type: none"> <li>1. Increasing total cost of ownership</li> <li>2. Credit terms</li> <li>3. Legal requirement change</li> <li>4. Vendor rating and selection</li> <li>5. Single source of few items</li> <li>6. Supplier fail to supply at peak season</li> <li>7. Highest inventory cost before peak season.</li> </ol>

### **3.3 Present scenario of Operation Management of MFPL**

Operations management consists of those activities which are concerned with the acquisition of materials, their conversion into finished product, and the supply of that product to the customer. Operation management includes Design of Goods and Services, Quality Management, Process and Capacity Design, Location strategy, Layout Design and Strategy, Job Design and Human Resources, Supply Chain Management, Inventory Management and scheduling, Maintenance. This report prepared based on a case study. Ten indicators of operation Management consider for preparation of this report.

#### **3.3.1 Design of Goods and Services of Mutual Food Products Ltd.**

Mutual Food Products Ltd addresses this strategic decision area of operations management through technological advancement and quality. The company uses its R & D investments to ensure different variety in its products. MFPL also integrates 470 dealers and their needs in designing. MFPL assures complaint management system.

Brand processed and packed in this factory includes Horlicks and its other variants (Junior Horlicks, Mother's Horlicks, Chocolate Horlicks, Lite Horlicks, Women's Horlicks), Maltova, Glaxose, Glaxose Orange and Boost. Our manufacturing process, facility, material handling, waste handling is maintained as per Global Food management system along with GSK's further stringent internal quality procedures.

All the product development was done by GSK. For any new product GSK provide manufacturing document which includes formulation of products, manufacturing instruction, safety measures, Quality parameters etc.

For any New Product Initiative (NPI), MFPL checks activity as below:

**Table 1: NPI Checklist**

S N	Activity	Required (Yes/No)	Respons ibility	Completed (Yes/No)	Final Status (Date)
1	New product document approved				
2	Technical transfer protocol signed off				
3	Change control form signed off (local CCF for NPI introduction)				
4	Lot number and BOM codes finalized				
5	Cost / excise implications verified by Supply Chain Finance				
6	Approved Raw l and packaging Material specifications released to site				
7	Testing method available				
8	Shelf life of Bulk material agreed (for HFD powders only)				
9	Approved Manufacturing document issued to site				
10	Changes in Quality agreement				
11	All SKU artworks approved				
12	Batch manufacturing records amended / created for new product				
13	Batch-coding requirements finalized for all SKUs				
14	In-process parameters / quality critical parameters identified				
15	Filling / pack fitment / carton fitment trials completed				
16	HACCP review conducted for NPI production process including the allergen review				
17	Depot feedback planned for the first consignment				
18	Production samples planned to be sent to Quality for approval				

### 3.3.2 Quality Management.

To maximize quality, the company uses global quality policy of GlaxoSmithKline (gsk). Quality is one of the key factor. MFPL is certified for ISO 22000 & ISO 9001, HALAL by SGS Bangladesh Ltd. Also, the firm addresses this strategic decision area of operations management through for continuous improvement MFPL follows 5S, Kaizen throughout process. MFPL assures quality of finished goods through analysis of FG, RM & PM.

### **3.3.2.1 Quality assurance practice is measured by;**

- (i) Yearly Quality plan,
- (ii) Execution of quality plan in manufacturing
- (iii) control of product, procedures and specification.
- (iv) Preventive maintenance activities, and
- (v) Quality Assurance activities along the value chain.

### **3.3.2.2 Quality assurance activities of organization:**

- i. The Quality Assurance Manager is involved in all decisions with potential to impact on product quality. The Quality Assurance Personnel is independent of manufacturing, distribution and sales.
- ii. Approval / rejection of all lots/batch of bulk powder, packaging components, intermediates and finished product done with standard written procedures. QA ensures Vendor selection & approval to purchase quality materials.
- iii. GMP regulations, regulatory filing, local requirements/regulations governing the manufacture and testing of the product. QA Carry out Physical, chemical and microbiological analysis of raw material, packing material and finished product and each batch of the product has been packed, tested and checked in accordance with appropriate quality standards. QA responsible for activities at the Start of the packing, during changeover, hold ups, suspended operations and during any trials.
- iv. Preparing and review of all specifications and standards which may impact product quality, e.g. policies, SOPs, Specifications, Test methods, sampling plans, forms, batch records (BMR). Also Carry out risk assessment of facility and process to address the product quality and safety requirements as well as to appraise higher management about corrective action.
- v. QA ensures effective implementation of change control programme. QA approves change impacting product quality i.e. changes in validated process, equipment, facility etc. QA team arrange training programs for all the staff and workers to ensure steady product quality. QA Release product/pack to be reworked and ensures compliance of reworked pack / product with specifications.

- vi. Compiling of MIS data, monitoring KPI, Deviation data, handling customer complaints and shall prepare corrective and preventive action to address the same. Investigation of Deviation, near miss, conducting root cause analysis and recommendation of corrective action along with the team.
- vii. Updating of the QIP (Quality in Procurement) System on the quality related data on monthly basis, and escalate the Quality issues on monthly basis to Factory Manager & GSK Site representative. QA Ensure that stores are following FIFO for components and FEFO for bulk product. Storage of finished goods at warehouse and Dispatch to different depots of MFPL. FG Distributed from Depot to distributor to retail shop. QA also handle Customer complaints, feedback

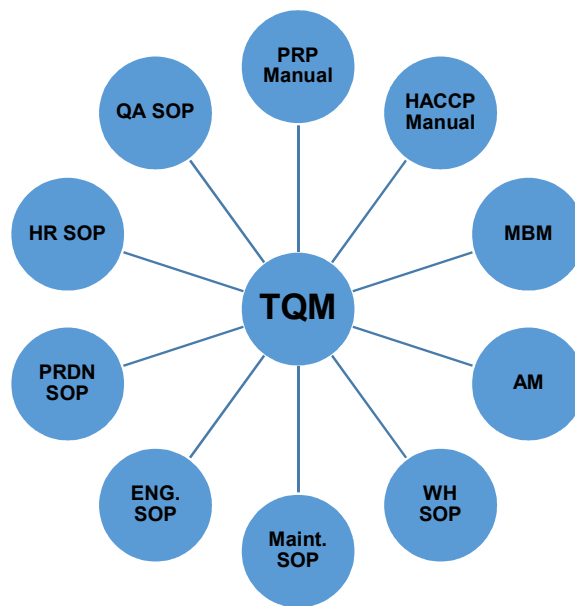
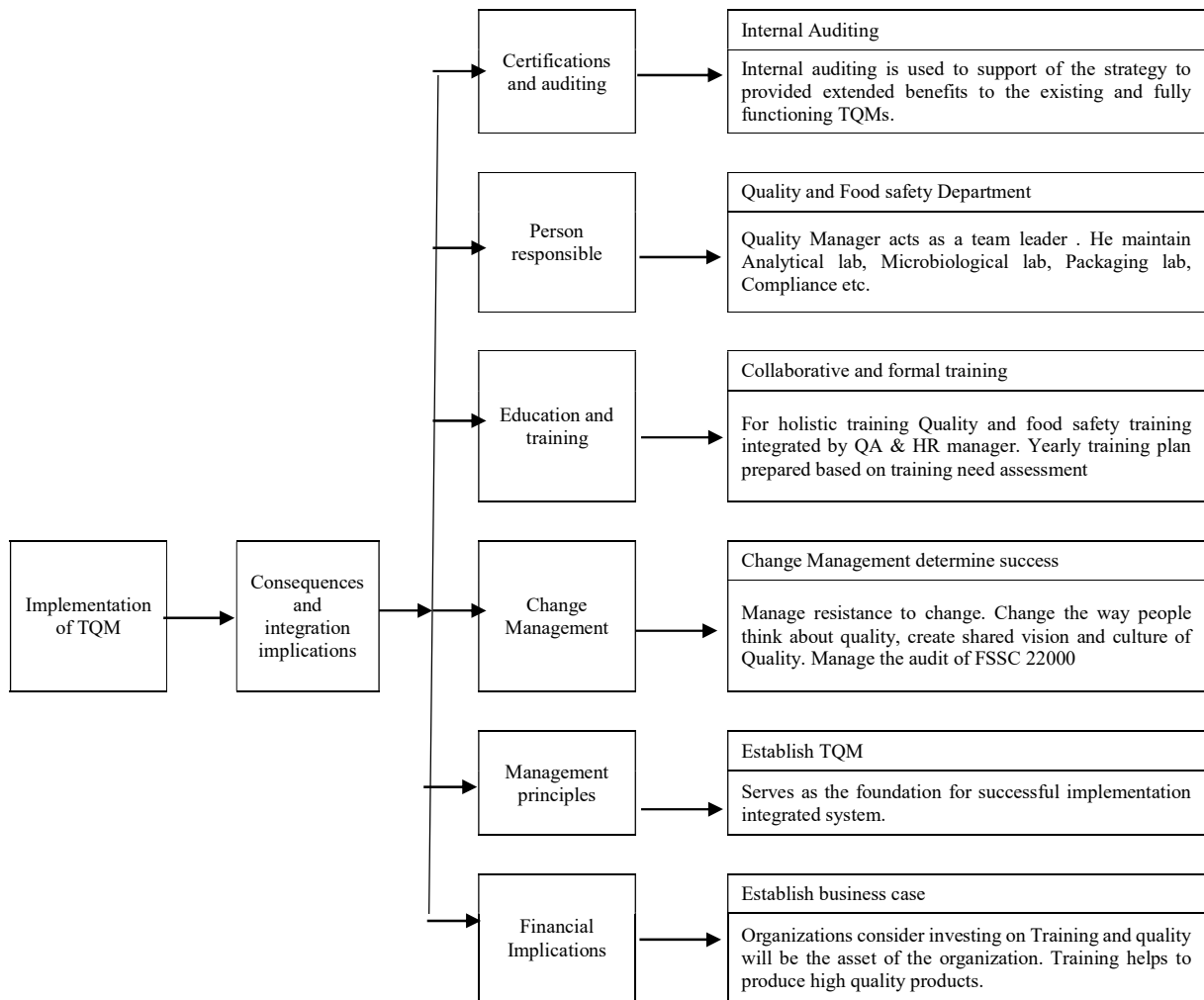


Fig-4 : TQM

### 3.3.2.3 Implementation of TQM at MFPL



### 3.3.3 Process and Capacity Design.

For this strategic decision area of operations management, MFPL uses lean manufacturing, which is also embodied in global quality policy. The company emphasizes on waste minimization to maximize process efficiency and capacity utilization. Thus, MFPL supports business efficiency and cost-effectiveness in its process and capacity design.

For process and capacity development MFPL follow the guideline of ISO 22000:2018 (Food Safety Management System). MFPL is an ISO 22000:2018 certified and have also been awarded by GlaxoSmithKline as a very precious 4 star rated manufacturing facility.

The MFPL has established and executed their functions under one food safety manual ensuring the product conformity to specific requirements, food safety policy and objectives. The food safety manual is the cornerstone of the quality management system. The scope and the specific processes, functions, requirements etc. of the MFPL have been identified and illustrated in this manual with following ISO 22000:2018.

The food safety manual makes reference to the documented procedures and it outlines the structure of the documentation used in the Food Safety Management System. Food safety manual is a controlled document, which is approved by Management Representative.

Document of ISO 22000:2018 specifies the requirements for a FSMS that combines the Following generally recognized key elements:

- i. Interactive Communication;
- ii. System Management;
- iii. Prerequisite Programmes;
- iv. Hazard Analysis and Critical Control Point (HACCP) Principles.

In addition, this document is based on the principles ISO 22000:2018 standards. The management principles are:

- i. Customer Focus;
- ii. Leadership;
- iii. Engagement of People;
- iv. Process Approach;
- v. Improvement;
- vi. Evidence-Based Decision Making;
- vii. Relationship Management

### **3.3.4 Production Management:**

- i. To maintain good hygienic practices personnel hygiene maintained with body cleanliness, trimmed nails & hair, clean dress, hand gloves, shoes, caps and mouth masks.
- ii. Processing areas maintain control temperature i.e., Temp. Max 82°F, Relative Humidity max. 60% & Vapor Pressure max. 15mm Hg. RH & temperature recorded before the start of operation and then once in an hour basis and weighing balance check start-up of each shift.
- iii. Cleaning and running condition of all the Equipment checked before starting production during area line clearance.
- iv. Raw Material & Packing Material Movement: Raw and Packing material required for the day's packing operation is manually transferred on plastic pallet using hand operated trolley to the dedicated area. Packing material required during the packing process is drawn from the day stock area.
- v. For ensuring process RM-PM test, net weight, relative humidity, Temperature, leakage, seal defect, mixing process checked at certain interval.
- vi. Before releasing any product to market at least 10 analytical test and 12 microbiological test for each batch ensured.

### **3.3.5 Process Management:**

This TQM element is concerned about how the organization managed a combination of machines, tools, methods, material and people engaged in a production. Process management encompasses the systems and procedures for establishing quality in the many shop floor activities involved in manufacturing. Process control done based on analytical results. Trend analysis of Analytical test results, net weight and process variables done. One of process



parameter is the net weight. Lower specification and upper specification shows on chart from which any out of specification can easily identified.

### **3.3.6 Layout Design and Strategy.**

Layout design in MFPLs manufacturing plants highlights the application of lean manufacturing principles. In this area of operations management, the company aims for maximum efficiency of individual process. On the other hand, MFPL dealership layout design satisfies the company's standards but also includes decisions from the dealers. Manufacturing process, facility, material handling, waste handling of MFPL are maintained as per Global food management system along with GSK's further stringent internal quality procedures.

- Buildings of MFPL designed, constructed and maintained in a manner appropriate to the nature of the processing operations to be carried out, the food safety hazards associated with those operations and the potential sources of contamination from the surrounding environment. Buildings of MFPL made in such a way to avoid hazards in the product.
- Consideration given to potential sources of contamination from the local environment.
- Food production not carried out in areas where potentially harmful substances could enter the product.
- The effectiveness of measures taken to protect against potential contaminants periodically reviewed by QA team.
- Wall floor junctions and corners are designed to facilitate cleaning. Junctions of wall and floor are rounded in processing areas,.
- Floors are designed to avoid standing water. Floors are sealed and drained. Drains are trapped and covered.
- External opening windows, roof vents or fan, where present, are insect screened.

- External opening doors are closed or screened when not in use.

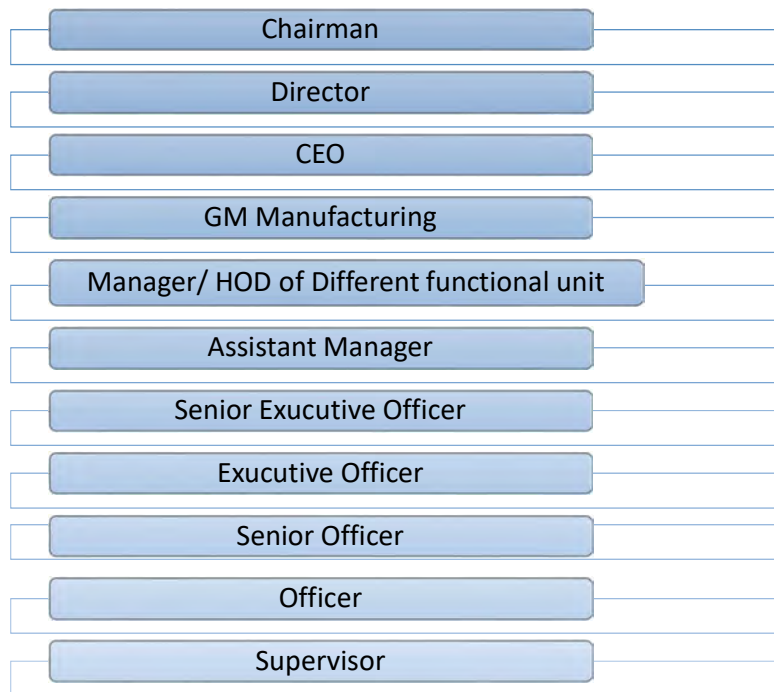
### **3.3.7 Job Design and Human Resources.**

The success of an Organization largely dependent on its human resource to have the best talent for the job with an effective recruitment process that is fair, transparent & has a clear objective. Senior management identify all roles in site where correct performance of the duties, including contract or temporary personnel, is necessary to ensure product quality. All roles are furnished with specific Job description. The job description defines The position within the organization, The specific authority and responsibility of the role, The specific duties of the role. Personnel selection would be based upon the requirements of the job description.

The organization emphasizes respect for all people with following MFPL policy and this is integrated in HR programs and policies. Also, MFPL has training programs based on training needs analysis and training plan.

The main Focuses during recruitment selection of best candidate during selection. Development of newly appointed and existing employee through training. Existing team development through human resources practices, employee involvement, teamwork, yearly team building, Annual picnic, Sports, and training are in place. Human resource management is one with a greater effect on quality outcomes. This result may indicate that people are a key factor in TQM success.

**Fig 5: Organogram of MFPL**



Responsibilities of Human Resource Manager/Department Head:

- i. Identify the recruitment need to ensure adequate personnel at all levels in the site
- ii. Screening & short listing of the candidates for the respective positions in different departments
- iii. To interview & select the candidate for the position in the respective departments
- iv. Training and development

HR departments has an SOP for recruitment process which includes:

- i. Flow chart of recruitment process
- ii. Competency requirement for different position (job, category, source, scope, experience)
- iii. HR requisition form
- iv. Interview summary form
- v. Medical Examination Form
- vi. Exit Clearance and Material Issue form
- vii. Job description format
- viii. Exit Interview Questionnaire
- ix. Progress Report for Probationary Employee

x. MFPL Factory Organogram

To a new staff HR manager provide job description to all employee which includes:

- i. Job responsibilities
- ii. Reporting to
- iii. Category Managed-
- iv. Internal Stakeholders
- v. External Stakeholders- GSK Bangladesh, Packing Materials Suppliers.

**SWOT Analysis of Operation Management of MFPL**

	Helpful To Achieving the objective	Harmful To Achieving the objective
Internal Origin (attributes of Organization)	<p><b>S-Strengths</b></p> <ol style="list-style-type: none"> <li>1. Job ownership of employee</li> <li>2. Implementation of ISO 9001, ISO 22000, TQM and halal standard at manufacturing unit.</li> <li>3. Skilled manpower</li> <li>4. Process Management</li> <li>5. Manpower recruitment policy</li> <li>6. Production plan- daily, weekly, Monthly and yearly</li> <li>7. Inventory management to support production plan</li> <li>8. Execution of yearly training plan</li> <li>9. Internal resources i.e. skilled manpower, RM-PM &amp; FG specifications, SOPs</li> <li>10. Strong ethical value and ethical policy</li> </ol>	<p><b>W-Weakness</b></p> <ol style="list-style-type: none"> <li>1. Dealing with large amount of suppliers from different countries.</li> <li>2. High labor cost</li> <li>3. Space for maintaining inventory</li> <li>4. Rented RM warehouse in 2 different places</li> <li>5. Low margin on cost of conversion cost</li> <li>6. Less return on investment (ROI)</li> <li>7. Scrap powder disposal process</li> </ol>
External Origin (Attributes of Environment)	<p><b>O-Opportunities</b></p> <ol style="list-style-type: none"> <li>1. Export market</li> <li>2. Few competitors in market</li> <li>3. Press or media coverage of company</li> <li>4. New innovative products</li> <li>5. Technological expansion on manufacturing</li> <li>6. Scope for backward integration</li> <li>7. Staff Training</li> </ol>	<p><b>T-Threat</b></p> <ol style="list-style-type: none"> <li>1. Cyber-attack in ERP software</li> <li>2. Supplier disruption in natural calamity</li> <li>3. Port strike</li> <li>4. Traffic jam</li> <li>5. Counterfeit products in market</li> <li>6. Leaving of skilled manpower</li> <li>7. High bank interest</li> <li>8. Fast changing technology</li> </ol>

### **3.4 Distribution management of MFPL**

Warehouse Management: MFPL has 2 separate warehouse for storage of Raw material, packing material and finished goods. Total capacity of warehouse 60000 SFT. In raw material storage area MFPL has separate storage area for temperature controlled products. MFPL maintains good warehousing practices for management of warehouses. Raw material, packaging materials and finished goods are stored on warehouse with providing protection from dust, condensation, drains, waste and other sources of contamination. Storage areas are dry and well ventilated. Raw materials, packaging materials, work in progress and finished products are kept in separated designated warehouse. All materials and products stored on the pallet and with sufficient space between the material and the walls to allow inspection and pest control activities to be carried out. The storage area designed to allow maintenance and cleaning, prevent contamination and minimize deterioration. Separated, secured (locked) storage area provided for cleaning materials, chemicals and other hazardous substances.

#### **3.4.1 Depot Location:**

MFPL has 6 depot for finished goods distribution in different location of Bangladesh

- i. Central depot-Dhaka (Topkhana),
- ii. Gazipur (Konabari),
- iii. Sylhet (Shah Paran Mazar).
- iv. Chittagong (Haliashahar),
- v. Khulna (Sheikhpara)
- vi. Bagura Bogra (Badurtala),

### **3.4.2 Distribution Process:**

Logistics of MFPL provides dedicated and shared warehousing and distribution operations to ensure customer goods movement in the right place, at the right time, and at the right price. MFPL have strategic warehousing locations across the country combined with best in class design tools, processes and systems ensure cost-efficient distribution solutions.

- i. In very first phase of the distribution process, products are manufactured in MFPL factory which is located in Konabari Gazipur. Some of the products like Sensodyne, Ino, Toothbrushes are imported from India
- ii. After manufacturing products Mutual Foods takes manufactured products to their depots and distribute products as per the requirement of third party distribution house all over the country by their own transport. An agreement between GSK and Mutual Foods is in place for this service.
- iii. After receiving products from Mutual Foods, the third party distributors distribute products in retail and wholesale market by van or pickup van. Those third party distributors carry all operational and fixed costs related to the distribution. For that, they have an agreement with MFPL. Territory Officers and Area Sales Managers main operation in these third party distribution house. Primary target given by GSK to third party distributors and as per the primary target they place order to MFPL.
- iv. The main objective of GSK distribution is to increase service coverage. And the formula of increasing service coverage is making products available in maximum number of retail outlets. Doing long term business with many small retail outlets give benefits in increasing business growth than doing business with few wholesale outlets. Because wholesale outlet's takes a bulk amount of products and they serve it to near small outlets. Buying

price of retailers from distributor is called trade price (TP). There is a fixed trade margin for the retailers fixed by company.

- v. The third party distributors distribute products to wholesale market. There is a fixed target set by line manager for wholesale and retail channels. Target for retail channels is higher than wholesale channel . MFPL provides commission to distributor and wholesale outlets. The shoppers shop GSK products from retail outlets and they take products to the end consumer who are basically children, women or men.

### **3.4.3 Type of Distributors**

- i. Base D: Base D is the basic type distributors. Base Distributor is a distributor, which has one dedicated distribution house and warehouse and from the distribution house product delivered to market. For example, Uttara distributor house is a Base D.
- ii. Super D: There are more than one sub distribution house under a Super D. In rural area there are some super distributors. Because there is a huge distance between distribution house and market area. That's why providing regular service is difficult without setting sub distributor house near those rural markets. For example, Joydevpur distributor house is a Base D.
- iii. Sub D: These are small sets of distribution house near any rural market. The capacity of warehouse is also lower. It just delivers products in near markets. For example, Uttara distributor house is a Base D. i.e., Maona distributor house is a Base D.

### **3.4.4 Type of Outlets**

Outlets are divided into two categories. Which are-

- i. General Trade Outlet (GT Outlets): GT outlet means normal outlets available in different retail and wholesale channel like- general store, grocery store, pharmacy outlets, tong etc.

- ii. Modern Trade Outlet (MT Outlets): Modern trade outlets are super shops like Swapno, Agora, Mina Bazar etc.

SWOT Analysis of Distribution Management of MFPL

	Helpful To Achieving the objective	Harmful To Achieving the objective
Internal Origin (attributes of Organization)	<b>S-Strengths</b> 1. Low operational cost 2. Presence of established network for distribution in urban and rural areas. 3. Big market share 4. Skilled manpower at depot, warehouse and distributors house. 5. Lean and agile supply chain	<b>W-Weakness</b> 1. Difficult to reach in remote rural area. 2. Storage problems at depots 3. Have to handle 25 SKU at distributors warehouse 4. Manpower management 5. Distributor management 6. Data mismanagement
External Origin (Attributes of Environment)	<b>O-Opportunities</b> 1. Unreached Rural market 2. Income level rising 3. Third party distribution in remote areas 4. New product with different SKUs 5. Wet market, grocery shop, tea shop 6. Small SKU in low income area	<b>T-Threat</b> 1. Regulatory requirements 2. Depot management cost increasing 3. Distribution cost increase 4. Product damage during distribution 5. Rise of labor and transportation cost 6. Increased trade barriers

### 3.5 Supply Chain Relationship Management

Supply chain relationship management is a business strategy for improving communication between companies and their business partners. The first component to successfully manage the supply chain connection is the capacity to assess the efficiency of a supply chain partner. The next is to have technology that helps automate procedures, thereby reducing busy work. The third is shared understanding to measure, manage and valuate associates publicly. The



fourth is the relationships that suppliers really want to create long-lasting, useful relationships themselves. Understanding the strengths of supply chain partners is the area where one can likely to find mutual benefits.

To determine strengths, measurements are in place to comprehend key performance indicators such as offered tenders, accepted tenders, on-time pick-ups, on-time deliveries and any circumstances in which an approved tender is subsequently dismissed. Once these baseline measurements are in place, mutual possibilities can start to be explored. Opportunities often occur as circumstances in which the item wants to relocate, a transportation supplier has ability and additional traffic will benefit their network.

Once one start exploring these possibilities with supply chain partners, natural fits will become evident, which can provide a better general knowledge of capability levels and obligations. While obligations may not be optimal, they are essential to ensure supply chain viability if capacity limitations start to happen. Without strong relationships, joint obligations, and a strong comprehension of the values of each partner supply chain, transportation suppliers tend to gravitate higher-paying freight when capacity is restricted. Connection based on these basic values builds confidence and provides the basis for mutual achievement.

### **3.6 Overall Supply Chain Management process of Mutual Food**

#### **Products Ltd**

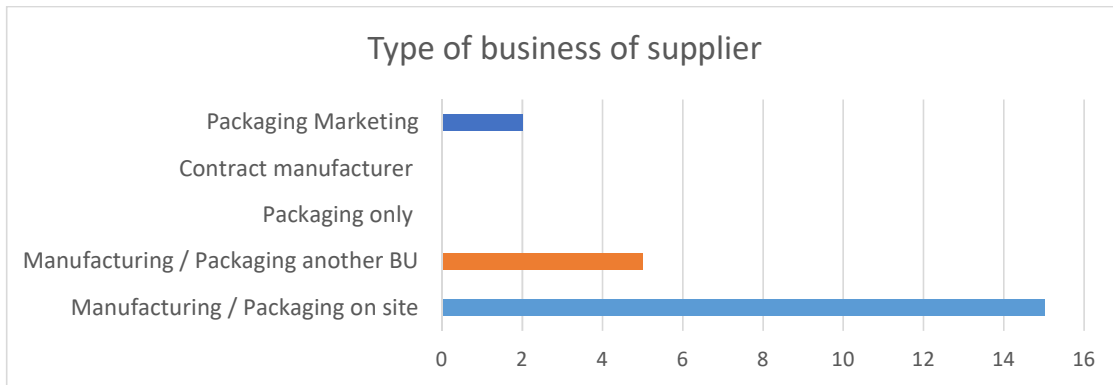
Mutual Food Products Ltd imports milk from New Zealand. Other raw materials imported from India, USA and UK. Raw materials enter Bangladesh via Chittagong Port. MFPL has separate warehouse for storage of RM, PM, FG and intermediate products. Separate zoning and storage conditions are maintained as per products specification. Then the raw materials are processed into finished goods in MFPL factory. Production planning department makes production plan considering sales forecast, RM-PM availability, equipment's availability etc.

After producing FG products are quarantined 5 days for microbiological tests. After releasing products from QA finished goods sends to the depot and distributors. There are 6 regions and the allocation of the distributors sends by the region. Distributor houses place their order 3 days before they get stocked out. Then within 2 days they get their product from MFPL logistics team. Their products are sent by single drop point and multiple drop point. There are sub-distributors under each distributor. Sub-Distributors spread out the finished goods and make the products available to the ultimate consumers. Also, a key account is kept. Key account is maintained to support the super shops. In every region there are assigned Territory Officers and sales team. They keep handling the distributors houses.

## Chapter 4 Results and discussion:

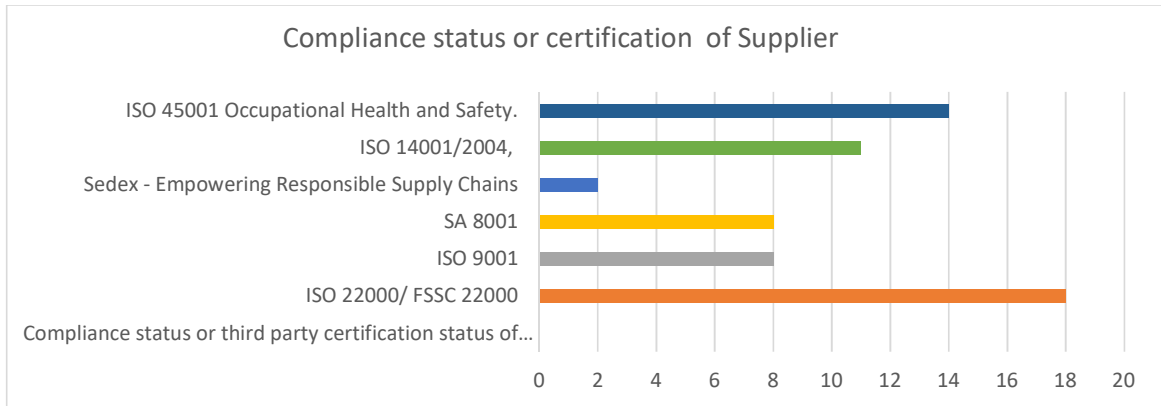
Based on Research Methodology twenty questionnaire (**Annexure 1**) is prepared to conduct the survey among the RM-PM supplier of MFPL with an aim to find out the supply chain of the organization. MFPL has 25 RM-PM supplier and organizations is managing its supply chain successfully. Structured questionnaire was developed and survey conducted among 25 suppliers. Questions are selected based on suppliers KPI of MFPL, product specification, suppliers capability and suppliers willingness to maintain quality products. All the data was collected through the systematic way or direct interview method. In this chapter collected data was analyzed. Quantitative data was presented in the graphical format. At the same time, collected data was analyzed. It results in the improvement of the actions. It results in the modification of the actions of the organization. Details analysis is given below-

### 1. Type of Business:



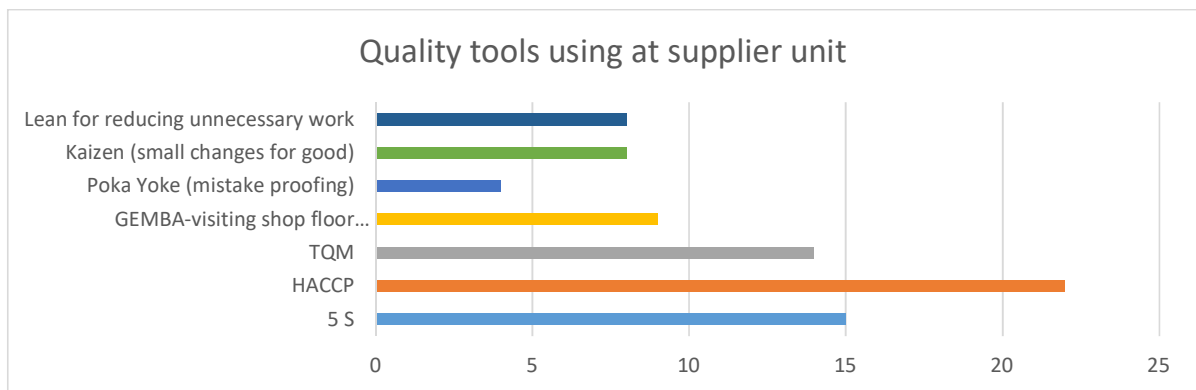
By this question investigator tries to investigate the type of business of supplier. Total 25 supplier participated in survey. 15 participants have own facility for production of their material, 5 have manufacturing facility in their business unit, 2 company are only packaging material manufacturer and 2 company are the marketing company of raw materials. There were no contract manufacturer in the supply network of MFPL.

**2. Compliance status or third party certification status of Supplier**



Most of the compliance programs depend on the search in the primary tool. It helps to review the compliance status of the organization. To be a part of MFPL supply network certification of ISO 22000, FSSC, ISO 9001 or ISO 450001 or ISO 14001 is mandatory. From above table we can observe 18 suppliers are ISO 22000/ FSSC certified, 8 suppliers are ISO 9001, 14 supplier ISO 45001, 11 Suppliers ISO 14001, 8 suppliers are SA 8001 certified from third party certification company. From above chart we can summarize all the supplier meets the mandatory requirements to be a part of MFPL supply network.

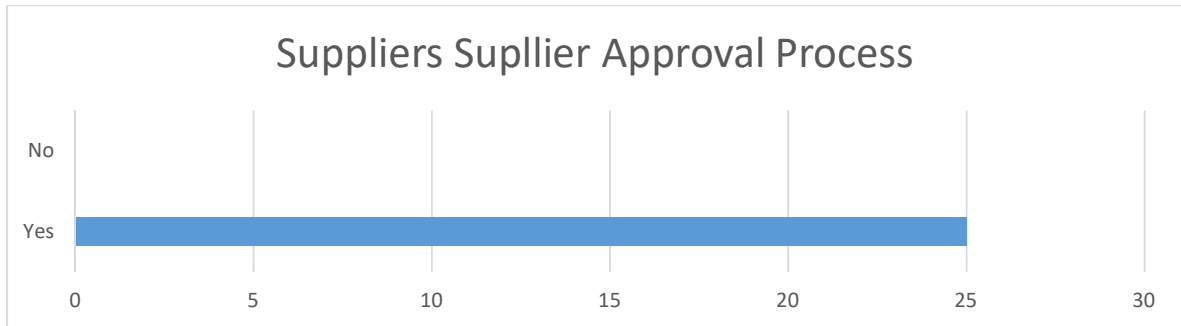
**3. What quality tools you are using at your manufacturing unit**



Ensuring product quality and meeting products specification is one of major criteria of MFPL suppliers. MFPL has a strict RM-PM monitoring program. If any parameter of RM-PM fails

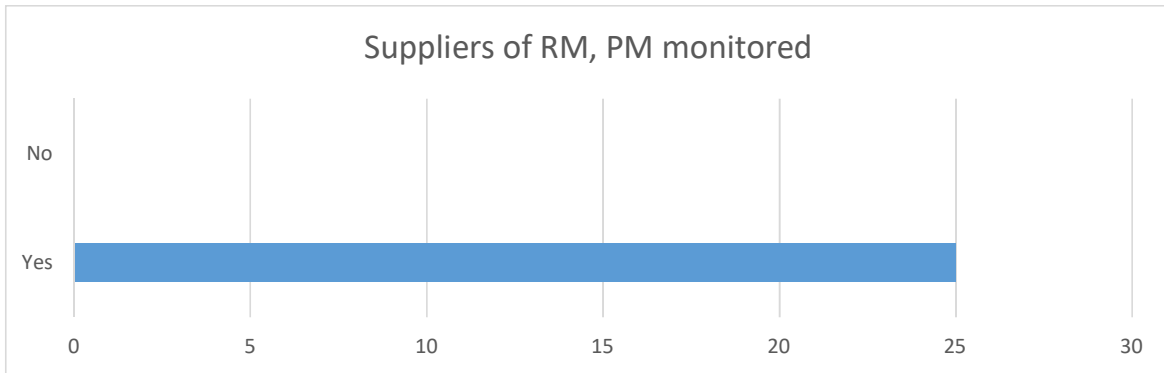
the specification MFPL can reject material. To meet the MFPLs specification supplier implemented HACCP, 5 S, TQM, GEMBA, Kaizen, Poka-yoke, lean etc. During analysis of survey results we observed 22 supplier implemented requirements of HACCP, TQM implanted by 14 suppliers, % S implemented by 15 suppliers. Others quality tools like GEMBA, Kaizen, Poka-yoke, lean implanted by 9, 8, 4, 8 suppliers respectively. Few suppliers implemented multiple quality tools to meet specification and to reduce wastage.

4. Is there a Supplier Quality Assurance procedure in place, laying down the criteria for selection, approval, review and ongoing approval, to ensure that the supplied products and services meet the expected requirements?



100 % suppliers has a supplier Quality Assurance procedure in place, laying down the criteria for selection, approval, review and ongoing approval, to ensure that the supplied products and services meet the expected requirements. From this questions MFPL get assurance that suppliers have a program for suppliers supplier approval process, which assures quality of tier-1 and tier 2 supplier of MFPL .

**5. Are the Quality Assurance procedures of suppliers of raw and packaging materials monitored?**



100 % suppliers has a supplier Quality Assurance procedure in place, laying down the criteria for selection, approval, review and ongoing approval, to ensure that the supplied products and services meet the expected requirements. From this questions MFPL get assurance that suppliers have a program to monitor and control the suppliers incoming materials assurance program.

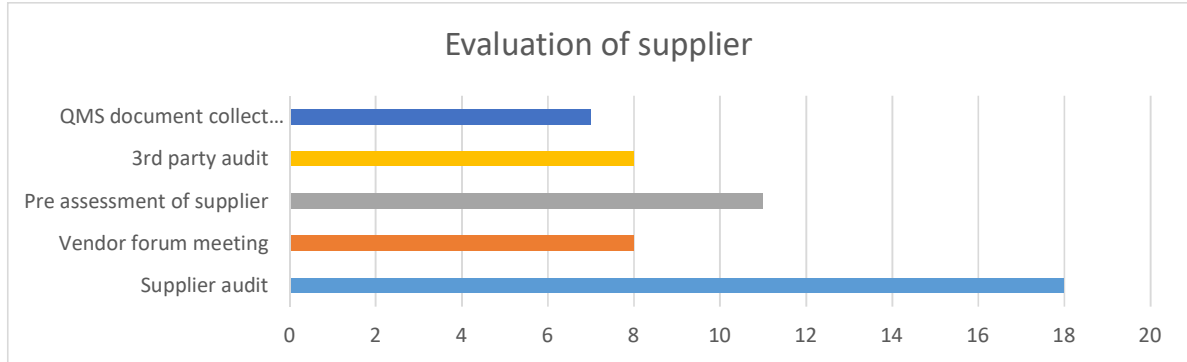
**6. Have you established an ongoing process of assessing supply chain risk for your organization/business unit.**



The organization shall have a documented and implemented risk assessment procedure in place that: identifies potential risks, develops control measures, and prioritizes them against the identified vulnerabilities. To identify the vulnerabilities, the organization should assess the susceptibility of its products. During analysis of survey results we came to know 40 % of supplier (10 Nos) have a process for analyzing supply chain risk rest 60 % supplier (15 Nos) have no process for analyzing supply chain risks. Those organizations who are not analyzing

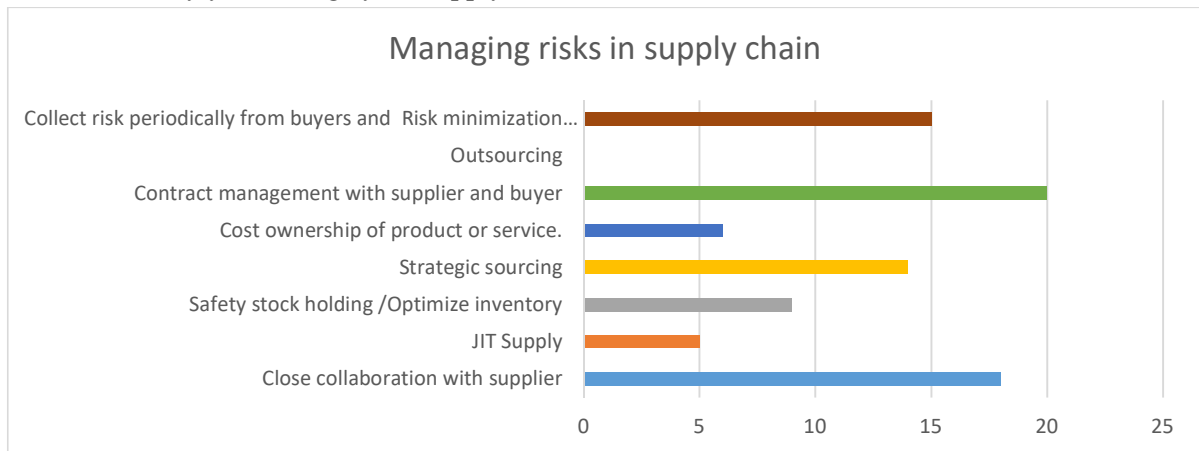
supply chain risks should give analyze the supply chain risks for uninterrupted supply of materials.

**7. How you are evaluating your supplier?**



Supplier of MFPL should have a process for supplier selection, assessment, approval or conditional approval, audit for continual improvement and sustainability, evaluation of performance, supplier development related with the manufacturing of MFPL Bangladesh. Most of the supplier (72 %) (18 Nos) have a process of supplier audit and remaining 28% supplier (8 Nos) has a process of audit using a third party audit company. 11 suppliers of MFPL pre assess the supplier before audit and 7 supplier collect QMS document during pre-assessment. \* supplier conduct vendor forum meeting to escalate any issue, recommendation, suggestions for improvement of un interrupted supply.

**8. In what way you manage your supply chain?**

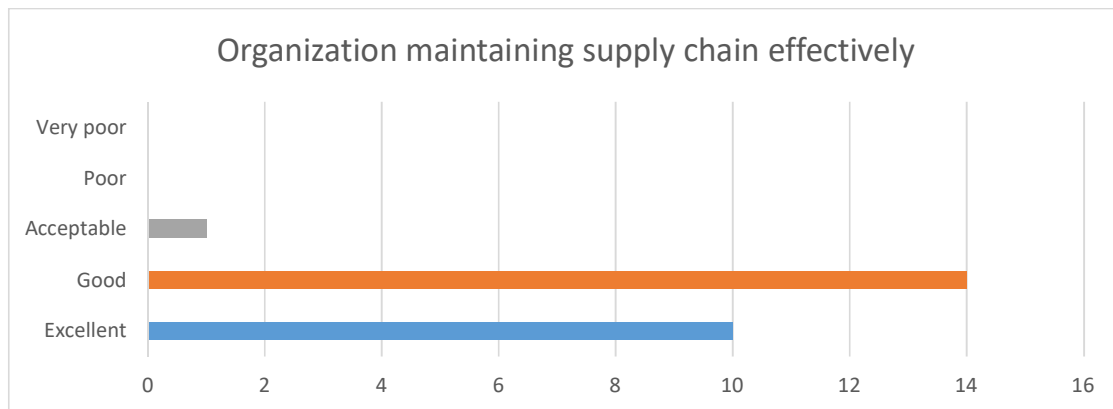


Managing risks in supply chain is one of the process for un interrupted supply. This process included process to identify risks, risk mitigation, risk elimination, risk prevention and risk reduction. Risk treatment can involve:

- a. Avoiding the risk by deciding not to start or continue with the activity that gives rise to the risk;
- b. Taking or increasing risk in order to pursue an opportunity;
- c. Removing the risk source;
- d. Changing the likelihood and changing the consequences
- e. Sharing the risk with another party or parties (including contracts and risk financing);  
and retaining the risk by informed decision. (ISO 22000:2018)

For managing risks 15 supplier collects supply chain risks from buyer and mitigate the issue. 20 Supplier has a process of documented contract with supplier. 14 supplier has a strategic supplier for their strategic supplier, 5 suppliers has JIT supply, 9 supplier maintain safety stock for a certain period. To avoid supply chain and quality risk no supplier has outsource their materials.

**9. Do you think your organization maintaining supply chain effectively?**

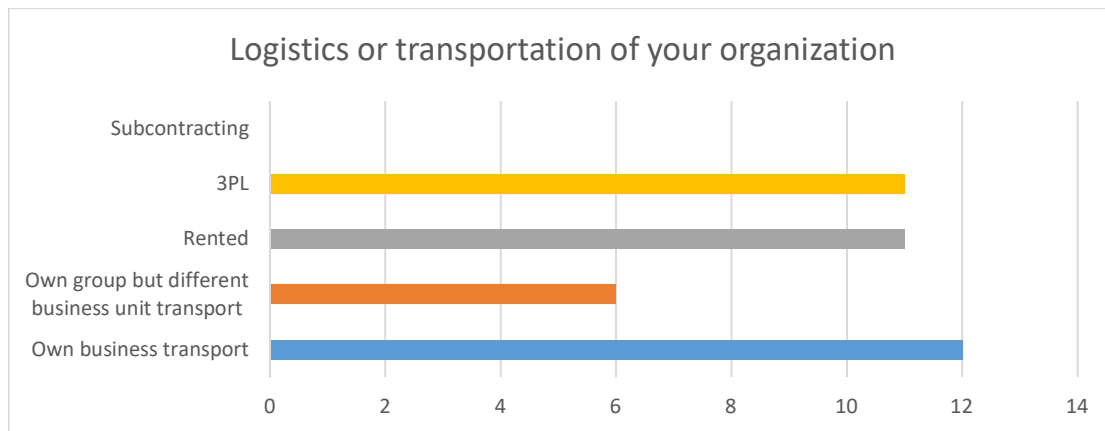




40% supplier (10 Nos) supplier think organization maintaining supply chain in excellent way and 56 % think in a good way and rest 4 % (1 supplier) think its acceptable.

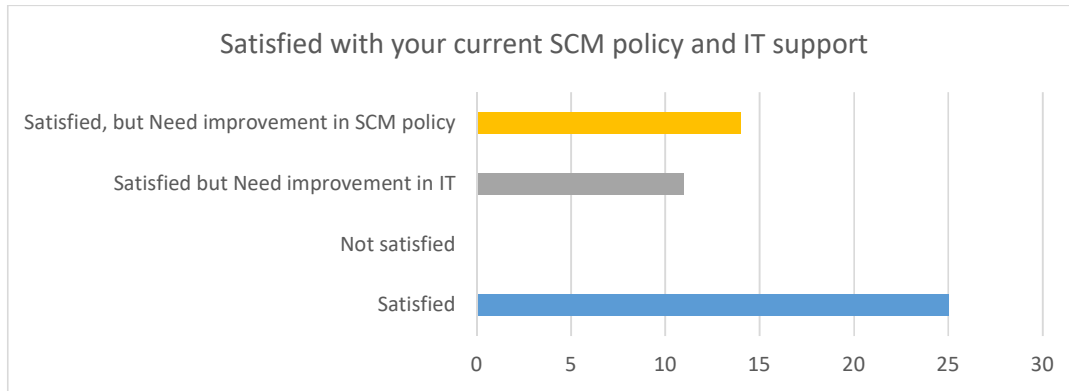
For maintain supply chain effectively supply chain visibility required including automated and IT engagement. It also includes training programs with good plan. To implement supply chain visibility, it is crucial that companies take into consideration everything from sourcing raw materials, manufacturing and supply to the buyers.

### 10. Logistics or transportation of your organization?



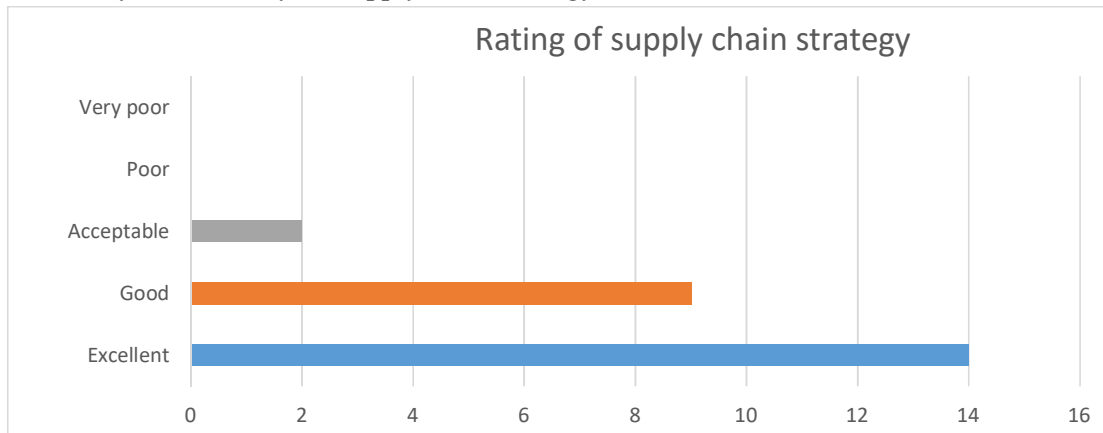
Logistics and transportation needs for the movement of product from one place to another as it makes its way from the start of a supply chain to the consumer. For avoiding supply chain risks on supply chain management, logistics, and procurement focus to be given on logistics and transportation. During survey we observed 48 % supplier (12 Supplier) has own transport and 24 % have transport in own group but in different business unit. If own transport is inadequate, then rented transport used by 44 % supplier (11 Nos) and 3 PL transport used by 44 % supplier (11 Nos).

**11. Are you satisfied with your current SCM policy and IT support?**



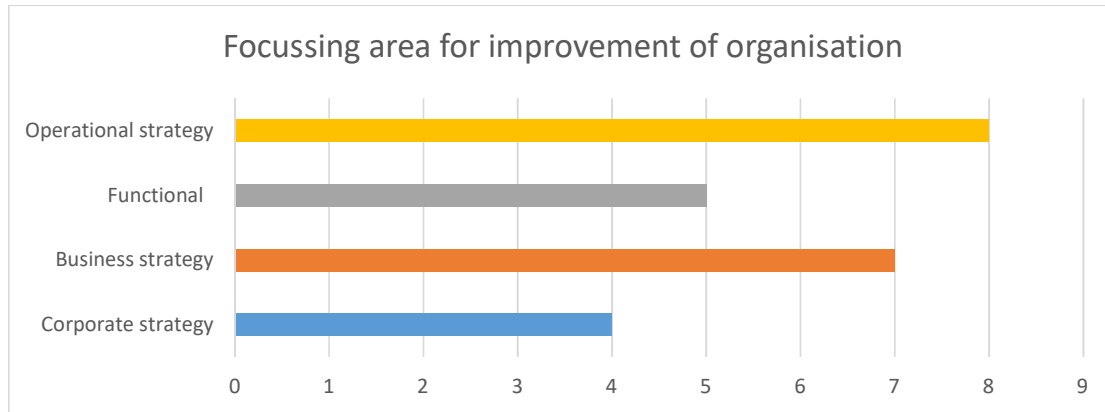
100 % suppliers satisfied with their current SCM policy and IT support. Among them 56% think they are satisfied with current SCM policy but have some improvement area for supply chain visibility on supply chain mapping. 44 % satisfied but they think have some improvement area in IT in supply chain.

**12. How you will rate your supply chain strategy?**



56% suppliers (14 Nos) rate their supply chain excellent. 36 % supplier provide good rating and remaining 4% (1 No) provide acceptable rating with some improvement area.

**13. For growth of the organization, in which area should focus**

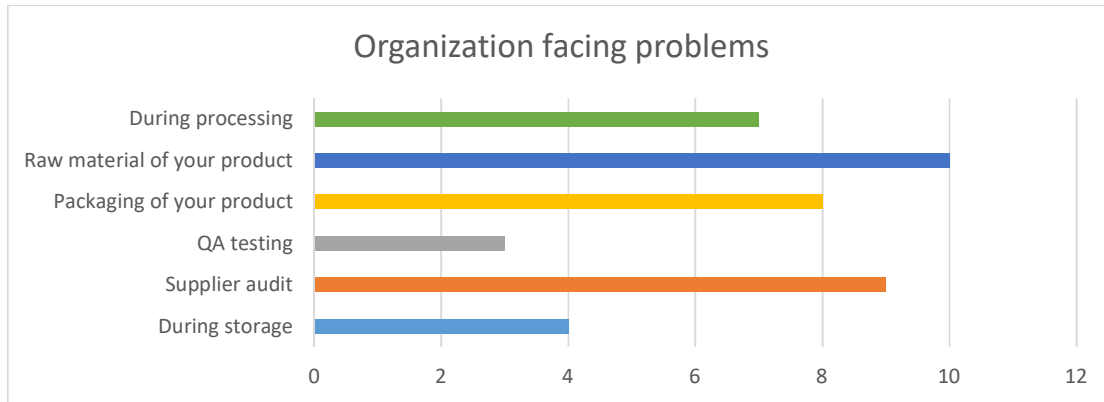


Strategy is the direction and scope of an organization over the long term, which achieves advantage in a changing environment through its configuration of resources and competencies, with the aim of fulfilling stakeholder expectations. The determination of the long-run goals and objectives of an enterprise and the adoption of courses of action and the allocation of resource necessary for carrying out these goals' (Alfred D. Chandler)

- Corporate level strategy is concerned with the overall scope of an organization and how value is added to the constituent business of the organizational whole.
- Business level strategy is about how the individual businesses should compete in their particular markets.
- Operational strategies are concerned with how the components of an organization deliver effectively the corporate and business level strategies in terms of resources, processes and people.

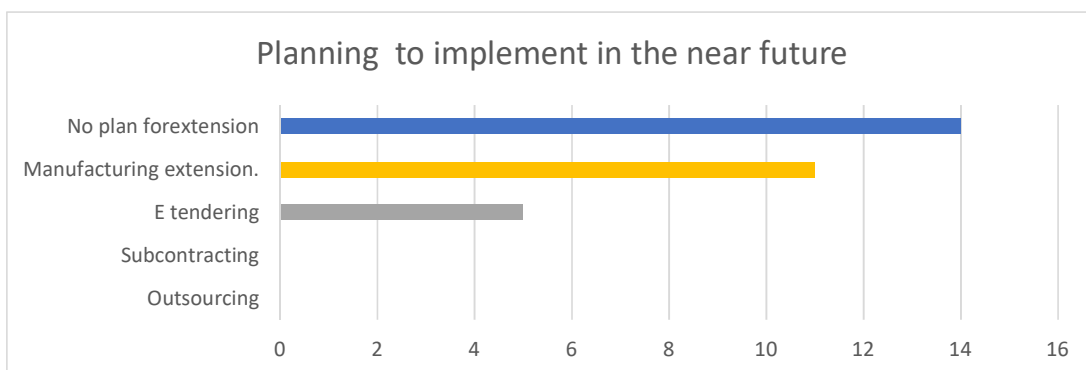
After analyzing this question, we found 8 supplier think improvement required on operational strategy, 4 supplier think improvement required on corporate strategy, 7 supplier think improvement required on business strategy, 5 supplier think improvement required on functional strategy.

**14. When your organization facing problems in last 1 year?**



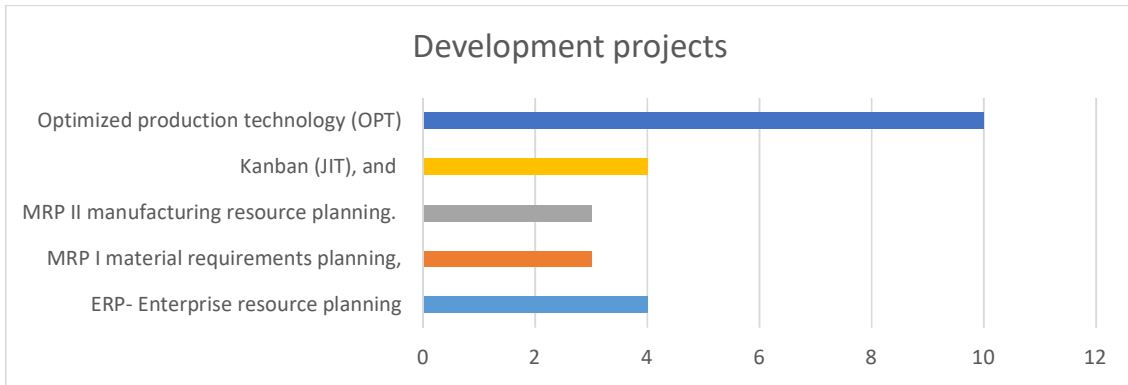
From this question researcher tries to know type of problem faced by the supplier in last 1 year. In last 1 year 10 supplier faced quality related problem in their raw material, 7 supplier faced problem in their processing, 8 supplier found packaging material problem, storage problem faced by 4 suppliers and 3 supplier found problem in their QA testing. Due to covid-19 9 supplier faced problem to conduct supplier audit.

**15. What are you planning to implement in the near future (within the next 1 years)?**



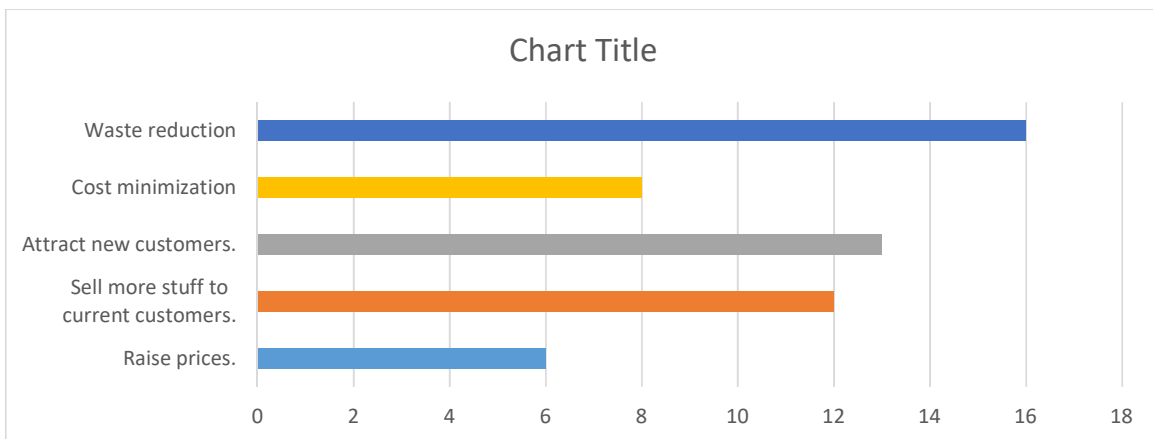
For business improvement and to meet buyers demand capacity expansion, manufacturing facility extension required. But due to COVID 19 56 % (14 Nos) suppliers has no plan for capacity extension. 11 Suppliers has a plan to expand their capacity. Besides these 5 suppliers have plan on E tendering. No supplier has not any plan for subcontracting and outsourcing.

**16. What kind of technology development projects you want to take in next 2 years for effective supply chain management?**



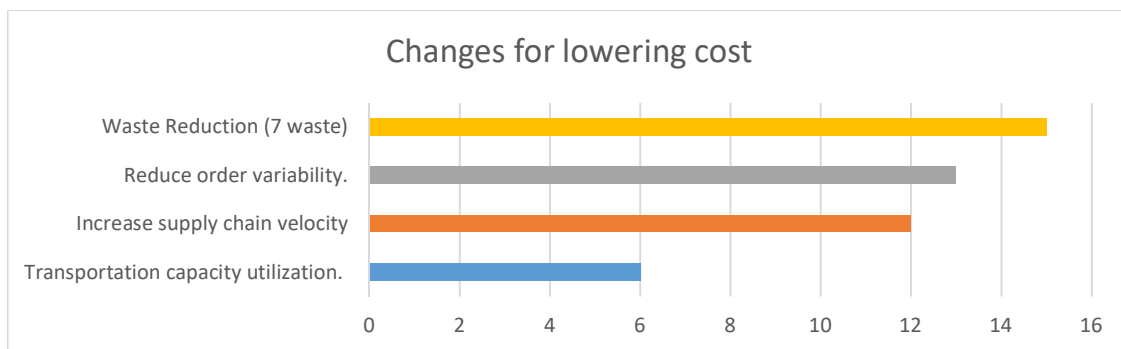
Technology plays an important role in supply chain. To cope up with current technology organization should implement technology related to production, transportation, procurement etc. Those technologies based software should be faster and more efficient. During this study we observed 10 supplier want to implement project on “optimized production technology”, 3 supplier wants to implement MRP I and MRP II software and 4 supplier wants to implement JIT and ERP software.

**17. What changes could increase revenue? (multiple answer may choose)**



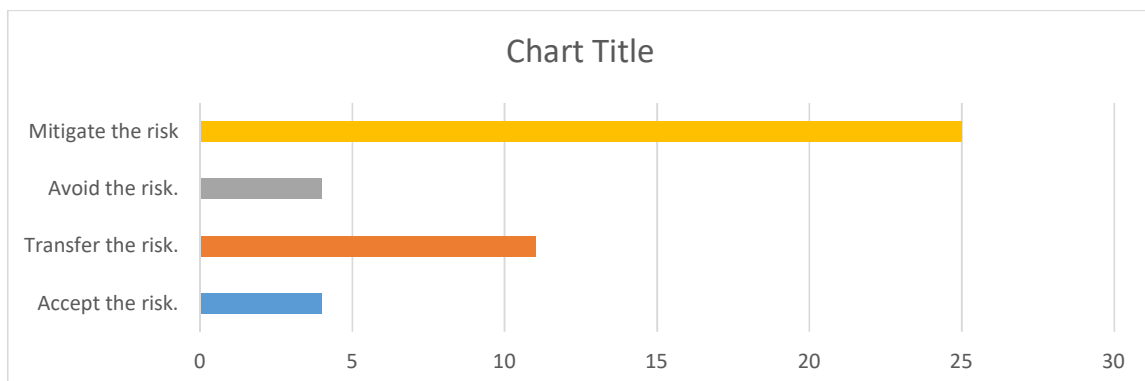
Increase of revenue is one of the prime objective of supplier. There are several way for revenue increase. With those question researchers want to know what changes on supply chain can increase revenue. 16 suppliers out of 25 identify waste reduction for increase of revenue. 13 supplier think they can introduce new customer for revenue increment and 12 suppliers want to sell more stuff to their current customers. 8 suppliers identify ‘cost minimization” for revenue increase and 6 supplier think raising price could increase their profit.

**18. What changes could lower costs? (multiple answer may choose)**



Lowering cost can also increase profitability. There are several ways for reduction of cost in manufacturing and supply chain. 15 supplier identifies “waste reduction” can reduce cost, 15 supplier identifies reduction of order variability can reduce cost, 12 supplier identifies increase of supply chain velocity can reduce costs and 6 supplier identifies transportation capacity utilization can reduce cost.

**19. How you are managing Risks in the Supply Chain (multiple answer may choose)**



**Risk** is essentially the level of possibility that an action or activity will lead to a loss or to an undesired outcome. The risk may even pay off and not lead to a loss, it may lead to a gain.

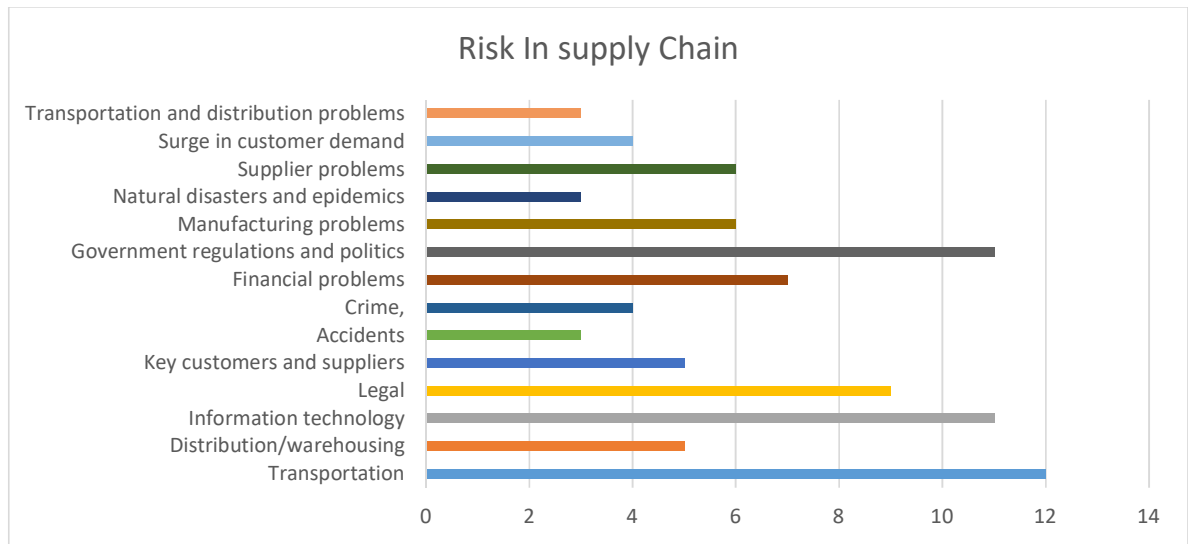
Risk Management involves understanding and analyzing the nature of the risk involved, calculating the possibility of the risk event occurring, calculating the impact or consequences of the risk event occurring and developing options to offset or reduce the risk. (ISO 26000).

- Tolerate (or accept) the risk if the assessed likelihood or impact of the risk is negligible (or there is no viable way to reduce the risk), no further action may, be required, or justified
- Transfer (or spread) the risk eg. by taking out insurance cover, or not putting all supply eggs in one basket – or using contract terms to ensure that the costs of risk events will be borne by (or shared with) supply chain partners
- Terminate (or avoid) the risk if the risk associated with a particular project or decision is too great, and cannot be reduced, the organisation may consider not investing or engaging in the activity or opportunity
- Treat (mitigate, minimise or control) the risk take active steps to manage the risk in such a way as to reduce or minimise its likelihood or potential impact, or both

From the response from supplier all supplier (25 Nos) mitigate or minimize or control the risk.

11 Supplier transfer and share the risk with supply chain partners and insurance partners. 4 supplier avoid the risks if risks are too big and cannot be control or reduce, 4 supplier accept the risk in case of no further action, for the moment, or justified.

**20. Identifying risks in the supply chain (multiple answer may choose)**



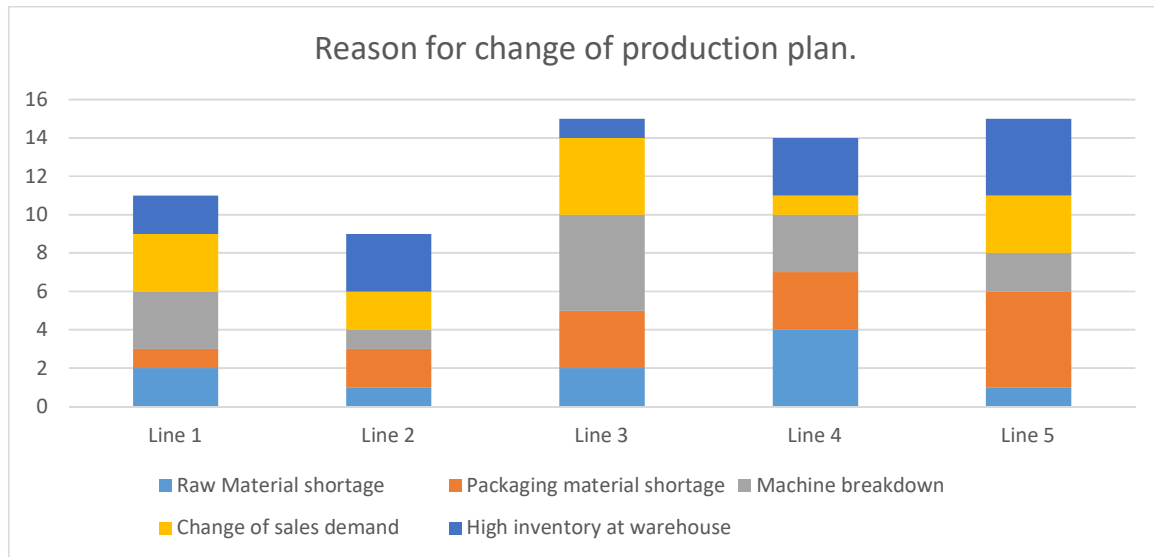
With this question researcher tries to find out the risks in supply chain. Identified Major issues are transportation, Government rules & policies, Information technology, legal, financial problems, manufacturing problems, supplier problem, distribution problems, change in customer demand, natural disasters and epidemics Covid 19), accidents, crimes etc.

**Production Breakdown analysis of MFPL:**

MFPL has 5 different production line. During my study I analyze production breakdown of different line of last 3 months. Reason for change of production plan with breakdown in hour given in below table:

	Line 1	Line 2	Line 3	Line 4	Line 5
Raw Material shortage (Hour)	2	1	2	4	1
Packaging material shortage(Hour)	1	2	3	3	5
Machine breakdown (Hour)	3	1	5	3	2
Change of sales demand (Hour)	3	2	4	1	3
High inventory at warehouse (Hour)	2	3	1	3	4





### **Process Management:**

This TQM element is concerned about how the organization managed a combination of machines, tools, methods, material and people engaged in a production . Process management encompasses the systems and procedures for establishing quality in the many shop floor activities involved in manufacturing. Process control done based on analytical results. Trend analysis of Analytical test results, net weight and process variables done. One of process parameter is the net weight. Lower specification and upper specification shows on chart from which any out of specification can easily identified.

**Table 2: Net Weight**

Batch No:GK5 , Checked date:10.06.20, sample quantity 100

Parameter	Weight (g)
Standard weight ( Declared weight)-g	500
Interval (g)	1
Upper acceptance limit, (g)	508
Lower acceptance limit, (g)	492

Sample No.	Net Weight(g)	Sample No.	Net Weight(g)	Sample No.	Net Weight(g)	Sample No.	Net Weight(g)
1	502	26	501	51	502	76	501
2	503	27	502	52	500	77	501
3	504	28	501	53	503	78	503
4	502	29	500	54	501	79	501
5	500	30	500	55	503	80	500
6	500	31	506	56	503	81	501
7	500	32	502	57	504	82	501
8	501	33	502	58	501	83	500
9	500	34	500	59	503	84	502
10	502	35	501	60	501	85	502
11	503	36	500	61	503	86	501
12	501	37	501	62	503	87	500
13	500	38	500	63	504	88	501
14	502	39	502	64	504	89	501
15	500	40	501	65	503	90	500
16	501	41	502	66	502	91	502
17	501	42	506	67	500	92	502
18	501	43	501	68	500	93	501
19	501	44	503	69	500	94	500
20	500	45	502	70	500	95	501
21	501	46	503	71	501	96	501
22	500	47	506	72	501	97	500
23	506	48	500	73	500	98	502
24	502	49	503	74	502	99	502
25	502	50	507	75	502	100	501

**Table 3: Statistical Analysis of Net weight:**

Batch Average	501.80
Standard Deviation	1.54
Min. wt.	500.20
Max. wt.	507.20
Range	7.00
RSD	0.31
P C I	1.73
C P K	1.34

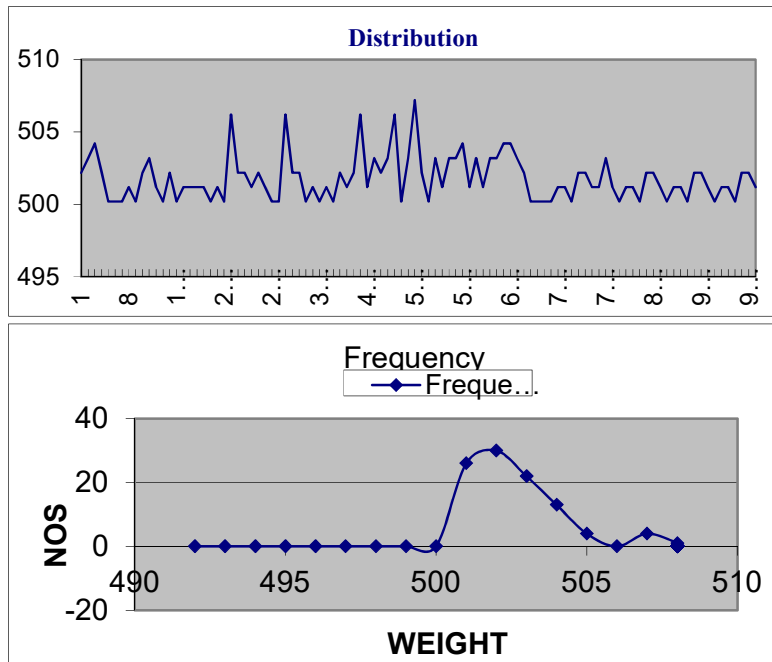


Fig: 5: Individual Net weight distribution.

#### **4.1 Suggestions for Improvement Supply Chain Management of MFPL**

- i. Though MFPL has maintaining excellent Supply Chain Management but it has some improvement area. Improvement areas MFPL which is identified by SWOT analysis .
- ii. MFPL is a renowned organizations which provides 3 P Manufacturing and 3 P logistics to renowned MNC like GSK, Barooz Welcome, Unilever and Arla Foods. But they have not any own brand. Organizations should focus to develop own brand with their capable manpower and manufacturing facility.
- iii. For improving Supply chain management MFPL should focus on improving of rural market, export market, reduction of product conversion cost, new products of different SKUs, Market share improvement, new product with different SKUs.
- iv. For proper Vendor management MFPL should focus on capacity development of supplier and adoption of new technology. MFPL can make make partnerships with vendor and develop business relationship. MFPL vendor development team should work on supply disruption, Risk mitigation, supplier management policies and emergency supply management policies. For some items MFPL has Single source and there is possibility Supply disruption or fail at peak season and Highest inventory cost before peak season. To avoid this MFPL should develop multiple suppliers for some PMs.
- v. Take appropriate legal action against Counterfeit products in market and Imported same product in Market by others.
- vi. MFPL should focus on new innovative products and technological expansion on manufacturing
- vii. For distribution of product MFPL should focus on unreached Rural market, Third party distribution in remote areas, wet market, grocery shop, tea shop, small SKU in low income area

## **Chapter 5: Conclusion**

Study covers Supply Chain Management of MFPL. I accumulate all information during my work at MFPL for report writing. It also includes my work duties, survey questionnaire and results & discussion including suggestions for improvement. I am delighted to complete my report on Supply Chain Management of MFPL to define all the Supply Chain operations presently being carried out. During my work on MFPL I have attempted to provide present scenario of supply chain management of MFPL, SWOT analysis of Process, suggestions for improvement of MFPL. Also provide information of present scenario of procurement and vendor management, operation management, distribution management, payment process of MFPL and SWOT analysis of all those process.

MFPL has a strong supply chain policy to meet market demand. MFPL maintains the supply chain with its highly skilled supply chain team, procurement policy, vendor management, GMP, investment on R & D, specification management, innovative Products, high product quality, modern manufacturing system, ERP software. To increase the market, share of products MFPL should focus on sustainability of quality, skilled manpower retention, capacity expansion of current manufacturing facility, taking legal action against counterfeit products. To avoid supply disruption inventory should maintain for a certain day.

MFPL procures all material from approved vendor and MFPL has a approved vendor list. There is a good business relationship between MFPL and all vendor of MFPL. To include a new vendor MFPL evaluates vendor's quality, compliance, capability. Also MFPL evaluates all vendor after certain period defined in SOP. If any vendor fails to meet the criteria MFPL suspends their agreement for a certain period. MFPL has vendor audit management team to evaluate the Quality of vendor. MFPL should focus on the development of supplier's capability on Quality, vendor management policies, Risk management, GMP, 7 waste reduction, cost

minimization. MFPL can help suppliers to use appropriate quality tools for assuring quality of supplied materials. To meet the MFPLs materials requirement from supplier MFPL should focus on productivity development of supplier either in existing plant or by capacity development.

Currently MFPL has 6 different depot in different division of Bangladesh and maintain the finished goods distribution appropriately to market. To reach the product in all area of Bangladesh atleast 4 more warehouse required in different area. For reaching the product in remote and unreached rural market areas third party distribution should be initiated by the management of MFPL.

MFPL is Bangladesh's well-developed Manufacturing and distribution organization and maintains its operation properly. It ensures commitment to the sale to its customer of the best quality product within the earliest possible time. MFPL is a third party manufacturer of GlaxoSmithKline Bangladesh and it is a well-positioned in business and continues to innovate, focusing on its core competencies and quality engagement. Health Food drinks product of MFPL is one of the most credible brands by people. The proper management system of the supply chain department has made it easier to contribute the raw materials to the ultimate consumer. I believe this study will help others to understand the true significance of supply chain management, how it works, and what kind of operations are in a FMCG business needs to carry out.

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  - b. Md Alamgir Hossain; Head of Supply Chain & Logistics, Mutual Food Products Ltd.
  - c. Md Akbar Hossain; Head of Warehouse, Mutual Food Products Ltd
  - d. Md Halimuzzaman; Head of Production, Mutual Food Products Ltd



Annexure 1

Assessment Questionnaire  
(multiple answer may choose)

Name of Company: .....

1. Type of Business:
  - a. Manufacturing / Packaging on site
  - b. Manufacturing / Packaging within group
  - c. Packaging only
  - d. Contract manufacturer /
  - e. Packaging Marketing
2. Compliance status or third party certification status of Supplier
  - a. ISO 22000/ FSSC 22000
  - b. ISO 9001
  - c. SA 8001
  - d. Sedex - Empowering Responsible Supply Chains
  - e. ISO 14001/2004,
  - f. ISO 45001 Occupational Health and Safety.
3. What quality tools you are using at your manufacturing unit
  - a. 5 S
  - b. HACCP
  - c. TQM
  - d. GEMBA-visiting shop floor in manufacturing
  - e. Poka Yoke (mistake proofing)
  - f. Kaizen (small changes for good)
  - g. Lean for reducing unnecessary work
4. Is there a Supplier Quality Assurance procedure in place, laying down the criteria for selection, approval, review and ongoing approval, to ensure that the supplied products and services meet the expected requirements?
  - a. Yes
  - b. No
5. Are the Quality Assurance procedures of suppliers of raw and packaging materials monitored?
  - a. Yes
  - b. No
6. Have you established an ongoing process of assessing supply chain risk for your organization/business unit.
  - a. Yes
  - b. No

7. How you are evaluating your supplier?
  - a. Supplier audit
  - b. Vendor forum meeting
  - c. Pre assessment of supplier
  - d. 3<sup>rd</sup> party audit
  - e. QMS document collect and doc review
  
8. In what way you manage your supply chain?
  - a. Close collaboration with supplier
  - b. JIT Supply
  - c. Safety stock holding /Optimize inventory
  - d. Strategic sourcing
  - e. Cost ownership of product or service.
  - f. Contract management with supplier and buyer
  - g. Outsourcing
  - h. Collect risk periodically from buyers and Risk minimization through review
  
9. Do you think your organization maintaining supply chain effectively?
  - a. Excellent
  - b. Good
  - c. Acceptable
  - d. Poor
  - e. Very poor
  
10. Logistics or transportation of your organization?
  - a. Own business transport
  - b. Own group but different business unit transport
  - c. Rented
  - d. 3PL
  - e. Subcontracting
  
11. Are you satisfied with your current SCM policy and IT support?
  - a. Satisfied
  - b. Not satisfied
  - c. Satisfied but Need improvement in IT
  - d. Satisfied, but Need improvement in SCM policy

12. How you will rate your supply chain strategy?
- Excellent
  - Good
  - Acceptable
  - Poor
  - Very poor
13. For growth of the organization, in which area should focus
- Corporate strategy
  - Business strategy
  - Functional
  - Operational strategy
14. When your organization facing problems?
- During storage
  - Supplier audit
  - QA testing
  - Packaging of your product
  - Raw material of your product
  - During processing
15. What are you planning to implement in the near future (within the next 1 years)?
- Outsourcing
  - Subcontracting
  - E tendering
  - Manufacturing extension.
  - No plan for improvement
16. What kind of technology development projects you want to take in next 2 years for effective supply chain management?
- ERP- Enterprise resource planning
  - MRP I material requirements planning,
  - MRP II manufacturing resource planning.
  - Kanban (JIT), and
  - Optimized production technology (OPT)
17. What changes could increase revenue? (multiple answer may choose)
- Raise prices.
  - Sell more stuff to current customers.
  - Attract new customers.
  - Cost minimization
  - Waste reduction

18. What changes could lower costs? (multiple answer may choose)

- a. Transportation capacity utilization.
- b. Increase supply chain velocity
- c. Reduce order variability.
- d. Waste Reduction (7 waste)

19. How you are managing Risks in the Supply Chain (multiple answer may choose)

- a) Accept the risk.
- b) Transfer the risk.
- c) Avoid the risk.
- d) Mitigate the risk.

20. Identifying risks in the supply chain (multiple answer may choose)

- a) Transportation
- b) Distribution/warehousing
- c) Information technology
- d) Legal
- e) Key customers and suppliers
- f) Accidents
- g) Crime,
- h) Financial problems
- i) Government regulations and politics
- j) Manufacturing problems
- k) Natural disasters and epidemics
- l) Supplier problems
- m) Surge in customer demand
- n) Transportation and distribution problems