

A

PROJECT REPORT ON

Supply Chain Practices of FMCG Products:

“A Study of New Zealand Dairy Products Bangladesh Ltd”

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

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Letter of Transmittal:

March 27, 2016

Dr.Md. Mizanur Rahman
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Dear Sir,

This is my pleasure to present my report entitled **“Supply Chain Practices on FMCG Products of New Zealand Dairy Products Bangladesh Ltd.”** which has been prepared as a requirement for the completion of the MPSM Program from IGS of BRAC University.

It was a great opportunity for me to work at New Zealand Dairy Products Bangladesh Ltd. I am working here as Manufacturing Manager. I have tried to follow every guideline that you had advised. I got extended support from my colleague of Supply Chain, Marketing and Sales department during my work and preparing my report.

Thanks again for your guidelines and support to prepare this report.

Sincerely Yours,

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DECLARATION

I declare that this project is my original work and has not been submitted to any other University for examination.

Signature.....

Date.....

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This project has been submitted with my approval as the dissertation supervisor

Signature.....

Date.....

Dr. Md. Mizanur Rahman

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Their active participation to all my questions, queries during my report preparation has made this journey a successful one.

TABLE OF CONTENT

Letter of Transmittal.....	2
Declaration.....	3
Acknowledgements.....	4

CHAPTER ONE: INTRODUCTION

1.1 Background.....	8
1.1.1 Supply Chain Management Practices.....	9
1.1.2 Challenges faced in adoption of SCM Practices.....	11
1.1.3 New Zealand Dairy in Bangladesh.....	12
1.2 Research Problem.....	13
1.2.1 Research Objectives.....	14
1.3 Benefit of Study.....	14
1.4 Limitation of Study.....	14

CHAPTER TWO: RESEARCH METHODOLOGY

2.1 Research Design... ..	15
2.2 Population.....	15
2.3 Data Collection.....	15
2.4 Data Analysis.....	15

CHAPTER THREE: LITERATURE REVIEW.....16

CHAPTER FOUR: DISCUSSION ANALYSES AND FINDINGS

4.1 Organogram of New Zealand Dairy Supply Chain.....	18
4.2 Process flow of the New Zealand Dairy Supply Chain.....	18
4.3 Supply Chain with Other Departments.....	19
4.4 How each unit Connected.....	19
4.5 Strategic Fit (Responsive VS Efficient)	20
4.6 Demand & Supply Planning.....	21
4.7 Forecasting & Demand Planning Process.....	22
4.8 Flowchart of Production Planning.....	23
4.9 Flowchart of Importing Process of Raw Material.....	24

4.10 Inbound Logistics.....	25
4.10.1 Ensuring Supply.....	25
4.10.2 Customs Clearance.....	25
4.10.3 Sea Transport.....	25
4.10.4 Inland Transport.....	25
4.10.5 Legal Activity.....	25
4.10.6 Claim Settlement.....	26
4.11 Customer Service and Outbound Logistics.....	26
4.12 Inventory Policy.....	27
4.13 Distribution.....	28
4.14 Procurement Function.....	30
4.14.1 User Department.....	30
4.14.2 Budget Department.....	30
4.14.3 Purchase Department.....	30
4.14.4 Finance Department.....	31
4.15 Procurement Policy.....	31
4.15.1 Authorized Department for purchase.....	31
4.15.2 Selection of Supplier.....	31
4.15.3 Basis of Purchase.....	31
4.15.4 Forms.....	31
4.15.5 Minor Purchase.....	32
4.16 Capex/Opex Function.....	32
4.17 Challenges of procurement function.....	33
4.17.1 Reduced Margin.....	33
4.17.2 The power of retail giants.....	33
4.17.3 Sustainability.....	33
4.17.4 Effective supply chain management.....	33
4.18 Performance Analyses of Supply Chain Practices.....	34
4.19 KPI Measurement.....	35
4.20 Finding Problem areas.....	37
4.20.1 Import Dependency.....	37
4.20.2 Very high lead time.....	37
4.20.3 Unfavorable Govt policy	37

4.20.4 Political unrest.....	37
4.20.5 International transfer price fluctuation.....	37
4.21 Recommendation.....	38
4.21.1 Local Supplier development.....	38
4.21.2 Import lead time reduction.....	38
4.21.3 Regional Distribution Coverage.....	38
4.21.4 Setting more alternate supplier.....	38
4.21.5 ERP System.....	38
CHAPTER FIVE: CONCLUSION.....	39
ANNEXURE 1: BIBLOGRAPHY.....	40
ANNEXURE 2: QUESTIONNAIRE & SURVEY RESULT.....	41-57

CHAPTER ONE: INTRODUCTION

1.1 Background

Today's dynamic business environment is continuously changing because of globalization, regulatory changes, increasing intensity of competition, increasingly demanding customers, new information technology, and mergers and acquisitions (Wing et al., 2006). This has resulted in markets that can be characterized as increasingly turbulent and volatile and has caused many organizations to seek competitive capabilities that enable them to exceed customers' expectations and enhance market and financial performance. Firms are increasingly adopting **Supply Chain Management (SCM)** to reduce costs, increase market share and sales, and build solid customer relations (Ferguson, 2000). Many companies have recognized that individual businesses no longer compete as stand-alone entities, but rather as supply chains. A SC is a network of facilities and distribution points that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers (Ganeshan and Harrison, 1995). SCM involves the synchronized movement of inputs and outputs in the production and delivery of goods and services to the customer. In this integrative approach, a cross-functional senior management group coordinates physical and informational resources to optimize efficiency and effectiveness. It manages both the purchasing (or inputs) side of the resource stream, and the distribution (or outputs) side of the stream as a single integrated flow. This flow typically encompasses customer service, physical distribution, materials management, information management, and their related, highly complex sub processes: order processing and order tracking, production planning and supplier management, purchasing, warehousing, transportation, and electronic supply-chain Communications/payment systems. With the purpose of managing the supply chain actions for realizing improvement in enterprise performance, it is necessary to improve the planning and management of activities such as materials planning, inventory management, capacity planning, and logistics with suppliers and clients (Chandra and Kumar, 2000).

Senior executives in many industries are managing extraordinarily complex global supply chains that source raw materials from thousands of locations around the world and distribute finished products to thousands of other locations. Many of these executives have come to recognize that corporate capability in supply-chain management is an important lever of enterprise transformation. This critical coordination and value center can enable the enterprise to synchronize many simultaneously unfolding material and informational flows on a worldwide basis and help the whole enterprise to contain costs through more efficient utilization of assets and greater overall productivity. Many supply chain managers are today overwhelmed with a range of leading edge supply chain practices, strategies and new business initiatives. However, not all these initiatives, practices and strategies are appropriate for all businesses. Supply chain managers need to understand the constraints of the supply of their products and the uncertainties of demand from customers before trying to match these constraints and uncertainties with the right supply chain practices. Top managers have recognized that building effective supply chains offers opportunities to create sustainable competitive advantage. The advantages are significant because they impact key competitive dimensions such as product availability, order to delivery cycle time, costs, and customer service. The advantages are sustainable because success requires the merging of diverse and sometimes conflicting groups within the organization and between organizations to achieve common goals (Cooper et al., 1997).

1.1.1 Supply Chain Management Practices

Supply chain management (SCM) is an integrated approach beginning with planning and control of materials, logistics, services, and information stream from suppliers to manufacturers or service providers to the end client; it represents a most important change in business management practices (Fantazy et al., 2010). SCM is one of the most effective ways for firms to improve their performance (Ou et al., 2010). SCM can be viewed as a philosophy based on the belief that each firm in the supply chain directly and indirectly affects the performance of all other supply chain members, as well as ultimately overall supply chain performance (Cooper et al., 1997). The effective use of this philosophy requires that functional and supply chain partner activities are aligned with company strategy and harmonized with organizational structure, processes, culture,

incentives and people. Additionally, the chain wide deployment of SCM practices consistent with the above mentioned philosophy is needed to provide maximum benefits to its members. Despite the importance of supply chain activities in cost containment, SCM was long overlooked as a potential area for achieving sustainable competitive advantage. SCM has seen its role shift from emphasis on passive cost control, to a proactive role in shaping competitiveness and profitability (Fawcett et al., 2008).

SCM practices are defined as the set of activities undertaken by an organization to promote effective management of its supply chain (Li et al., 2005, 2006; Koh et al., 2007); as the approaches applied in integration, managing and coordination of supply, demand and relationships in order to satisfy clients in effective way (Wong et al., 2005); as tangible activities/technologies that have a relevant role in the collaboration of a focal firm with its suppliers and/or clients (Vaart and Donk, 2008); and as the approach to involve suppliers in decision making, encouraging information, sharing and looking for new ways to integrate upstream activities. As a consequence, it involves developing customer contacts by customer feedback to integrate the downstream activities and delivering orders directly to customers (Chow et al., 2008).

Lit.et.al.(2005) developed a measurement instrument for SCM practices. Their instrument had six empirically validated dimensions which included strategic supplier partnership, customer relationship, information sharing, information quality, internal lean practices and postponement. Koh. Et. al. (2007) proposed SCM practices from the following perspectives: close partnership with suppliers, close partnerships with customers, just-in-time supply, strategic planning, supply chain benchmarking, few suppliers, holding safety stock and sub-contracting, e-procurement, outsourcing and many suppliers. Burgess et al. (2006) stated that SCM practices should include leadership, intra-organizational relationships, inter-organizational relationships, logistics, process improvement orientation, business results and outcomes and IT. Tan et al. (2002) based on their surveys from senior managers in the USA, summarized SCM practices from the following aspects: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity and IT capability. Chong et al. (2009) studies included IT collaboration tools and supplier relationships in

their study on supply chain practices. Min and Mentzer (2004) identified SCM practices as agreed vision and goals, information sharing, risks and awards sharing, cooperation, integration of process, long term relationship and agreed supply chain leadership.

1.1.2 Challenges faced in adoption of SCM Practices

Effective SCM hinges more on an understanding of the business processes that must work together. Usually, SCM projects are complex and the required outlays of time and money are great (McCormick, 2001). McCormick (2001) also noted that large companies are conglomerations of business units and acquisitions across the globe. It may take years to integrate the supply chain of such companies. It is necessary to know how the people work together and what kind of information will be exchanged in order to determine which technologies can support these exchanges and the best way to connect them. McCormick speaks of the “Tower of Babel problem” where every customer uses a different system or standard. Mid-tier companies often lack the resources for requisite technology systems. One must not overlook the human issues; workers may over-inflate forecasts or misrepresent inventory information. In addition, one of the first areas to be cut in a budget is SCM (McCormick, 2001). One of the primary challenges to successful integration of the SC is securing a reliable internal operation capability. An organization’s internal operation is the critical cornerstone in creating superior supply chain performance before embarking on external coordination. To gain competitive advantage over rapid change, internal processes must be flexible in responding to market changes. With SCM, a product is pulled through the plant based on customer needs. This requires the flexibility of frequent changes to accommodate mass customization and thus improve customer responsiveness (Lambert and Cooper, 2000). Perry and Sohal (2000) stated that quality and reliability of internal operations in companies will improve operational efficiency and enhance operation performance.

1.1.3 New Zealand Dairy in Bangladesh

New Zealand Dairy Products Bangladesh Limited started its operation in Bangladesh since 1992 as fully owned subsidiary of Fonterra Co-operative group of New Zealand. Fonterra operates in more than 180 countries worldwide and World's largest milk producer and exporter. The following were the chronology of events took place from 1991 to 2005.

- In pre 1991 era local agents were representing Fonterra brands of New Zealand Dairy Board.
- In 1992 New Zealand Milk Products Bangladesh Ltd. (NZMPB) was registered and incorporated in Dhaka, and in 1994 NZMPB went on production.
- During 2002 – 2004 NZMP operated under 100% foreign ownership.
- In 2005 the Company changes its name to NEW ZEALAND DAIRY PRODUCTS BANGLADESH LIMITED and started operation under 100% local ownership.

New Zealand Dairy Products Bangladesh Ltd falls under fast moving consumer goods (FMCG) industry which is an important sector that makes a substantial contribution to the country's economic development. It has the potential to generate foreign exchange earnings through exports and diversify the country's economy. This sector has grown over time both in terms of its contribution to the country's gross domestic product and employment. The NZDP industry is a very lucrative, innovative fast paced industry. Innovation is the key to success, as product life cycles tend to be short hence companies should adopt best supply chain practices in order to remain competitive and to ensure on-time supply (short life cycle) of products. A number of FMCG companies like NZDP in Bangladesh are also competing against one another to capture a share of the market. This market has been dominated by a few local & multi-National companies namely Abul Kayer Ltd, Nestle Bangladesh Ltd, and Arla Foods Bangladesh Ltd.

Dairy FMCG companies compete in a market where rivalry is intense with a plethora of brands and sub brands occupying both the lower and upper tiers of the price continuum. For almost two decades, Managers have been learning to play by a new set of rules. Companies must be flexible to respond rapidly to competitive and market changes. They must benchmark continuously to achieve best practice. They must outsource aggressively to gain efficiencies. And they must nurture a few core competencies in the race to stay ahead

of rivals. The quest for productivity, quality and speed has spanned a remarkable number of management tools and techniques such as total quality management, benchmarking, time-based competition, outsourcing, partnering, re-engineering and change management. Although the resulting operational improvements have been dramatic, many companies have been frustrated by their inability to translate those gains into sustainable profitability.

1.2 Research Problem

SCM is one of the most effective ways for firms to improve their performance and remain competitive (Ou et al., 2010). With the purpose of managing the SC activities for realizing improvement in enterprise performance, it is necessary to improve management of activities such as materials planning, inventory management, capacity planning, and logistics with suppliers and clients (Chandra and Kumar, 2000). According to Hu, Yang and Huang, SC practices that are essential in effective management of supply chains include: supply chain coordination, distribution and transport, inventory management, order management, planning and optimization, supply chain integration, reverse logistics, supply chain information, supplier and vendor selection, and green supply chain management (Hue tal .2010). FMCG companies play a key role in the Bangladesh economy. They are major employers of the Bangladesh population. They also provide ready market for different products as raw materials at the different stages in the production process and as a source of revenue for the government in the form of taxes. Manufacturers and importers of FMCG products in Bangladesh face stiff competition. There are numbers of players in the dairy market which has resulted in a reduction of market shares of companies, their sales revenues and ultimately their profitability. FMCG companies must therefore improve their operational performance to remain competitive and profitable. SCM is one of the most effective ways for firms to improve their performance (Ou et al., 2010). While interest in SCM is increasing day-by-day, there is no consensus about the conceptual and methodological research bases of SCM, generating gaps in the state-of-the-art of this research field (Burgess et al., 2006). In addition, the lack of a comprehensive view of SCM practices and the lack of a reliable measure of the concept have constrained guidelines to the practice of SCM and further research on the topic (Li et al., 2005). For this reason, the validation of SCM practices issue has been attracting the

attention of researchers. For example, Li et al. (2005) conceptualized, developed, and validated dimensions of SCM practices. Nonetheless, there are no unanimities in determining the set of indicators that can adequately address the topic **“Supply Chain Management Practices”**. Studies performed by Halley and Beaulieu (2010), Bayraktar et al. (2009), Hsu et al. (2009), Robb et al. (2008), Chow et al. (2008), Koh et al. (2007), Zhou and Benton (2007), Wong et al. (2005), Tan et al. (2002) and Tan (2002) pointed out different types of indicators and constructs used. Therefore, studying SCM practices can contribute to finding a better understanding about SCM.

1.2.1 Research Objectives

- i. The broad objective is to study the overall supply chain practices of NZDPBD
- ii. The specific objective of the studies are as follows :
 - To briefly describe the supply chain management of NZDP Bangladesh;
 - To analyze the performance of Supply Chain practices;
 - To identify some key performance indicator;
 - To find out the problem area of supply chain process;
 - To recommend some suggestions

1.3 Benefit of the study

The study of this paper will also assist corporate managers in making sound and informed management decisions and enable them to focus on their customers more efficiently. With such exposition, managers will understand how firms can perform better and add value to the shareholders under Supply Chain Management orientation. Increased performance as a result of implementing SCM practices will tend to spur economic development and attract investors in the local manufacturing industry.

1.4 limitations of the study

- This study concentrate particularly on New Zealand Dairy Products Bangladesh Ltd.
- The study of SCM practices may differ from firm to firm.
- New Zealand Dairy website has no updated information
- Convenience sampling used here has its own limitations.
- There have been some inaccuracies due to non - cooperative and rude behavior of the respondents.

CHAPTER TWO: RESEARCH METHODOLOGY

The research methodology that is used in the study and have the following structure: research design, target population, data collection procedures and instruments and the data analysis methods to be applied.

2.1 Research Design

This is an exploratory type research. No formal research has been conducted in the topic. No idea or insight available. This study aimed at determining supply chain management practices used by the New Zealand Dairy Products Bangladesh Ltd.

2.2 Population

The target population of study was 60 employees of Supply Chain, Sales, Marketing, Procurement and Manufacturing department of NZDP Bangladesh Ltd. However, the sample size was limited to 30 employees who have good knowledge on supply chain management practices and could offer valuable information to the study.

2.3 Data Collection

Both the primary data and the secondary data were collected. Primary data involved firsthand information from the representative sample. Primary data was collected using a structured questionnaire (**Annexure 2**) from 30 employees of Supply Chain, Sales, Marketing, and Procurement and Manufacturing department. The questionnaire consisted of close ended questions relevant to the study, but open ended questions and personal interview were made for preparing the research report.

2.4 Data analysis

Responses in the questionnaires is tabulated and represented in graphical format which has been attached at the end of the **Annexure 2**.

CHAPTER THREE: LITERATURE REVIEW

The literature review gives the foundation of the research. The chapter discusses supply chain practices and how it enhances competitiveness and performance of a firm. It also looks at challenges of supply chain practices.

Supply Chain Management (SCM) is an integrated approach beginning with planning and control of materials, logistics, services, and information stream from suppliers to manufacturers or service providers to the end client; it represents a most important change in business management practices (Fantazy et al., 2010). SCM is one of the most effective ways for firms to improve their performance (Ou et al., 2010). SCM requires a change from managing individual functions to integrating activities into key supply chain processes. SC is a sequence of events intended to satisfy a customer and it includes procurement, manufacture, distribution and waste disposal, together with associated transportation, storage and information technology. A SC is that network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer. The three primary components of SCM are information, logistics and finance (Lysons and Farrington, 2006). According to Lambert and Cooper (2000), operating an integrated supply chain requires continuous information flow. The success of the individual SC partners depends upon the overall success of the supply chains in which the partners participate. The theoretical proposition is that success at the SC level will result in success at the organizational level. Seamless flow of physical and nonphysical assets amongst companies would lead to pooling synergy and optimization of tangible and intangible assets that are potentially available to the individual companies (Upton and McAfee, 1996).

According to Hoek and Chapman (2006), bringing in creative SC designs can feed into the marketing concept of new products and position the SC not only for product availability at the launch but also for efficiency and an edge in the market. Gardner and Cooper (2003) argued that a well-executed strategic SC map can enhance the strategic planning process, distribution of key information, facilitate SC redesign or modification,

clarify channel dynamics, provide a common perspective, enhance communications, enable monitoring of SC strategy and provide a basis for SC analysis. The map or chart can therefore be used to identify where savings can be made or value added (Lysons and Farrington, 2006).

SCM practices are viewed from a variety of different perspectives and multi-dimensional concept. Li et al. (2006) defined SCM practices as the set of activities undertaken in an organization to promote effective management of its supply chain. Donlon (1996) described the SCM practices to include supplier partnership, outsourcing, and cycle time compression, and continuous process flow and information technology sharing. Tan et al. (1998) empirically assessed the inclusion of purchasing, quality, and customer relations dimensions to represent SCM practices. Tan (2002) also recommended that SCM practices to include the flow of materials and information and postponement strategy and mass customization.

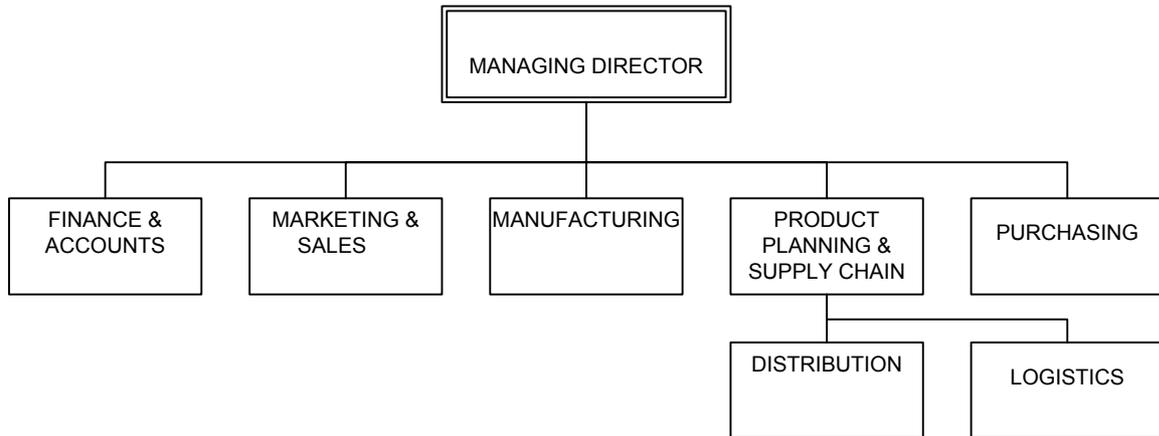
In a similar way, Tan et al. (2002) identified six dimensions of SCM practices through factor analysis namely supply chain integration, information sharing, supply chain characteristics, customer service management, and geographical proximity and just in time

(JIT) capability. Chen and Paulraj (2004) used supplier base reduction, long-term relationship, communication, cross functional teams and supplier involvement to measure SCM practices. In addition, Min and Mentzer (2004) identified the concept SCM practices through system approach which includes dimensions such as agreed vision and goals, information sharing, risk and reward sharing, cooperation, process integration, long-term relationship and agreed supply chain leadership. Subsequently, realizing the importance of the SCM practices, Li et al. (2005) conceptualized, developed, and validated six dimensions (strategic supplier partnership, customer relationship, information sharing, information quality, internal lean practices, and postponement) of SCM practices and conducted a test on its relationship with the firms competitive advantage and performance (Li et al., 2006). Burgess et al. (2006) stated that SCM practices should include leadership, intra-organizational relationships, inter-organizational relationships, logistics, process improvement orientation, business results and outcomes and IT.

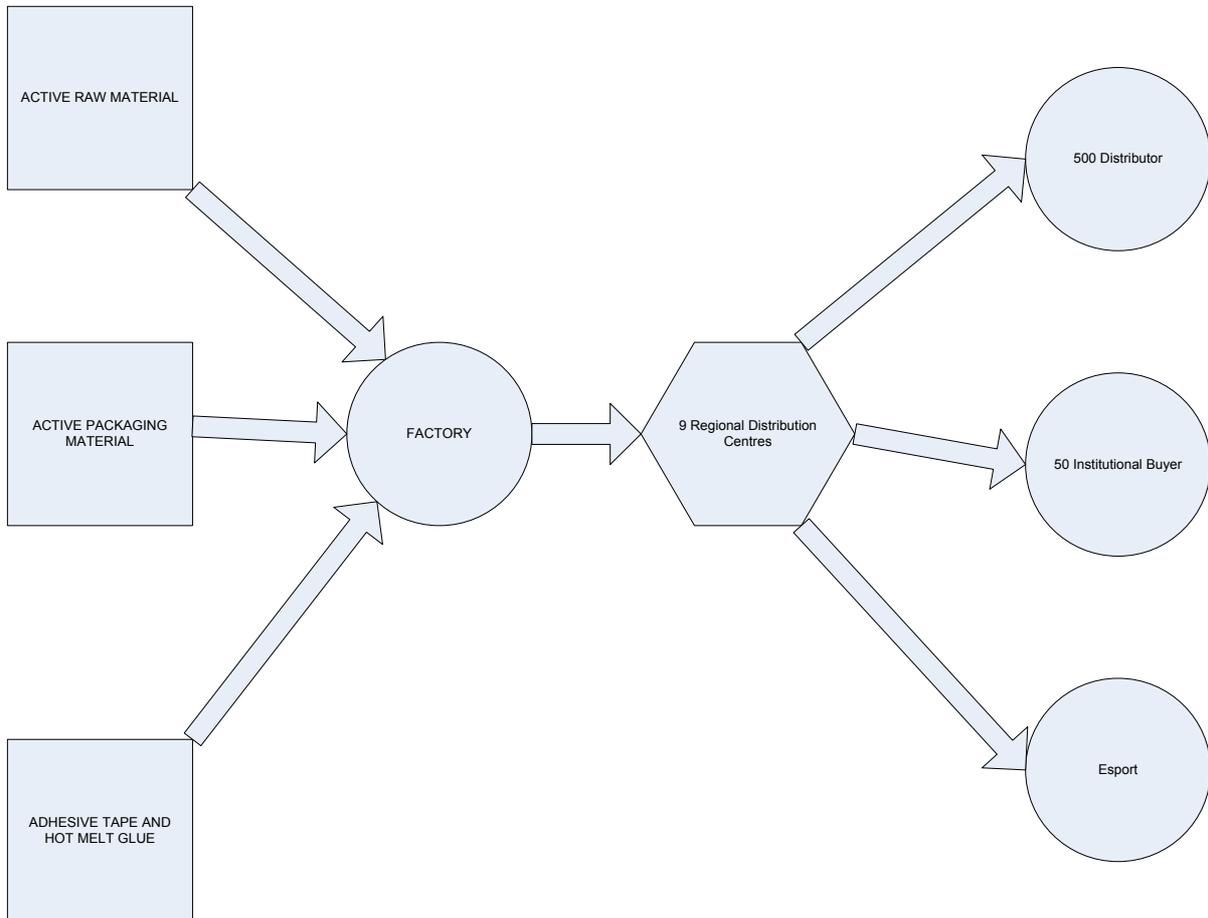
CHAPTER FOUR: DISCUSSION ANALYSES, AND FINDINGS

4.0 Supply Chain Management

4.1 Organogram of New Zealand Dairy Supply Chain



4.2 Process flow of the New Zealand Dairy supply chain



4.3 Supply relation with other departments



4.4 How each unit connected such as planning, commercial, Procurement, warehouse logistics and factory/production and works as an overall supply chain:

Product Planning and Supply Chain connected with others department by the following way:

- a) **Sales and Marketing** provide three month rolling forecast to Product planning and supply chain manager.
- b) Supply chain Manager ensured three month Raw Material with **Fonterra (Raw Material Supplier)** and Packaging Materials from the **local suppliers**.
- c) Supply Chain Manager open L/C for importing the raw materials
- d) **Finance department** provide all Bank and L/C charges for importing the raw materials.
- e) **C & F agent** release the raw materials from the custom department.
- f) Supply chain Manager use **Third party transport** to bring the raw materials from Chittagong to Dhaka.

- g) **Factory Warehouse:** Warehouse executive sent regular daily stock report to the product planning and supply chain manager to maintain the optimum stock of RM & PM.
- h) For customer complaint, supply chain manager maintain liaison with QA department.
- i) For importing spare parts, supply chain manager maintain liaison with engineering department.
- j) For local purchasing such as packaging material, supply chain manager give the forecast of packaging materials to procurement department.
- k) Supply chain manager maintain liaison with BSTI for regulatory compliance of new product and renewal of existing product.
- l) Legal and Admin help supply chain manager to face others regulatory department such city corporation and Govt. audit department.

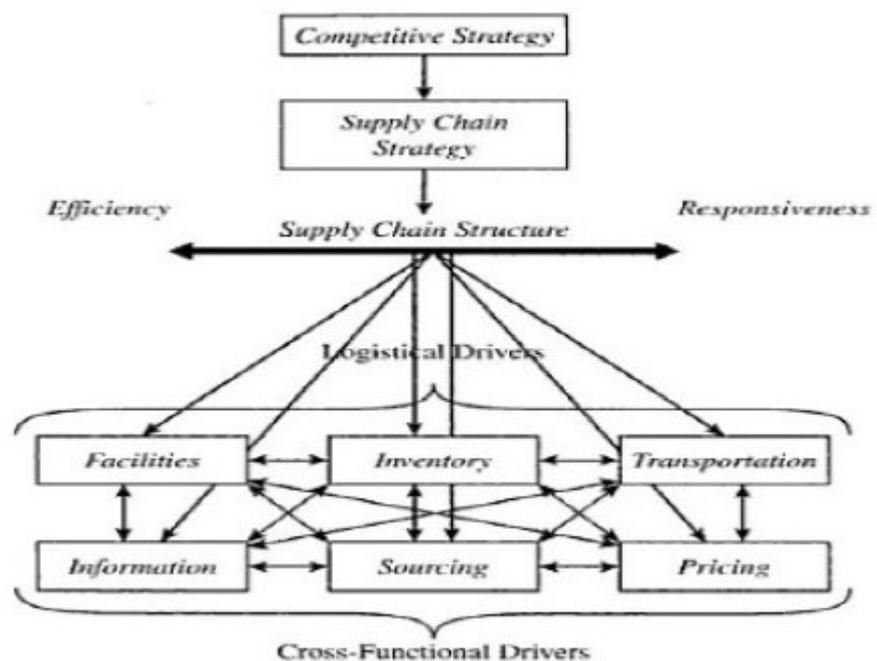
4.5 Strategic Fit (Responsive VS Efficient)

The strategic fit in supply chain management requires a company's supply chain achieve the balance between the responsiveness and efficiency that best supports the company's competitive strategy.

NZDP Bangladesh competitive strategy is to packing milk powder in world class HACCP(Hazards Analysis Critical Control Points) certified environment facilities and importing milk powder from Fonterra Australia and New Zealand factory which export milk powder 2/3rd of world consumption in worldwide. NZDP also have low fat milk powder for diabetic patient.

Since NZDP Bangladesh is Manufacturing Organisation, packaging milk powder in different SKUs, Its have to maintain reponsive supply chain strategy and make to stock operation strategy. For maintaining make to stock operation strategy manufacturing cost should low for less change over and less downtime . The demand of customer meet from the ready inventory.

Supply chain Drivers:



Facilities: Facilities are a key driver of supply chain performance in terms of responsiveness and efficiency. NZDP Bangladesh gained economies of scale as the product is manufactured and stored in only one location: this centralization increases efficiency

Inventory Driver: Inventory is held throughout the supply chain in the form of raw materials, work in progress and finished goods. Since NZDP supply chain strategy is responsive and packing lot of SKUs it has to maintain good number of inventory of different SKUs. The inventory cost is traded off with meeting the quick customer demand.

Transportation: Transportation has a large impact on both responsiveness and efficiency; faster transportation allows a supply chain to be more responsive but reduces its efficiency. NZDP uses own transport for inside and outskirts in Dhaka which increases responsiveness. But in outside Dhaka city, uses 3rd party transport facility which increases the efficiency.

Information: Information deeply affects every part of the supply chain and impacts every other driver. Good information on supply and demand can help improve the utilization and responsiveness of facility.

NZDP have maintain high speed internet facility with factory and head office. Raw material bidding is done by online. Still lot of improvement is required for connecting with distributor and retailers.

Sourcing: Sourcing decisions are crucial because they affect the level of efficiency and responsiveness. NZDP have policy for sourcing RM, PM and others which has discussed in procurement policy.

Pricing: Pricing is the process by which a firm decides how much to charge customers for its goods and services. Pricing affects the customer segments that choose to buy the product, as well as the customer's expectations. This directly affects the supply chain in terms of the level of responsiveness required as well as the demand profile that the supply chain attempts to serve.

NZDP keep the price competitive to maintain the level of responsiveness to the customer

4.6 Demand & Supply Planning

The demand planning is prepared by Product Planning Manager in liaison with head of Sales and Head of Marketing monthly based on the sales budgeted figure as a base, but it could be subject to change based on the following conditions.

- Government Regulations
- Competitor Activities
- Consumer Loyalty
- Special Promotional and Advertising Plan for the year or for the following month.

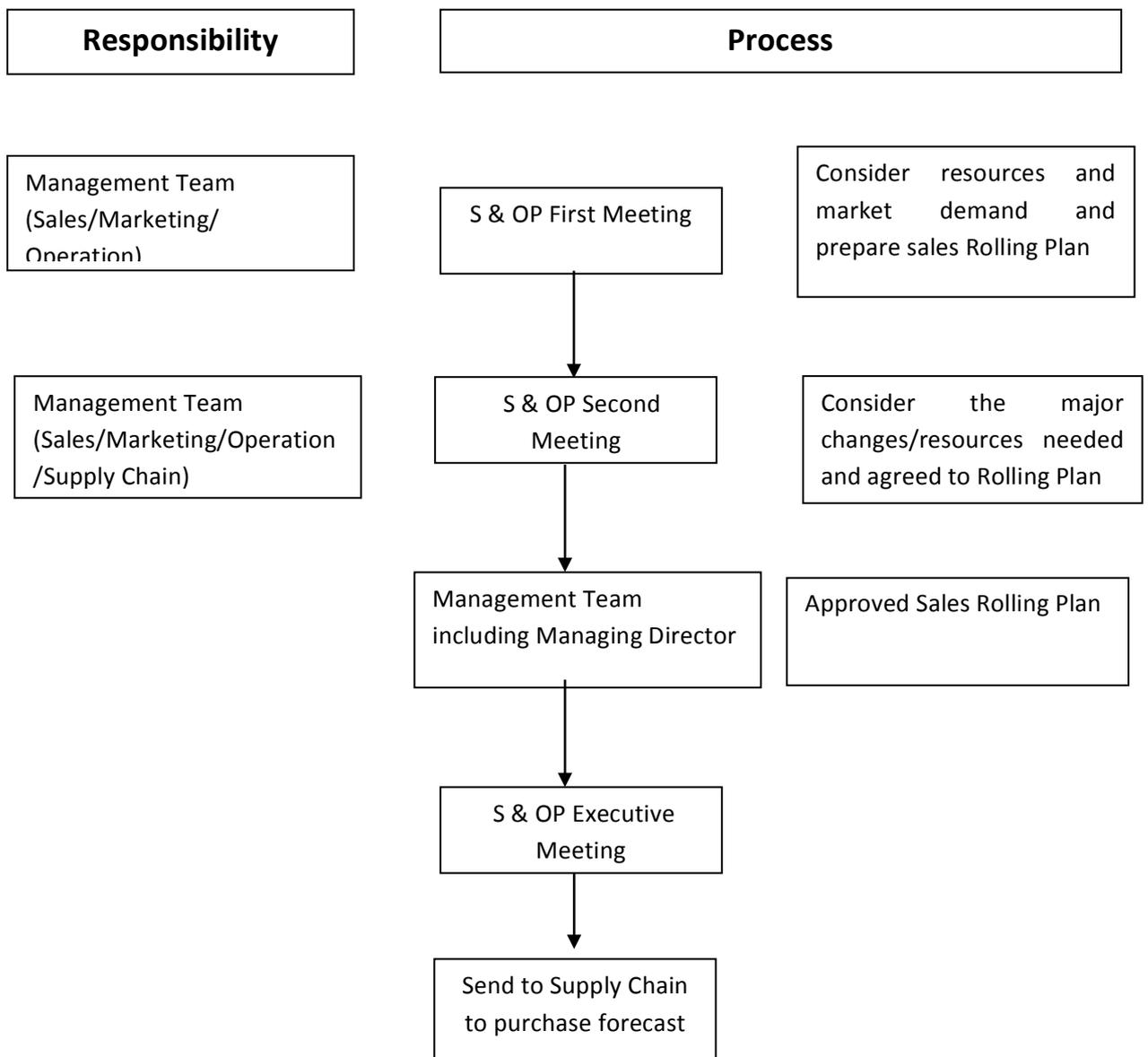
The monthly demand plan is circulated by the product planning Manager for approval to Head of Sales, Head of Marketing and Managing Director

Once the authorization is complete, a copy is forwarded to Factory Manager.

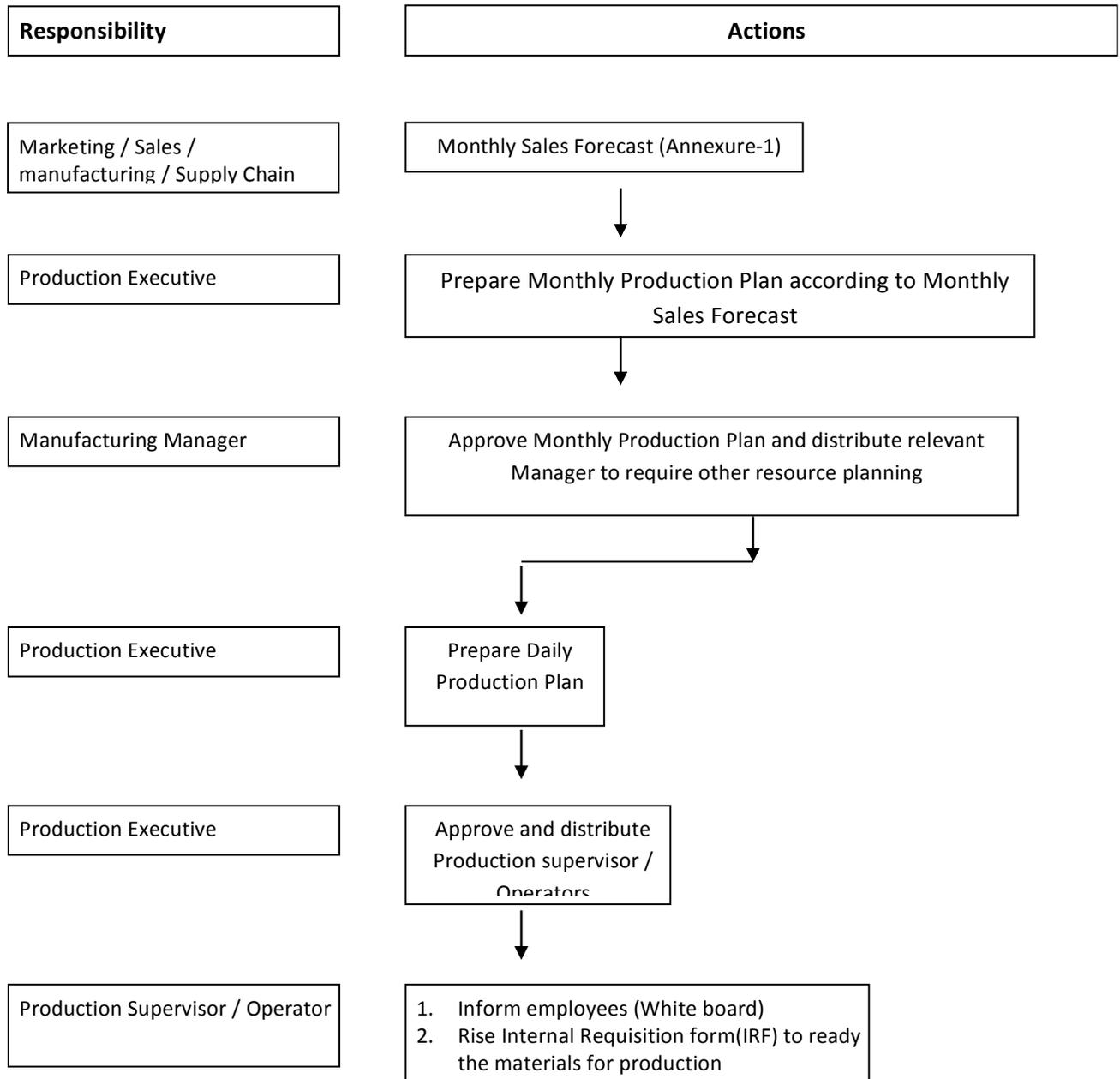
4.7 Forecasting & Demand Planning Process

Sales rolling forecast is made from historical demand data which give the forecaster the insight of current trends and seasonal pattern of product demand.

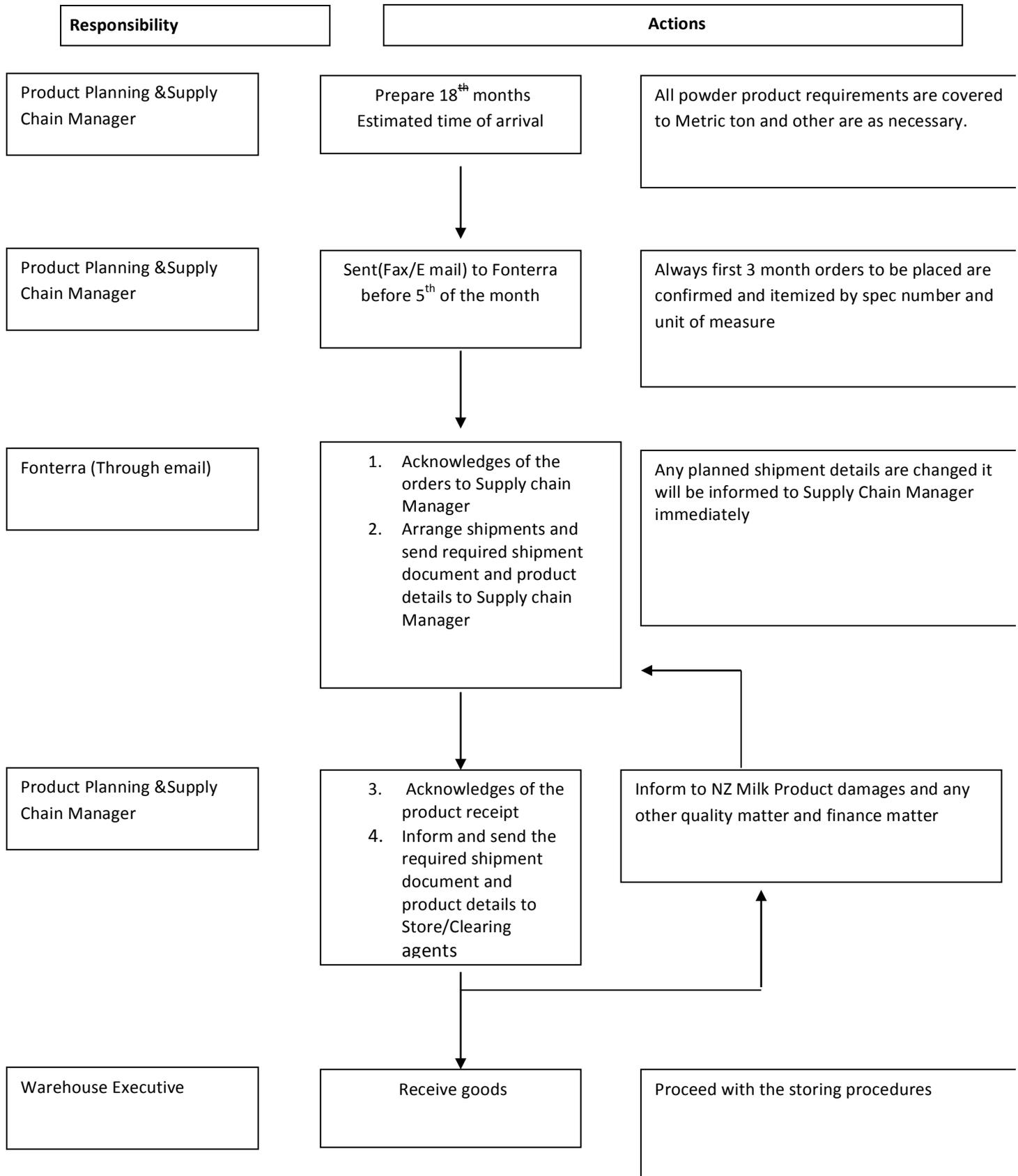
FLOWCHART OF FORECASTING & DEMAND PLANNING



4.8 Flowchart of Production Planning



4.9 Flowchart of Importing Process of Raw Material



4.10 Inbound Logistics:

Inbound Logistics is an integral part of Supply Chain Management in NZDP Bangladesh Limited. Their tasks start right after getting the final shipment documents from Raw materials division. Inbound Logistics mainly works to release the imported items from Chittagong port or Dhaka Airport or Beanpole port. They arrange the Duty payment to govt. After getting the release they also ensure the transportation from port to factory. Their key tasks are:

4.10.1 Ensuring Supply:

In ensuring supply, RM are bought from exporting country to the respective factory warehouse. Inbound Logistics maintains production availability throughout the process. Inbound Logistics basically helps business to bring the imported product at right time and in right place. Its main operation is monitoring, follow-up the imported product so that supply is ensured. It is done with ensuring maximum advantage of the business.

4.10.2 Customs Clearance:

Inbound Logistics monitors customs activity of imported materials as per compliance, ensuring proper commercial value and Duty & Taxes with H.S. Code (Harmonized Coding System). It facilitates all customs activity getting the important materials within a specified lead time.

4.10.3 Sea-Transport:

Inbound logistics also look after sea transports related to imported materials. It dispatch load to country of origin to country of destination within the whole process. It contracts with shipping agents who are carrying goods from one country to another.

4.10.4 Inland Transport:

Inbound logistics maintain inland transport services carrying the goods from different part to warehouse.

4.10.5 Legal Activity:

Inbound logistics also accomplish legal activity such as resolving disputes at customs end for any variations of imported goods quantity or documents. It settles all disputes as per import Policy order, Valuation rules, Customs Act and NBR (National Board of Revenue).

4.10.6 Claim Settlement:

Furthermore, inbound logistics facilitates insurance claims of imported goods if any damages occur. It also carries insurance as act retrieved all imported damaged shipments and also any other damage shipment. These all occurs as per Insurance norms defined for each and every condition.

4.11 Customer Service and outbound logistics:

- CSD is a key function of Supply Chain who are mainly dealing with daily Primary Sale of NZDP with its distributors.
- NZDP Bangladesh Limited has 240 distributors around Bangladesh and it is divided into 10 Sales regions.
- Sales are categorized into three types and they are Primary Sales, Secondary Sales.

Primary Sales- Primary Sales are Products that are sent to distributors throughout the year.

Secondary Sales- Secondary Sales are Products that are sent from distributors to the assigned outlets.

- Customer Service is engaged in primary sales only.
- There is a Monthly target set for each Product and for which there is CDP (Consensus Demand Planning) which ensures proper delivery.
- Customer Service ensures that the monthly CDP is properly given to all the distributors.
- For each product there is a norm for the distributor coverage that they cannot keep a Particular product over the norm. Customer Service here manages the distributor norms also by checking their current stock and giving them new stocks as per their orders.
- For each product there is a stock, target and after finishing the process it is found how much of the stock remains.
- Shipping Planning is also done by Customer Service and also the truckload plan done that how much product will be carried out.

4.12 Inventory Policy

Inventory is defined as the stock of any item or resource used in organization. When a firm adopts a level strategy, an inventory of finished goods is required to buffer the cyclic demand for product from the level output generated by the transformation process. If the demand for a product were to be known precisely, then it could be possible to produce products so that demand would be exactly met.

Organizations maintain inventories for several reasons:

1. To protect against uncertainty
2. To support a strategic plan
3. To take advantage of economic of scale

NZDP inventory includes Raw materials, finished goods, Packaging materials, cartons and hot melt glue. The study is mainly focused on raw materials. NZDP receives raw materials from foreign supplier and Packaging materials and others from local suppliers.

Based on the different varying conditions NZDP do manage the inventory at their own. They do not follow exactly what the theory (**EOQ and ROP**) implies but analyzing the daily stock report, they go for the decisions that suit them most effectively and efficiently. The goal should not be to minimize inventory or to maximize customer service but rather to have the right amount to support the competitive priorities of the company.

NZDP maintain:

Finished goods inventory at warehouse: 15 days

Raw Material Inventory at warehouse: 1 Month

Finished goods inventory at distributors: 15 days

4.13 Distribution

4.13.1 NZDP have own warehouse

Warehouse	Raw Material	Finished Goods	Packaging Material
Height	27 ft	27ft	27ft
Area	17000 sft	27000 sft	5000 sft

4.13.2 NZDP uses own and 3rd PARTY transport facilities.

New Zealand Dairy use logistics services in the following way:

1. Finished goods delivery: For Dhaka city NZDP use own transport system. For outskirts Dhaka, NZDP use 3rd Party transport. For intercity distribution, NZDP use transport agency.
2. C & F release the milk powder bag from the big container from the ship and use their dedicated transport agency for carrying out the Raw Materials from Chittagong to Dhaka factory.

4.13.3 Warehouse Process Function for Raw Material

- Warehouse executive receive the shipping documents (Bill of Lading & Invoice) from Supply chain Manager and inform the warehouse assistance on delivery dates with the quantities.
- Warehouse assistance organise necessary resources to accept and store the Bulk Milk Powder and Milk Powder Cans. I.e. Spaces, Pallets, Labour
- On the arrival of containers Security shall inspect the container door seal/s and container number/s. If any problems are identified during the inspection this shall be brought to the immediate notice of the warehouse executive. Security shall prepare a Security Inspection Report and send to Warehouse executive for review.
- After inspecting the container seal/s and container no/s. the warehouse assistance shall open the container door by breaking the seal and if any problems are identified they shall be brought to the immediate notice of the Warehouse executive and it shall be recorded in the Cart Note.
- The warehouse assistance shall inspect for damaged bags, wet and moisture, insect or rodent attacks, packaging and unpleasant odours which shall be recorded in the remark column in the unloading Cart Note. If any problems are found which may affect the quality of the product, the warehouse assistance shall tag them as Hold and bring it to the immediate notice of the Quality Assurance Manager.
- Warehouse assistance shall update the Cart Note which contains following details. Also fill the format which is given for damages to locate the area in the container and necessary photograph shall be taken for future reference. Warehouse assistance shall fill the Rejection Form as per the available information.

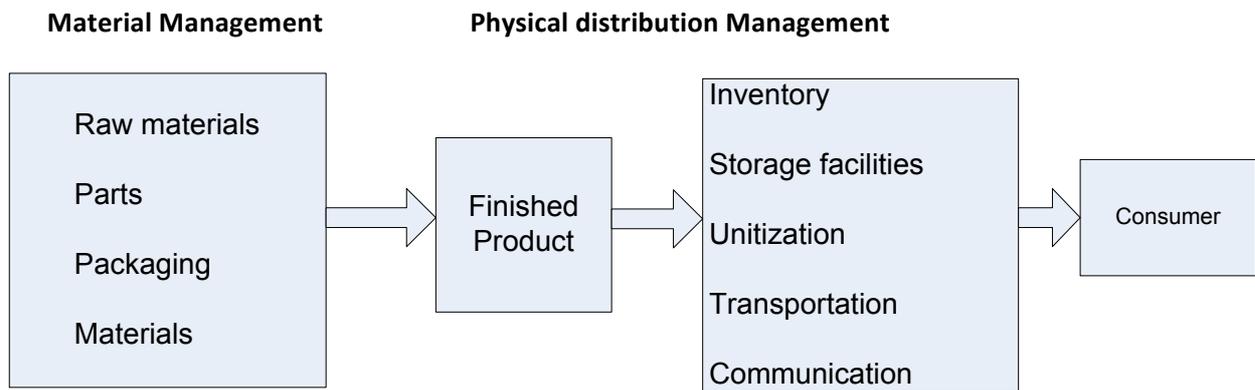
1. Container No.
2. Seal No.
3. Item
4. Qty
5. Cypher Nos/Unit Nos.
6. Lab samples

1. Truck No.
2. In and Out Time
3. Pallet Nos.
4. Location
5. Damaged Qty

➤ The Unloading workers shall unload the bags or milk powder cans into the pallet. All unloaded pallets are labelled with Bulk Powder Pallet Note which contains following details. Also it will be used at the time of issuing by collecting the same and record them in the Issue Note by Forklift driver.

Cypher no.-	Unloaded date -	Container No -	Quantity –
Unloaded by -	Issued date -	Machine No -	Checked by. -

4.13.5 Function of distribution department.



4.14 Procurement functions

For ensuring systematic purchase the related departments have to fulfill some duties which are detailed below:

4.14.1 User Department:

User department will raise the PR Form and will be liable for the followings:

- Fill up Purchase Requisition Form as per Company Procedure.
- Put full description / specification of item, if available, provide sample of the product to Procurement Department along with the PR Form.
- Write full justification for purchase including current stock levels, annual usage etc (if required)
- Provide name of recommended suppliers (if any)
- Put estimated value of the product in PR Form.
- Put latest acceptable delivery date in PR Form.
- Put Budget Code, Cost Centre in PR Form.
- Acceptance of Goods or Services after delivery / completion.
- Checking and Approving bills.

4.14.2 Budget Department

Budget Department will be liable for the following:-

- Checking Purchase Requisition form against Budget & Budget code, Items, Justification for Purchase, Estimated Value of the Product and match against Company's annual budget / specific program budget.
- Take Approval from authorized persons and forward to purchase department.

4.14.3 Purchase Department:

Purchase Department is responsible for commercial aspects of the purchase. i.e.:-

- Identifying suitable suppliers for the required item.
- Obtaining quotations and agreeing final supplier selection in conjunction with the Requisitioning Department.
- Agreeing delivery terms & date with the suppliers.
- Agreeing Payment Terms & date with the suppliers.
- Raise PO with compliance with the Purchase Policy.
- Receiving Goods from Suppliers and handover to warehouse / user. (Except Factory Items & Services)
- Receive bills from suppliers and after initial checking process the bill in accordance with Company's Purchase Policy and submit to Finance.
- Should maintain & update a supplier's database with all details like name, address, correspondence number, products available etc.

4.14.4 Finance Department

Finance Department will be liable for the following:-

- Check whether the PO value is within 15% variance of the PR's approved value. (To be checked against individual items)
- Checking the accuracy of all documentation and matching of the invoice to the Purchase Requisition, Purchase Order and Material Received note, supplier's quotation etc.
- Ensuring the documents are appropriately authorized prior to presentation to Cheque signatories for payment.

4.15 Procurement Policy

4.15.1 Authorized Department for Purchase:

Procurement of Goods and Services (Excluding Raw Materials for Milk Powder) for the Company will be conducted through the Procurement Department. Such Procurement shall be made in conjunction with the Department requesting the Goods or Service (User Department), Procurement Department and if required, any other person Technically Competent for the purchase of the required item.

4.15.2 Selection of Supplier:

Wherever possible, Company's Policy is to purchase directly from manufacturers or officially accredited dealers / main suppliers in order to ensure that the goods purchased are of the desired quality at a competitive price and where appropriate, the after sales service meets the company standards.

4.15.3 Basis of Purchase:

The Procurement Department shall proceed with the procurement process only once they receive a **Completed and Approved Purchase Requisition Form in a prescribed format.**

Authority to approve the Purchase Requisitions to process for Purchase Order which may be subject to periodic review and change by the Managing Director.

4.15.4 Forms:

For any purchase / services, the types of forms are as follows:

- a. Purchase Requisition Form.
- b. Comparative Statement Form.
- c. Purchase Order Form.
- d. Car Maintenance Requisition Form.
- e. Travel Authority Form.
- f. Capital Item Requisition Form.

4.15.5 Minor Purchases:

To ensure smooth operation of business, when time is crucial than money, in this cases the following mentioned departments are allowed to purchases in cash without having to go through the formal Purchasing Procedure (Pre-Approval of PR) and Procurement Department.

But Post Approval through raising PR should be made in this connection to the Minor Purchase (within 15 days of the purchase).

The authorized departments and authority limit are as follows:

1.	Head of Finance	-	BDT 50,000.00
2.	Head of Production	-	BDT 25,000.00
3.	Head of Procurement	-	BDT 25,000.00
4.	Head of Marketing	-	BDT 10,000.00
5.	Head of Sales	-	BDT 10,000.00
6.	Head of Administration	-	BDT 10,000.00
7.	Head of Product Planning	-	BDT 10,000.00

4.16 CAPEX/OPEX Function

Purchase Requisitions are approved Preliminary by the Departments Heads afterwards if the expenditure requested is less than Tk.25,000/- then it is considered as operating expenditure, than Budget Department will forward the PR Form either to AFC or to Managing Director for approval. But if the expenditure exceeds more than Tk.25,000/- then it is considered as capital expenditure which needs direct approval from Managing Director.

4.17 Challenges of Procurement function:

4.17.1 Reduced margins

With the drop in consumer spending power and the trend towards more economical brands, consumer goods companies are being forced to look for innovative ways to reduce costs, eliminate waste and enhance efficiency.

4.17.2 The power of retail giants

Retail giants to give concessions on pricing, delivery are increasingly squeezing FMCGs and various other terms and conditions. There is also increased competition from retailers as they develop their own label products and increase brand loyalty.

4.17.3 Sustainability

This is a pressing trend for the sector, as consumers demand more ethically produced “green” goods. How will you employ green policies that can attract the growing ethical consumer market?

4.17.4 Effective supply chain management

In a bid to drive down costs, its vital people can effectively manage supply chain to deliver companies product on time and on budget.

4.18 Performance Analyses of Supply Chain Practices

Based on Research Methodology fourteen questionnaire (**Annexure 2**) is prepared to conduct the survey among the employees of New Zealand Dairy products Bangladesh Ltd with an aim to find out the supply chain performance of this organisation. Survey result is attached at the end of annexure 2.

The result of questionnaire feedback is as follows:

The New Zealand Dairy practices supply chain with the help of many suppliers. Meanwhile the company is managing its supply chain successfully. The company has a separate logistics and dispatch department. New Zealand Dairy Products has a clear and sophisticated logistic plan. Operational activities and supply chain management activities of the New Zealand Dairy are by the support of supply chain benchmarking. The company is planning to implement and practice the ERP system, EDI plan strategically in future. Current supply chain management and IT activities of the company are going flawless and in future there is scope for better supply chain and distribution network. The current transportation and logistics management of the company is sufficient and is flexible enough so as to change the current policies if any. The study has shown us that there is some obstacles during handling and storage of dairy products which creates hurdle in SCM therefore should be eradicated.

4.19 KPI Measurement

i) **Inventory Turnover** This is one of the most important supply chain KPIs for our organization to monitor. This KPI provides a barometer for the health of our organization because it shows how quickly we are able to move inventory. A high inventory turnover rate is preferred, although it is important to compare our turnover rate to other organizations within the same industry.

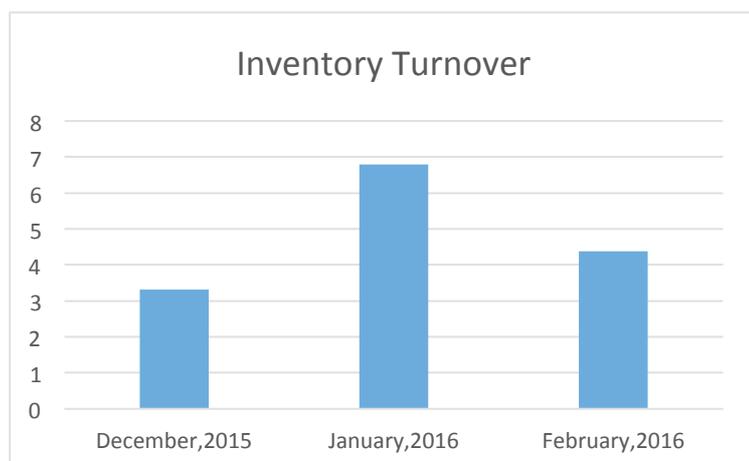
Objective: To increase inventory turnover

$$\text{Inventory turnover Formula} = \frac{\text{Sales}}{(\text{Opening stock} + \text{closing stock})/2}$$

$$\text{December 2015} : \frac{252,487,271}{(860,027,32+663,177,79)/2} = 3.32$$

$$\text{January 2016} : \frac{485,989,761}{(663,177,79+663,177,79)/2} = 6.79$$

$$\text{February 2016} : \frac{368,047,788}{(768,557,24+912,763,84)/2} = 4.38$$



ii) **Inventory to sales ratio:** This inventory KPI measures the ratio of in-stock items versus the amount of sales orders we are filling. Inventory to sales is a good barometer for the performance of our organization, providing us with a strong indicator of the economy. The challenge with this supply chain KPI is identifying a ratio that reflects our goals and industry norms. (Greater value indicates better)

Objective: To maintain stability with regards to prevailing economic conditions.

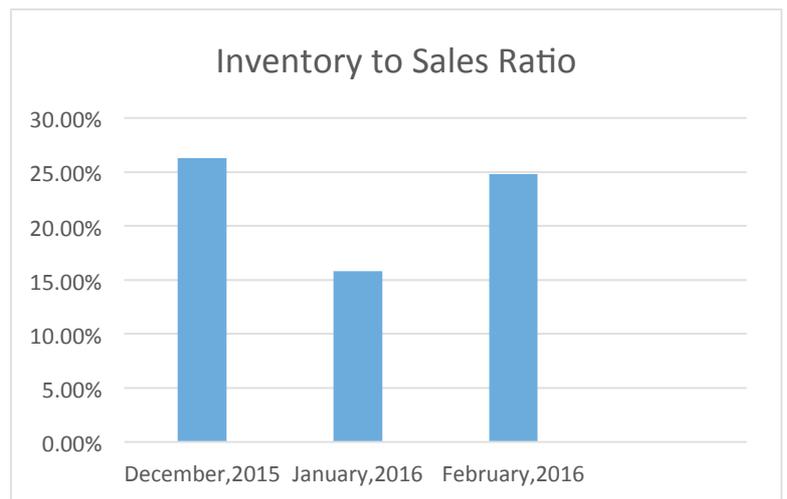
Inventory to sales ratio Formula:

$$\frac{\text{Total Inventory Value}}{\text{Total Sales Value}}$$

December 2015: $\frac{66,317,779}{252,487,271} = 26.3\%$

January, 2016: $\frac{76,855,724}{485,989,761} = 15.8\%$

February, 2016: $\frac{91,276,384}{368,047,788} = 24.8\%$



iii) Cash to Cash Cycle time : **Receivable days+ inventory days – payable days**
: **30 + 15-60 = - 15 days**

iv) Raw Materials Inventory holding/days : **Maximum 1 month**

v) Finished goods holding days: Maximum : **15 days**

4.20 Finding Problem Areas

4.20.1 Import-dependency:

NZDP Bangladesh always believes in delighting consumers with highest quality and that's why still the local suppliers are not ready with that quality. Almost 70% of Raw Materials are imported from different countries across the earth. This creates complicity in the import process and also costing.

4.20.2 Very High Lead time:

As most of the Raw materials are imported it has a very long lead time varies from 2 months to 4 months sometimes. This high lead time of Order to Factory Delivery process creates high risks in times of product shortages and also makes the process lengthy.

4.20.3 Unfavorable Govt. Policy:

Bangladesh Govt. has imposed very high import tax and duty for imported materials. There are unethical practices of some local companies so they don't even need to pay tax or duty at port. But NZDP gives very high import duty and this rate increasing day by day.

4.20.4 Political Unrest:

The Distribution function of NZDP Bangladesh Supply Chain is now catering the national demand of 240 distributors from one Distribution Warehouse. It becomes so tough to manage National supply during the Political Unrest as we don't have any regional depot. Even it becomes impossible to transport the imported Raw materials from Chittagong port to Rupganj Factory during the unrest. Our Supply Chain faced great problems during the continuous strikes in 2013 and 2015. This is a great threat that leads to Raw Materials Shortage or Finished Goods out of stock.

4.20.5 International Transfer Price fluctuations:

NZDP Bangladesh Imports raw materials from many 3rd party suppliers across the earth. Like other companies here is a price agreement with the Supplier fixed for quarterly basis. With the international materials price fluctuations this price also fluctuates more and suddenly. Same raw materials imported in one quarter may be priced 25% higher in next quarter. This is a big threat for costing purposes of raw materials that cannot be predicted earlier.

4.21 Recommendation

4.21.1 Local Supplier Development:

NZDP Bangladesh need to develop local suppliers of our country to gain benefit in longer period of time. For this they should teach the local raw materials suppliers about the cultivation methods. Now-a-days in terms of quality products and materials our local companies are also doing well, especially for Milk Powder, Spices or Oil items, whole corn. This will save huge amount of money and time for NZDP and also will be beneficial for our country too.

4.21.2 Import Lead time reduction:

At present most of the raw materials are imported and for most of them the lead time (Order to Factory arrival time) is very high. Average lead time is 2 months to 4 months. Here NZDP Bangladesh need to reduce lead time by negotiation with international suppliers.

4.21.3 Regional Distribution coverage:

NZDP Bangladesh need to set up some regional distribution warehouses at least in the major Divisions like Chittagong, Khulna and Barisal so it will be beneficial for quick product supply in the political unrest situations.

4.21.4 Setting more alternate Supplier:

Setting more alternative suppliers will help during the crisis period especially when one supplier failed to supply materials on time, they can quickly get the materials from another supplier.

4.21.5 ERP System

In order to practice a better supply chain management New Zealand Dairy should use updated/upgraded/latest ERP packages.

CHAPTER FIVE: CONCLUSION

New Zealand Dairy Bangladesh Ltd Supply Chain is one of the best Supply Chain department of Bangladesh. As most of the raw materials are import based the overall process in supply chain is much complex and lengthier. This is why along with the product development function and Marketing function Supply Chain should strive to explore local sourcing options more.

- A strong Vendor/Supplier performance tracking system need to prepare with monthly actual performance monitoring against target. This will be helpful for future considerations on contract renewal or service taking.
- Food and Beverage business in Bangladesh is becoming very competitive day by day. Price is becoming the most important determinant for consumers. Considering this the high price product offerings are becoming so risky to survive. In order to raise Marginal Contribution (MC) of product and also to charge an affordable price the sourcing strategy need to be reviewed by searching for local suppliers and developing them to meet NZDP standard.
- More regional distribution warehouse need to setup to operate quickly across the country and especially during political unrest it will help. At least 6 warehouses in 6 divisions will help to reduce their transportation cost.

ANNEXURE 1 BIBLIOGRAPHY

Websites:

- <http://www.scribed.com>
- <http://www.google.com>

ANNEXURE 2

QUESTIONNAIRE

Name of Employee :

Name of Company :

Address :

Country : Tel. :0

Contact Person :

Position in company :

E-Mail :

Sector Types : Manufacturing Service Both

Industry (define) : Food Automotive Other

No of Employees : Turnover 2015 :

1. How do you manage your supply chain?

Close partnership with suppliers

JIT supply

Outsourcing

Many suppliers

Holding safety stock

2. How successful do you think is your company in managing its supply chain in general?

* Not successful at all

* Not successful

* Somewhat successful

* Successful

* Very successful

3. Does your company have a separate logistics department?

YES

NO

4. Does your company have a clear logistics strategic plan?

YES

NO

5. What types of systems are currently in use in your company to support Supply Chain Management?

- Subcontracting
- 3PL
- Supply Chain Benchmarking Vertical integration

6. What types of systems do you plan to implement in the near future (within the next 2 years)?

- E-procurement
- EDI
- Outsourcing
- Subcontracting
- Plan strategically

7. How satisfied are you with the current public policy regarding SCM and IT?

- *Satisfied
- *Very satisfied
- *Same what satisfied Not satisfied

8. Is supply chain management having all the address of the developer branches of the company?

Yes No

9. Rate the working strategies of supply chain management department on the basis of the current programs?

- * Outstanding
- * Excellent
- * Good
- * Average

10. Is the supply chain management department is having sufficient transportation?

- * Yes
- * Not sufficient

11. According to the current growth process of the organization, which of the following needs much attention and progress to boost the production?

- * Operational activities
- * Tactical activities
- * Current programming strategies

12. Choose the right option, where the supply chain department is facing problem in taking care of the raw material?

- * During storage
- * Packaging
- * Testing of packaging
- * Evaluation of defective raw material

13. How do you rate the delivery activity of the department?

- * Excellent
- * Very effective
- * Good
- * Average

14. Is there any case recorded by the supply chain department in which the production department complained late delivery of raw materials?

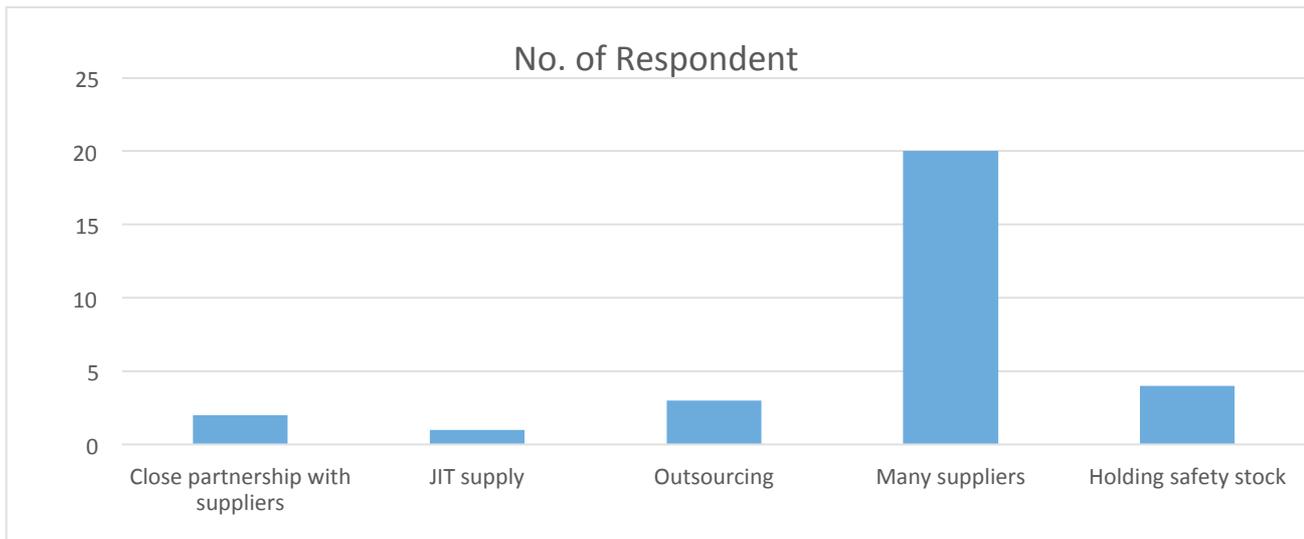
- * Yes
- * No

Survey Result

1. How do you manage your supply chain

- Close partnership with suppliers
- JIT supply
- Outsourcing
- Many suppliers
- Holding safety stock

	No. of Respondent
Close partnership with suppliers	2
JIT supply	1
Outsourcing	3
Many suppliers	20
Holding safety stock	4

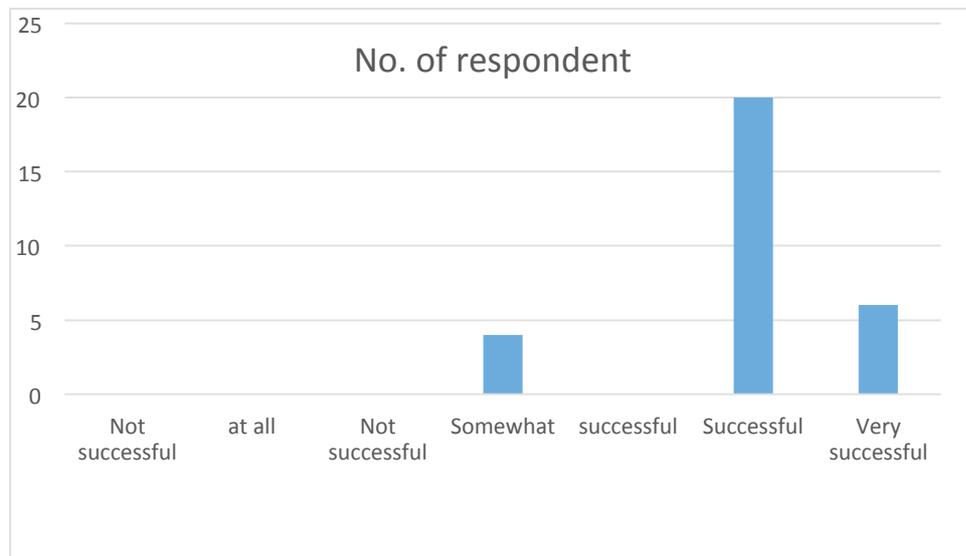


Out of 30 employees of New Zealand Dairy maximum no of employees think that supply chain Management of New Zealand Dairy is managed by many suppliers.

2. How successful do you think is your company in managing its supply chain in general?

- * Not successful at all
- * Not successful
- * Somewhat successful
- * Successful
- * Very successful

	No. of respondent
Not successful at all	0
Not successful	0
Somewhat successful	4
Successful	20
Very successful	6



Most of the employees think that New Zealand Dairy is managing Supply Chain Management successfully.

3. Does your company have a separate logistics department?

YES

NO

	No. of respondent
Yes	30
No	0



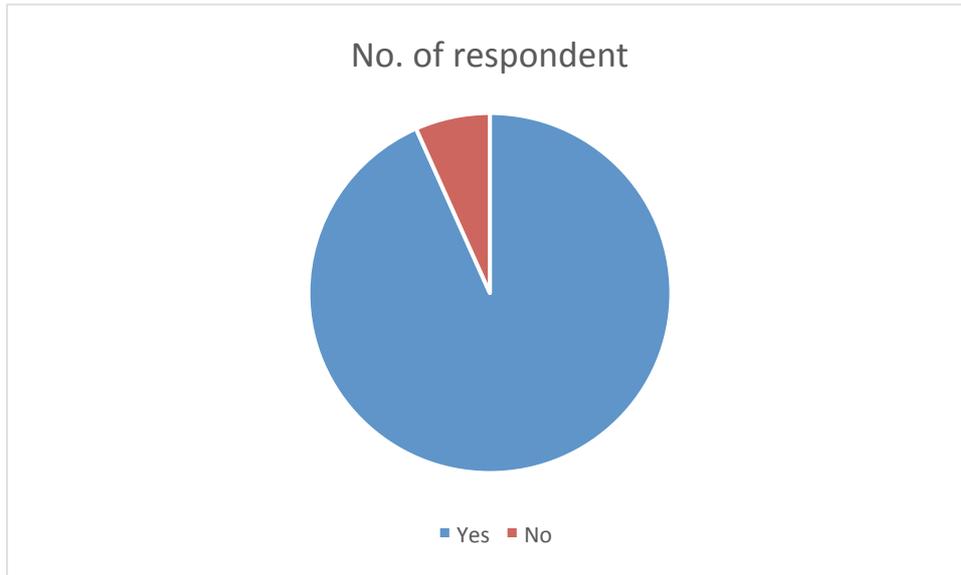
The company has a separate logistic department.

4. Does your company have a clear logistics strategic plan?

YES

NO

	No. of respondent
Yes	28
No	2



Out of 30 employees 28 think that New Zealand Dairy has a clear logistic

5. What types of systems are currently in use in your company to support Supply Chain Management?

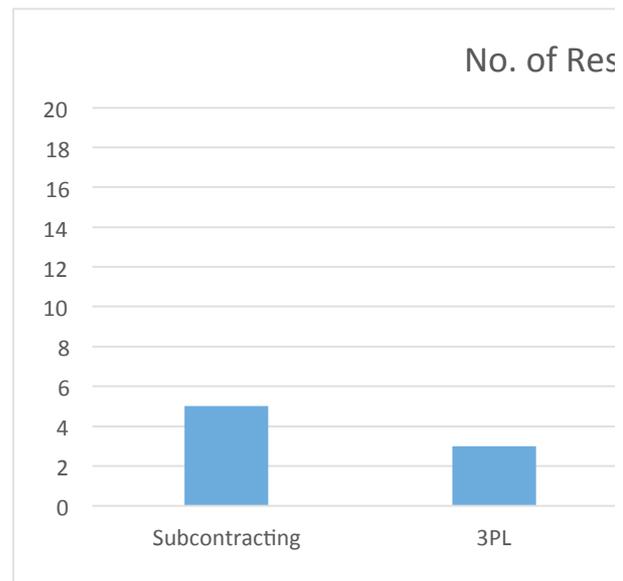
Subcontracting

3PL

Supply Chain Benchmarking

Vertical integration

	No. of Respondent
Subcontracting	5
3PL	3
Supply Chain Benchmarking	19
Vertical integration	2

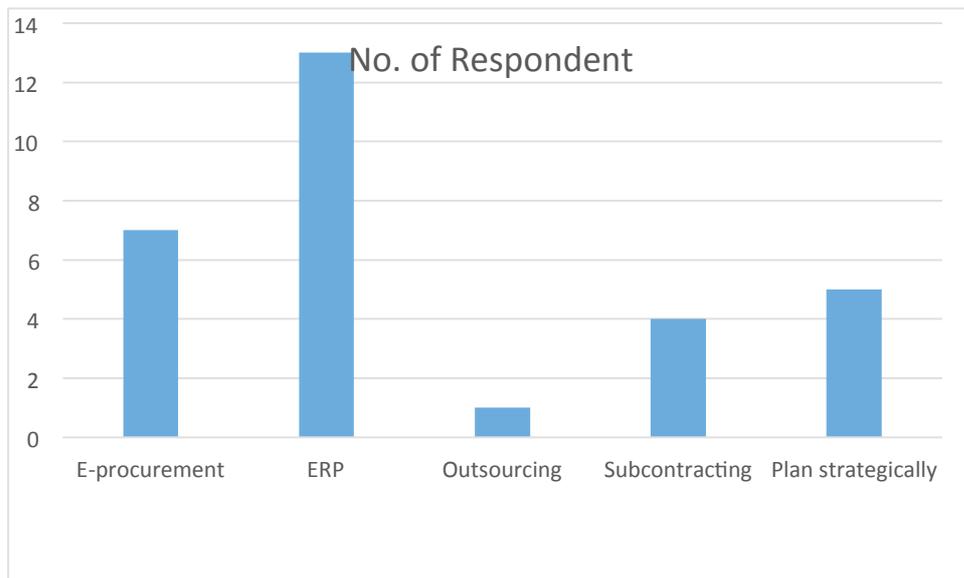


Out of 30 employee 19 think that supply chain benchmarking supports supply chain management of New Zealand Dairy.

6. What types of systems do you plan to implement in the near future (within the next 2 years)?

- E-procurement
- ERP
- Outsourcing
- Subcontracting
- Plan strategically

	No. of Respondent
E-procurement	7
ERP	13
Outsourcing	1
Subcontracting	4
Plan strategically	5

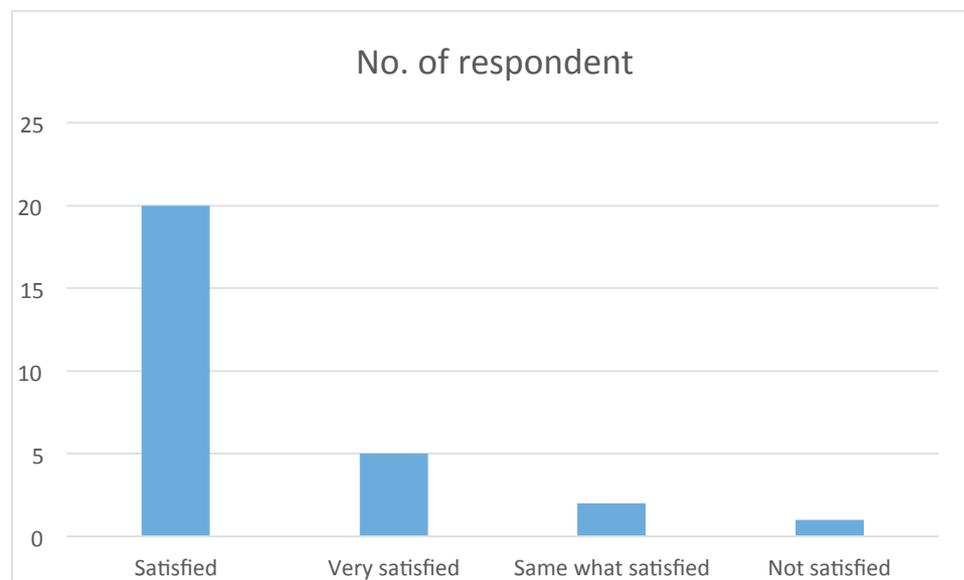


Out of 30 employees 13 employees think that in future there is need of implementing ERP.

7. How satisfied are you with the current public policy regarding SCM and IT?

- *Satisfied
- *Very satisfied
- *Same what satisfied
- *Not satisfied

	No. of respondent
Satisfied	20
Very satisfied	5
Same what satisfied	2
Not satisfied	1



Out of 30 employees of New Zealand Dairy 20 employees are satisfied.

8. Is supply chain management having all the address of the sub distributor's branches of the company?

Yes

No

	No. of respondent
Yes	27
No	3

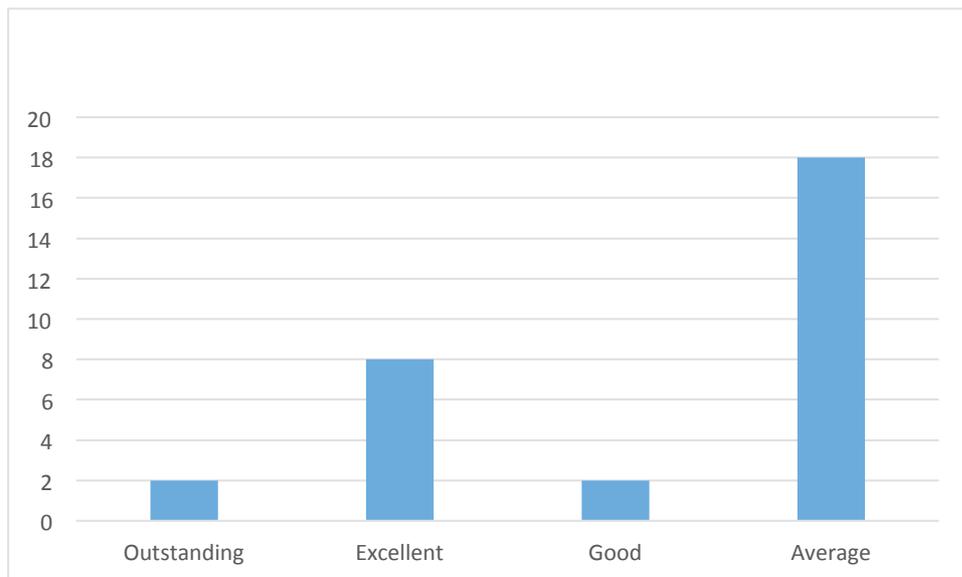


Out of 30 employees 27 of New Zealand Dairy knows the address of the sub distributors.

9. Rate the working strategies of supply chain management department on the basis of the current programs?

- * Outstanding
- * Excellent
- * Good
- * Average

	No. of respondent
Outstanding	2
Excellent	8
Good	2
Average	18



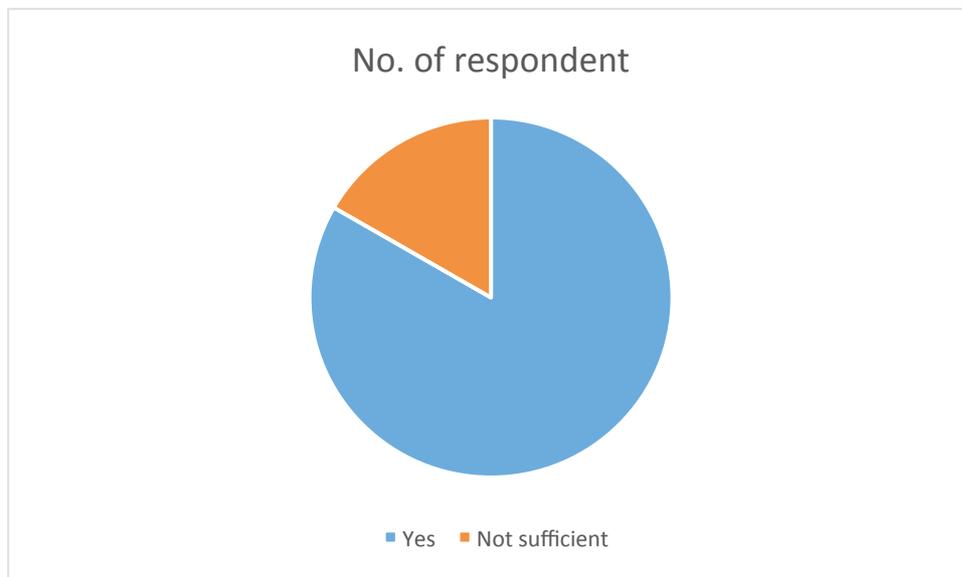
Out of 30 employees 18 employees think that the working strategies of supply chain management department are average.

10. Is the supply chain management department is having sufficient transportation?

* Yes

* Not sufficient

	No. of respondent
Yes	25
Not sufficient	5

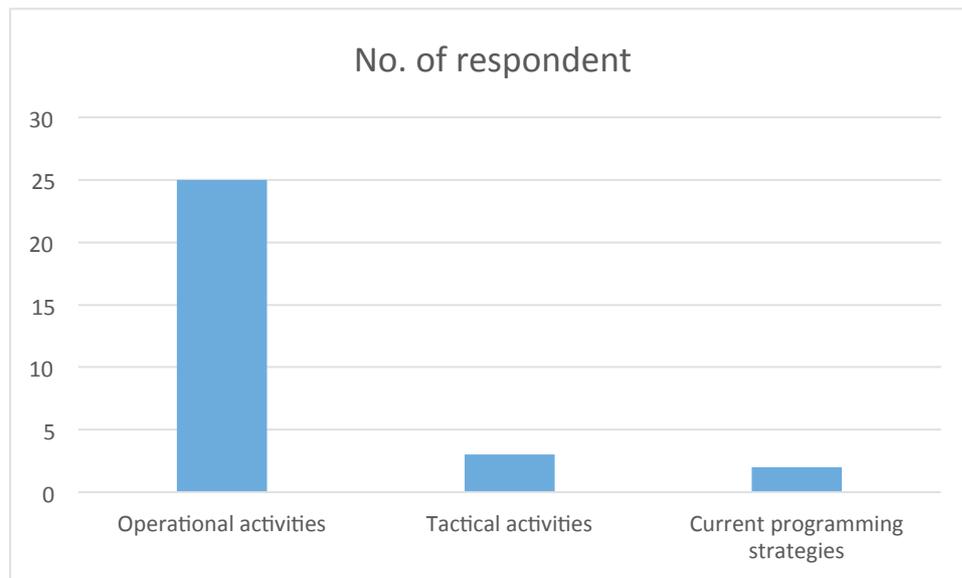


Out of 30 employees 25 think that transportation is sufficient for New Zealand Dairy.

11. According to the current growth process of the organization, which of the following needs much attention and progress to boost the production?

- * Operational activities
- * Tactical activities
- * Current programming strategies

	No. of respondent
Operational activities	25
Tactical activities	3
Current programming strategies	2

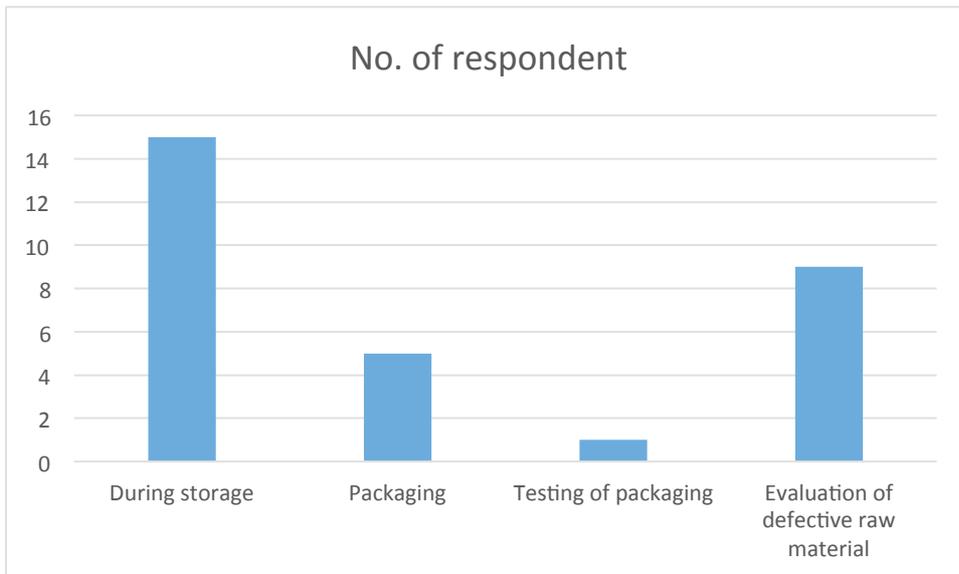


Out of 30 employees 25 think that there is a need to pay attention on operational activities.

12. Choose the right option, where the supply chain department is facing problem in taking care of the raw material?

- * During storage
- * Packaging
- * Testing of packaging
- * Evaluation of defective raw material

	No. of respondent
During storage	15
Packaging	5
Testing of packaging	1
Evaluation of defective raw material	9

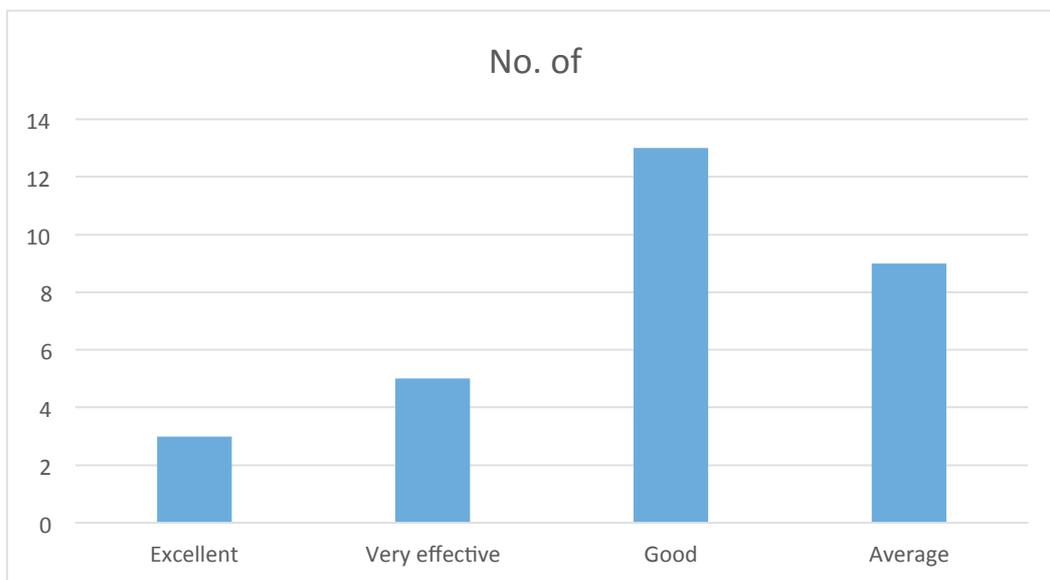


Out of 30 employees 15 employees think that supply chain management is facing problem during storage.

13. How do you rate the delivery activity of the department?

- * Excellent
- * Very effective
- * Good
- * Average

	No. of respondent
Excellent	3
Very effective	5
Good	13
Average	9



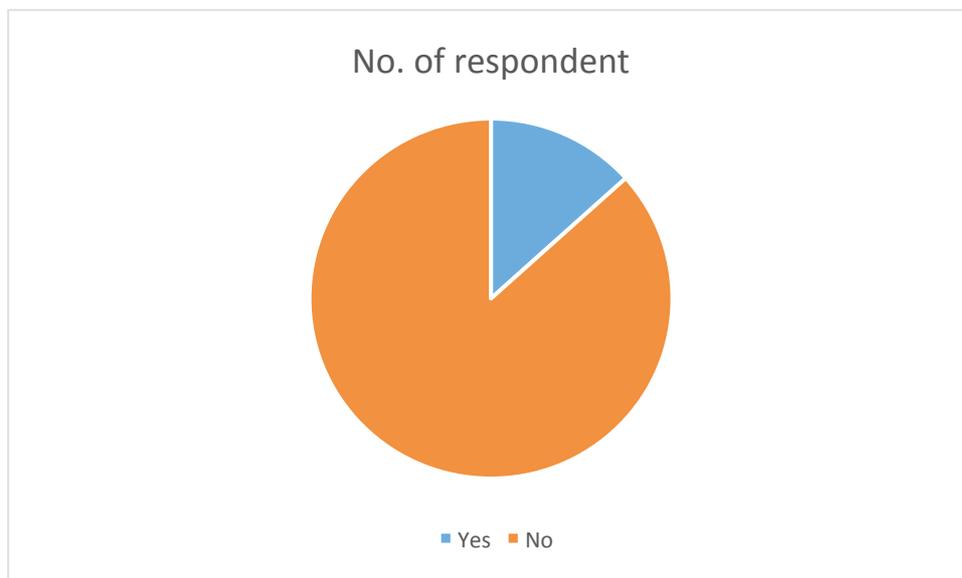
Out of 30 employees 13 employees says that delivery system is very good.

14. Is there any case recorded by the supply chain department in which the production department complained late delivery of raw materials?

* Yes

* No

	No. of respondent
Yes	4
No	26



Out of 30 employees 4 employees complained about the late delivery of raw material.