



Supply Chain Management of Unilever Nepal

To improve supply and distribution of materials

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Abstract

Nepal is achieving remarkable growth in Fast Moving Consumer Goods Industry in recent year because of rise in middle class population and higher demand of their different categories of products. Therefore, Unilever Nepal limited want to analyze its current supply chain process and improve the supply and distribution of finished goods to smoothen its supply chain management. The main purpose of thesis project is to analyze the current state of supply chain process of Unilever Nepal Limited and provide development suggestion based on the current process.

Data collection for the qualitative and quantitative research to formulate the whole thesis contains primary as well as secondary data. To study the research question, author had collected primary data through direct observation and interview with the supply chain manager of Unilever Nepal Limited. Throughout the internship period at Unilever Nepal Limited author has to study related theories and literature review through books, articles Journals and various internet sources to acquire secondary data and compare the real time scenario with the literature and extract the most feasible solution so as to develop the supply chain management.

The author has reviewed the supply chain process through literature and formulate a theoretical background for the reseach. Through current scenaio of supply chain process and the two different realtime business cases issues related to supply and distribution are identified through SWOT analysis and best possible suggestion is recommended to the company through the literature review.

In conclusion, the issues related to supply and distribution can be overcome with the execution of vendor managed inventory system which overcome demand uncertainty and then then supply of raw materials from supplier to factory warehouse needs to be improved for which company can expand its warehouse vertically through racking system and optimize its space utilization issue and manages it wahouse operation through warehouse management system. And that of the distribution of finished goods from factory to distribution centre can be improved by optimizing the truck loading technique through truck load managment system.

Keywords

FMCG, supply chain, warehouse, distribution, suppliers, truck load management system, racking system, Vendor managed inventory system

Miscellaneous

Primary and secondary data

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1 Introduction

In Nepal, Globalization plays a major role in changing lifestyle and rising FMCG products consumers. Fast Moving consumer goods refers to low cost and frequently consumed goods that can be replaced within a year and as per the need of the consumer a small quantity is purchased. A large scale of products with short shelf life have high demand. (Mainali, 2018) These product can be categorized as fast moving consumer goods and involves different varieties of products such as detergent toothpaste, soaps etc. All perishable, non-perishable, durable, non-durable goods fall under the fast moving consumer goods category. Due to low annual income , the consumer consumption leads to higher growth. Thus, if these company could the thoughts of consumers then there is possibilities that the company can grow its business in cupcoming future. (Reogma,2020)

A huge population of 29 million possess a big fast moving consumer goods industry, and results in lots of money. Also, the total economic growth of Nepal is marked as 1 percent whereas the growth of fast moving consumer goods industry has increased to twenty percent. The market share of city shares of huge in the consumption sector, while the developing market in rural areas seems growing and left a footprint for greater possibilities through the sonsumer behaviour adopting various products. Different key FMCG industries doing business in Nepalese market are Chaudhary Group, Unilever Nepal Limited, Dabar, Sharda , Bhuramal Congolmereate, Surya Nepal etc. These companies produce different types of fast moving consumer products and represent Nepalese FMCG industry. (New Business Age, 2018)

The main goal to achieve in this thesis is analyse the current scenario of supply chain process in order to find the most applicable solution that optimize supply and distribution of materials by utilizing the advance technology and methods which reduces logistics expenses and provide efficient supply chain management. The thesis begins with an introduction and then followed by the overview of Unilever Nepal Limited. It proceeds with a general overview and development of supply chain process. Thereafter, real time business cases are discussed and SWOT analysis of the company is done based on the cases reviewed and suggest the best possible suggestion through recommendation. Finally, the conclusion of overall thesis is presented.

1.1 Brief overview of Unilever Nepal Limited

Unilever is a huge fast moving consumer goods manufacturers founded by the collaboration between Unie and Lever in 1930, which operates mainly from Netherlands and United Kingdom. Its product portfolio is divided into three categories: Home care, Personal care and Food and Refreshment. Being an Anglo-Dutch multinational company, it has employed 149000 people with over 400 brands all over 190 countries globally and has a earning of 50.7 billion Euro as a annual revenue throughout the world in 2020. (Unilever, 2020)

Unilever Nepal Limited was formed as a subsidiary company of Hindustan Lever Ltd. of India. The factory is situated at Basamadi VDC-5 of Makwanpur District, 6 Km far from Hetauda of the central development region of Nepal. The corporate office of the company is situated at New Baneshwor, Kathmandu. UNL was formed as a public limited company in 1993 and production started from December 1994. Being a growing manufacturing company, the main objective of UNL is to expand the domestic business by introducing new brands and categories in the domestic market and import substitution of foreign goods too. The company received the first FNCCI national excellence award for its overall performance in 2010. It has contributed in various ways to the social sector. It has provided direct employment to 227 Nepali citizens while generating indirect employment for over 20 times that number through its network of suppliers, distributors and ancillaries. (Unilever Nepal, 2020)

Basically, Unilever Nepal limited operates its business all over Nepal and has product divisions categorized as: Oral care, Beauty and personal care, Home care and Foods and Refreshments. In this product division category oral care includes products such as closeup and pepsodent. Similarly, Beauty and personal care is further categorized into hair care, skin care and beauty in which products like vaseline, sunsilk and glow and lovely are included. Likewise, Home care products are categorized as fabric cleaning and household cleaning which includes Rin and wheel. The last product category falls under foods and refreshment which is Tea and the product name is Red Level. The figure below shows the product division and its different categories.



Figure 1 Unilever Nepal product division (UnileverNepal, 2020)

In Nepal, Unilever operates three manufacturing facilities in the central development region among which two are third party manufacturers that produce detergents and soaps. UNL also rented two distribution centres to supply its different categories of products. They are located in two different districts Chitwan that supply valley and western region retail stores and another in Birgunj which supply to the eastern region retail store. From the point of strategic supply of finished goods to all its retail stores located all over Nepal, UNL has established distribution in these two regions, which can also be visualized from the figure below. (UnileverNepal, 2020)

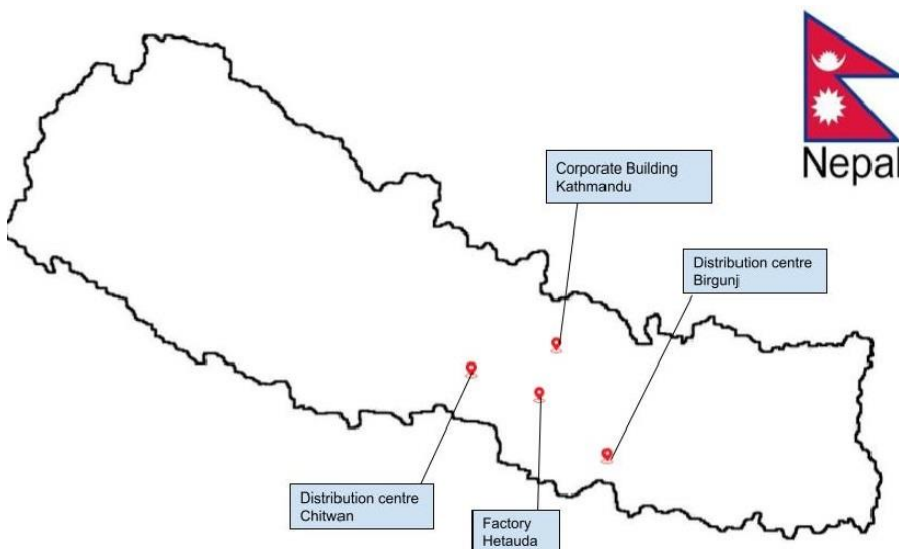


Figure 2 Unilever Nepal facilities (UnileverNepal, 2020)

1.2 Objectives and Scopes

In this thesis, the company name "Unilever Nepal Limited" is chosen to study different cases.. So, the objective of this thesis is to study the current state of supply chain process of UNL and suggest the best possible solution to improve supply and distribution of materials. Thus, the scope of this thesis focuses mainly on supply and distribution of materials inside factory Hetauda, Nepal. The data for research and analysis was compiled with the assistance from Sagar Giri, Unilever Nepal Limited Supply Chain Manager. Particularly, this thesis seeks opportunities to optimize the supply chain operation with the help of literature review. Therefore, comparing possible suggestions from literature to current supply chain process, development needs can be identified which further used to improve the company's supply and distribution of materials. To do so, this thesis will answer the following research questions:

- What is the current supply chain process of Unilever Nepal Limited (UNL)?
- What are the issues related to supply and distribution of materials?
- How could the supply and distribution of Unilever Nepal Limited be developed and optimized?

1.3 Data source and Methodology

Unilever Nepal Limited want to analyze the current scenario of supply chain operation so as to identify the issue related to supply of raw materials and distribution of finished goods to improve performance and meet the desired goal of supply chain management. The methods that is used to collect data for research are qualitative and quantitative methods. According to Kumar(2011), quantitative research methods provide support to all the research restriction whereas qualitative research method acts alternatively. For instance, when observation is narrated then it refers to as qualitative and if the observation are recorded and calculated in a certain scale then it is a quantitative information. Data can be collected and analysed through different process which can be primary data as well as secondary. This study is based on primary as well as secondary data. So as to obtain answers to research questions and to control variance to achieve the study, description and analytical research design have been used. Primary data collection is by researchers themselves through direct visit, survey and interviewing the concerned personnel.

Whereas, Secondary data can be easily available and cheap to obtain. (Institute for work & health, 2015) The following sources have been correlated to accumulate the secondary information:

- Article and web site
- Previous studies and reports
- Published and unpublished record of UNL
- Primary data are based on interviews as well as unstructured dialogues discussion with the staff of the organization.

During the intern period from September to December, researcher worked as an intern at Unilever Nepal Limited in the supply Chain department. While working closely with the supply chain team and managers in the factory, qualitative research methods are implemented so as to collect information and provide development suggestions for the project assigned by the line manager. Basically, information collected is used to analyze the current scenario and optimize the issues related to the supply chain process. To understand the real time data a semi structured interview was conducted with the supply chain manager Mr. Sagar Giri. Beside working inside the factory territory and observing the ERP system as well as the training material provided by the company helps gather information and utilize it in the thesis work.

1.4 Limitation

Basically this thesis mainly focuses only the operation inside the factory and collected data based on observation and interview. Moreover, most of the data presented throughout this thesis is based on observation so it is not very objective as well as it is only applicable to the Unilever Nepal factory. Due to the corona pandemic the author have to face some difficulty to do survey and formulate the data so there is lack of quantitative data. Although this thesis entitles supply chain management, author has only analysed the process and done analysis based on the qualitative data rather than using quantitative data. The theoretical study of thesis is only limited to process analysis and development techniques. Thus, due to pandemic restrictions, health and safety issue, this thesis only answers the Unilever Nepal cases and formulate the solution based on the current issue identified and suggest only the possible solution to improve the ongoing process.

2 Literature Review

2.1 Concept of supply chain

Logistics is a part of supply chain. Before 1950's, concept of logistics was thought as a military terms that deals with procurement, maintenance and transportation (Ronald, 2007). In past the concept of logistics can be seen as physical distribution and storage of materials. In a history of mankind, wars have been lost and won through logistics strength and capabilities. As an argument, it was discussed in past that once Britain had to lose the war with American, due to lack of logistics failure. Later, Arc Shaw in 1915 addresses the logistics importance and its strategic approaches in business. (Christopher, 2011) Since then, the concept of logistics evolves as supply chain management when for the first time in history, Oliver and Weber discussed the term supply chain management through an article in 1982 as logistics strategies. Through the article, they have discussed about integrated Logistics framework in which materials flow from the raw material supplier to the end costumer (Ivanov, 2010).

Since then many researches have been done in the topic supply chain management. According to Waters (2004), Logistics is a function of supply chain management which is responsible for the flow of materials through the supply chain. This logistics function involves different set of activities such as Procurement, Inward transport, Receiving, Warehousing, Stock control, material handling, outward transportation, physical distribution management and communication. Therefore visualisation of supply chain is wider than than the concept of logistics. The main aim of supply chain management is to fill the gap created between supplier and the end customer. (Waters, 2004) Supply chain refers to a chain of organisation involves through upstream and downstream linkage and through operation produce value in the form of finished products and delivers it to the final customer. The structural visualisation of supply chain can be traced through a single product moving through a series of organisation adding value to the product. (Christopher, 2011)

From the manufacturing point of view, different tiers supplier moving materials into an organisation is referred as upstream suppliers, whereas different tiers of customers involved to deliver the finished products to the final customer is referred to as downstream customers. Different tiers of suppliers and customers are distinguished based on direct supply to the

manufacturer i.e first tier supplier and receive directly from the factory i.e first tier customer.
(Waters, 2004)

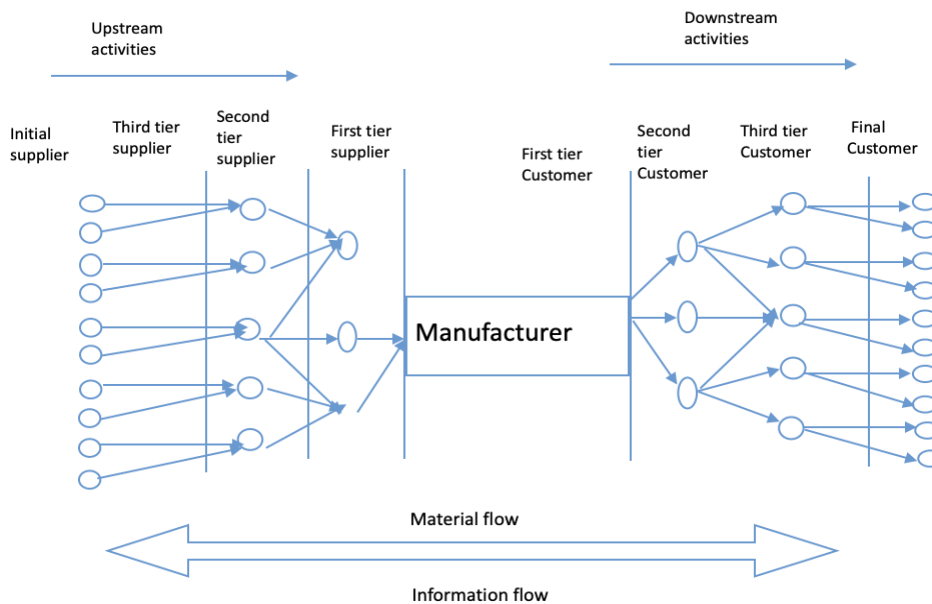


Figure 3 Structure of supply chain (Waters, 2004)

The concept of supply chain management refers to a management concept which covers the conventional tasks of an organization into a systematic management level, through various suppliers and customers working together to achieve a target of efficiency and effectiveness (Harwick, 1997).

Supply chain management is recognized as an organized, well-planned collaboration of the conventional commerce activity and strategy over these commerce activities between specific firms and over commerce in a supply chain so as to fix the extensive effect of specific firms and the overall supply chain (Mentzer, 2001).

Besides this, it also includes coordination and collaboration with network partners such as suppliers, intermediaries, third-party logistics service providers, and customers. Actually, supply chain management integrates supply and demand management within and across companies. To fulfill the demand of the product to the right customer at the right time at the right location and the right quantity, supply chain management conducts operations. (Ronald, 2006)

Bull whip effect refers to the twist in overall demand which occurs due to fluctuation of sales of product from down stream customer as Wholesaler, retailer and local chain shop to the upstream supplier as: Manufacturer and raw material suppliers. Due to this effect occurs in supply chain, it is difficult to fullfill the customer demand at right time. Bullwhip effect takes place when there is not a proper balance between supply and demand. (Admin, 2012) Such type of supply and demand effect supply chain can be overcome by upadating information and sharing skills with supply chain partners. Integration of modern technology like Communications channel and improving the followup times bull effect will be optimized. Following are some cause due to which bullwhip effects occurs during the supply chain: (Admin, 2012)

- Order batching: If the order batch size is in appropriate.
- Price fluctuation: Promote, sales and offer discounts
- Demand information: Accurate demand forecasting from downstream customers to upstream suppliers.
- Lack of communication : Proper communication between different tiers suppliers and customers
- Free return policies: To avoid shortage downstream customers order quantity is high and later excessive supply occurs.

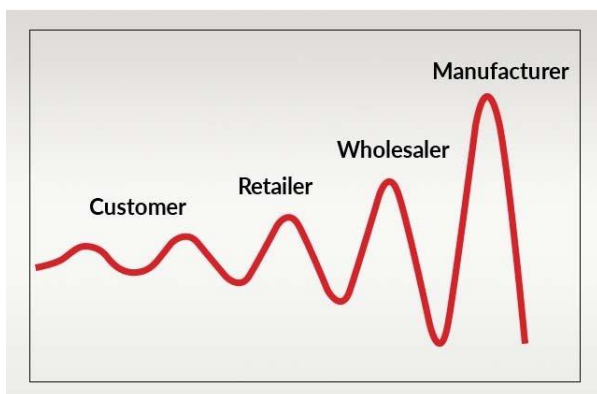


Figure 4 Bullwhip effect (NETSTOCK, (2021)

2.2 Overview of supply chain process

Supply chain management integrates all the upstream suppliers and downstream customers so as to manage all the activities which are required to provide value to the end customer in a parallel scheme (Handfield, 2011). Basically, supply chain management encompasses united activities from the supply of materials to the finished products and also include combined supervision to individual organization across all the network (Zhou, 2011). The supply chain add up all the activities across the manufacturing, that sanction the worthy network so as to form final goods and supply assistance to end consumers (Christopher, 2011). From the manufacturing point of view of supply chain management it is observed that the consolidated action needed to manage the flow of goods from the upstream supplier to the final consumers, though supply chain management for production is explained in different way. While discussing the core of supply chain management, even the professionals working in the same field of supply chain and logistics talks differently and describe on their own way (Handfield, 2011).

Many researcher has presented their model to study the effectiveness and efficient of supply chain process. The framework that is identified through this literature review is Supply Chain Operation Reference Reference (SCOR) framework. This framework was developed in 1996 by Supply Chain Council (SCC), a non-profitable organisation, consulting company and AMR research. SCOR processes are developed based on the operation strategy. (Zhou, 2011) Supply Chain Operation Reference (SCOR) contains the four business processes as Plan, Make, Source and Deliver. Later in 2001, the fifth process was added as Return proces that focuses on five different areas of supply chain to address, improve and communicate supply chain decision within a company and with suppliers and customers of the company. These area repeats again and again along the supply chain. (Supply chain council, 2012) The Supply Chain Council (SCC) had mentioned that these areas repeat again and again along the supply chain and spans from “the supplier’ supplier to the customer’s customer.

To dive deep into this framework and understand the supply chain process, it is important to go thoroughly throughout the function of each process mentioned above. The five different processes of SCOR framework is as follows: (Chen, 2009)

Planning

The planning process of supply chain acquires details from outward and inward functions so as to build up stability in stock and order. The key capability to acquire a current details and rebalances supply chain through improved information. Information sharing in supply chains can lead to improved performance. (BusinessNews, 2021) The Plan processes describe functions involved in the evolving target so as to manage the supply chain. Such function determine the the requirement through detail collected obtainable supplies. Also, to identify organized potential and the hole in the demand these function stabilizes essential and resources and beyond this it manages to determine the corrective active to fill the hole in demand. Planning process is visualised into two parts which involves demand and supply planning and management (Unilever Nepal, 2018). Planning determines the commerce policy which upgrade supply chain operation and evaluate the over all efficiency. These business rules span inventory, transportation, assets, and regulatory compliance, among others. It line up the plan related to supply chain with the budget structure of the company (NETSUITE, 2020)

Demand planning depends on various components as sales, consumer trends, historical sales data, and seasonal demand data so as to optimize business capability and meet consumer demand in the most efficient way. Demand planning combine sales forecasting, supply chain management and inventory management to meet the target. Future demand is then predicted based on internal and external data source and inform sales and operation so that they can make supply plan in order to meet demand (Indeed, 2021).

Planning conveys gains and consumer comforts through supportive trading by appropriate steadiness across adequate stock and orders from consumers orders. But the business implications are significant. However, the demand plan is need proper put in and collaboration within different activities of supply chain management as procurement, sales and operation, manufacturing and economics (Chen, 2009)

Therefore, there is always a dilemma to a manufacturer how to maintain a stability within order and supplies. The relation that links the order and supplies, similar to the delivery of manufacturing sources so as to optimise manufacturing job (Indeed, 2021).

Supply plan refers to the arrangement of activities that involves delivery, manufacturing and purchasing operation according to the forecast's demand while considering the capacity constraints and materials availability. The goal of the supply planning is to fulfill the order for the finished goods provided in the finest possible means (Deloitte, 2021) Supply planning process is divided into three sub process as: (Unilever Nepal, 2018)

Material requirement planning (MRP): Requirement planning of a material refers to a process of computing the material and ingredients required for production of specific product. MRP system is evolved so as to manage targeted demand. MRP system involves several activities as put in: manufacturing time table, stock details and finished goods design data. MRP planning involves following processes: (Dinesh, 2014)

- Setup total essentials
- Identify the actual essentials while deducting the planned delivery and current stock out of the total essentials.
- Schedule from the latest essentials which identifies the request received.

Production planning: Production planning refers to the planning of optimised time frame that uses enough raw materials, employee and other resources so as to produce a specific finished goods. Manufacturing plan provide schedule for the purchasing of materials according to the amount of final product that is to produce. Thus, this has a huge impact in the stock, transaction, delivery and trade (ERPNext, 2020)

The production planning function main goal is to secure distribution of high quality deliver to the customers and keep consistency in the product quality. Product planning process ensures some functional component as: (Raj, 2021)

- Plan the production process for the selected and design product
- Estimate the actual production capacity
- Scheduling the production activity
- Quality, cost and inventory control

Inventory management: Every business operation however big or small has to maintain inventory. Inventory in any organization is necessary thing and require careful planning and formulation of policies keeping in view the best interest or organization. Inventories is a asset of a company that is produced for trade and elements which make up finished goods. Basically, manufacturing firm holds three types of istock such as: raw material, work in progress, final produts and supplies and spare parts. (Wild, 2017) Stocking of raw materials obey important role of growing the varieties of functioning through an order that starts with the ingridents flow through the production units to the formation of final produts staging space and then to distribution centreor directly to retailer shops. (Williams, 2008). Following are some importance of inventory management are listed below: (Bose, 2006)

- It provide efficient and effective trading.
- When materials from the supplier are delayed and so as the selling of final product is declined then inventory reacts as hedge commodities.
- Pipeline stocks are important as the notable portion of tempo is absorb within transshipment of unit from own locality to other.
- This management system helps in maintaining the financials by holding fluctuation, while order of the product vary or periodic.

Basically, inventory associated with two type of cost as: carrying cost and ordering cost. Carrying costs ae associated with physically storing a product, while ordering costs are the costs of placing order. These inventory cost have increase relationship. More the increase in carrying cost, ordering cost fall and vice versa. (Bose, 2006)

Distribution Resource planning (DRP): Distribution resource planning (DRPII) is a planning process that involves coordinating the purchasing materials, schedule operations, logistics and planning of resource capacities (Institute of Logistics and Warehousing, 2021). The planning process determine the right quantity of finished to be delivered to the distribution centre or warehouses so as to meet the planned demand. Distribution resource planning is also known as the extended version of Distribution requirement planning (DRPI). It depends upon the actual demand signal such as customers orders which has been used to plan the gross requirement of supply source. Challenges in DRP is due to the high levels of demand variability. The main aim of DRP is to identify

that the right amount of goods are produced from the manufacturing unit and deliver it to various distribution centre and to the end customer. The planning process requires different inputs data to optimise the operation as: Sales forecast, Revenue forecast, start inventory and security stock. The benefits that Distribution Resource Planning (DRP II) are: (Martin, 1992)

- It provide reduced inventory levels and cost.
- Productivity of manufacturing facilities is efficient
- Reduce distribution cost
- Enhance the capabilities to forecast inventory levels and cash flows.
- Efficient deliveries increases the customer satisfaction levels.

Sourcing

Sourcing process explains activities such as ordering, delivery, receipt, storage and transfer of raw materials, sub-assemblies to the production. This process includes purchase orders, scheduling deliveries, receiving orders, validating orders, sourcing goods and manages the suppliers invoices. For the development of a company strategic sourcing plays a vital role. Strategic sourcing enable negotiation for the appropriate price and quality that a manufacturing unit require for the products. The main objective of sourcing process is to maintain a long-term relationship with suppliers and increase productivity while controlling inventory. (Gottfredson, 2005) Following are some steps for effective sourcing: (Supply chain Council, 2012)

- Requirement planning
- Communication with suppliers
- Inventory control
- Managing supplier
- Selecting suppliers

- Warehousing
- To make an optimal decision, consider the application of supply and demand.

Strategic sourcing is a continuous process of activities where managers understand the additional opportunities and improve the finding to bring more value to the firm. Therefore, sourcing strategy is essential for the firm to negotiate lower unit price for large volume purchase. A properly defined sourcing strategy helps to minimize risk and analyses the overall spend and suppliers. (Handfield, 2011)

Warehousing refers to the storage of materials so as to maintain inventory and flow of good from and to the storage location. The materials or product are safely and systematically stored in a warehouse so that it is easy to track and distribute accordingly on a scheduled time frame. The main function of warehousing is to stock, maintain and control the work-in process, inventory. (ShipBob, 2021) Warehouses are important so to keep the price of the product stable and available whenever needed. It is mainly used by Manufacturers, distributor, wholesaler and retailer business. Depending on the types of material of packaging of the product different types of warehousing solution is implemented to manage the warehousing operation. By ensuring speed of delivery and consistency of delivery, warehousing reduce cost and improve customer satisfaction. Following are some functions of warehousing: (SYMBIA Logistics, 2021)

- Warehouse management: The term warehouse management refers to the management of the activities such as trained the worker, follow safety rules, handle the inventory and equipment and communication throughout the delivery of goods.
- Warehouse operation: The operation throughout the warehouse involve movement of inventory at warehouse that is inbound or outbound. Different activities related to warehousing operation are goods received, storage of material at proper location and moving the material within or out from the manufacturing place.
- Warehouse Management System: The management of warehouse with the use of technology that is software used in the warehouse. Warehouse management system plays an important role to improve supply chain management through managed order fulfilment while receiving raw materials from suppliers. Such type of management software provide easy tracking and management of inventory and all the warehouse operation. By

optimizing inventory storage, workload distribution and shipping orders, warehouse management system helps to increase efficiency and reduce the time taken to complete the orders. There are plenty of warehouse management software available in market among these some are highlighted as: NetSuite warehouse management, Fishbowl, Sphere warehouse management system, Infoplus, Oracle warehouse management, SAP warehouse management system Korber etc. These warehouse management system software ensures warehousing and fulfilment operation to be efficient and assist users in performing warehouse function as receiving, storing and dispatch of materials. Beside this, this system helps to automate the various supply chain operation as store, produce, inventory and asset management. (LogisticsBrew, 2021)

To achieve the benefits of warehousing, following elements of warehousing are important: (Mason S.J., 2003)

- For easy access of products and storage racks and shelves systems are recommended.
- To keep the product safe from external calamities and danger, precaution and security mechanism is installed.
- A management system refer to as warehouse management system is implement to control inventory and track the staff performance.
- Equipment's required to move materials inside the warehouse and loading onto the vehicle. For example forklifts, conveyor belt, pallets inbound outbound facilities to load and unload a vehicle and safety equipment as boots and gloves to staffs.

Making

The make process emphasize on production and manufacturing which include activities that is related with conversion of raw materials to final goods to reach the targeted demand. During the making process activities such as: gathering, chemical mixing, supporting, restore, rebuild, reuse, renovate, producing and many more routine types of material-transformation operation are performed. (Chen, 2009) After manufacturing of final product, based on a decision to make to stock production activities such as packaging, quality control and releasing product. The conversion of raw materials into finished goods adds value for the product which intern increases

the price of finished product. Efficient manufacturing leads to higher productivity and cost saving (Indeed, 2021). Following are different steps of making process: (Supply Chain Council, 2012)

- Scheduling Production activities
- Raw materials ordered
- Production and Packaging
- Quality check and staging
- Ready to deliver
- Waste management

Deliver

The processes that includes activities related fulfilling and management of orders from various customers to meet targeted demand is known as deliver process. After completion of quality check the finished goods at temporary warehouse is delivered to the distribution centre and to other customers. Basically, this process involves transportation of finished goods from the factory to Distribution centre and then to retailer stock. The main aim of delivery is to provide efficient and effective distribution so as to meet the targeted demand and fulfill the customers demands. (Unilever Nepal, 2018)

Transportation is referred to as the real distribution of materials from the original station to final destination stop in terms of supply chain perspective. The selection of transportation mode is based on the type and quantity of materials as well as the distance that the goods cover throughout its journey throughout this delivery process transportation play vital role in supply chain operation by moving goods from its origin to consumable point and adds value on the product. Selection of transportation mode is based on the quantity and volume of product and the final destination. Different forms of transportation to deliver goods are: Road transport, Sea Transport, Railway, Airway and Pipeline transportation. In this delivery process transportation provide a planned structure of distribution of materials or goods from the area of production to the final destination of consumption throughout the supply chain process. (Chopra, 2013)

Return

According to Mollenkopf (2007), defines return process as a management of all the return activities such as reverse logistics, product defect and waste disposal. The effective management of return process generates profit to firm and also create impact on relationship between firms and customers and the final consumers. Such impact also represent firms reputation with its stakeholders. Reverse logistics can be seen as an issue to sustainable development of the firm. The effectiveness of a firm's return management process is associated with the right strategic decision and practices. The settlement process on return of products is to manage the return products from the custome. (Mollenkopf, 2007) This process includes activities like return authorisation, reverse logistics, returns processing and return settlement. Bringing those products to in a new value chain life cycle: to bring the product back into its life cycle the return product is passed through different life cycle as: Reuse, Recommence, Repair, Refurbishment, remanufacturing, recovery and at last recycling, (ShipBob,2021)

2.3 Developing Supply chain process

Vendor managed inventory system

Vendor managed inventory system is an agreement within a supply chain in which manufacturers, suppliers and customers manages the flow of materials based on the sales of final product and control their inventory through the information shared from the downstream customer to upstream suppliers.. In vendor managed inventory system stock is return for the buyers or customers in absence of reorder. Here retailer shares its sales and inventory information with its vendor so that vendor can determine order size. (Dong, 2002)

Basically it is owned by the vendor but it is operated under the buyer or retailer premises. Here are few points that identifies the working of Vendor managed inventory system: (Yao, 2007)

- For the vendor managed inventory both the retailer and vendor agreed for the specific goals to meet targeted demand. This agreement defines stock performance, inventory turnover rate and cash flow. While rest of the agreement is based on whether or not the

retailer pay for the inventory or on sale to the end user and how to return excess inventory.

- Vendor delivery to the retailer.
- Through retailer sales pattern and inventory levels of product, vendor plans its supply chain management.
- Based on demand forecast and lead time, vendor makes a reordering and replenishment calculations.
- Finally, the planner of the vendor analyses the calculation and places the replenishment orders.

The concept of vendor managed inventory is to create significant benefits which creates win-win strategy to both vendor as Manufacturer and retailer as Grocery Shops. They are (Yao, 2007):

- From the retailers point of view, this technique reduces the risk of loss of inventory are not sold.
- It helps vendor to analyses replenishment order so that the vendor can optimize its inventory management.
- Vendor getting access of inventory management process of retailer helps to combine retailer inventory data with their familiarity and lead times so as to eliminate the need of extra stock.
- Through establishment of consistent replenishment with a VMI system the uncertainty of random and periodic ordering will be eliminated. This provide vendor manage the lead time with the demand.
- Reduce the loss of over stock.
- It consent to manufacturer to control the manufacturing stock of warehouse at a given time and this results in decrease in amount of in-transit inventory.

In conclusion Vendor managed inventory system purpose is to smoothen the flow the materials or goods from upstream suppliers to downstream customer with lower cost and greater insight into changing demand and provide effective supply chain management. Also, the information from the

retailer and supplier are simply with the help vendor managed inventory system which leads to profit maximization in short time. (Scott, 2021)

Truck Load Management system

Truck load management system refers to a platform which plans, execute and optimize the goods to be delivered. This platform was designed to refine the supply chain management concerned as a transportation solution. The main goal is to improve transportation efficiency by reducing cost and gain a real time visibility of supply chain. The major users of this type of platform are manufacturers, distributor, wholesalers, retailers and third party logistics provider. It also plays a significant role by directly taking responsibility for transporting a significant volume of goods. This system plan both medium and long distance transport routes and optimize the loads between entire fleet of vehicles. Few benefits so truck load management system are: (Hedyla, 2021)

- Reduces transportation cost
- Provide appropriate plan for loading a truck
- Optimize the distribution of loads between vehicles
- Fleet size and characteristics are optimized
- Increase delivery capacity

This system generated an optimal plan for daily deliveries while minimizing the size of fleet, delivery plan and total transportation cost. The primary task of this management system is to consolidate the consignment so as to maximize the payload capacity in which load planning allows to optimize by mixing and matching loads based on the size of paper box i.e. CLD, destination, size of container and capacity of vehicle. For example, different type SKUs transported to different destination have to combine bigger paper box packages small volume packages so as to free up enough space and optimize the loading of the truck. A functional and planning process allows to handle higher demand without the increase of fleet or workforce. The effective arrangement of loads on the truck reduces the lead time to distribution as well as save transportation cost. (OptimoRoute, 2021)

Warehousing Solution

Warehouse is a place where different types of SKUs are stored and managed in a proper manner. Inventory and stock are the items that are stored inside the warehouse. The flow of materials from the supplier need to be managed properly. For the systematic management and storage of huge amount of materials in the warehouse, different types of warehousing techniques have been used so as to handle, assemble and flow the material to the production. Usually, warehouse storage is either bulky or racking system. Bulky materials are stored on the pallet that utilizes the warehouse space whereas small items are stored on the racks so as to utilize the available height of the warehouse. Basically, the rack system storage in a warehouse involve storage equipment such as: pallets racks, heavy duty shelving and high density storage system. The demand for the extra space is overcome using the high-density storage system which results in increase of enough utilization of existing space. Also, for inventory system as: first in first out (FIFO) which has few connection that is based on huge compact system is acceptable. (Thomas, 2021) Below are the two different types of racking system which can be implemented for best management of materials flow in a warehouse. They are: (Elvedi, 2021)

Standard Pallet Racking: It is also known as pallet racking or selective pallet racking system. Such type of racking system is mostly used all over the world. It is also considered as cheap, flexible and can store lots of SKUs in such system. Though it needs a lots of space. For such racking system, it takes 25 to 50 Euro per pallet. (Elvedi, 2021)

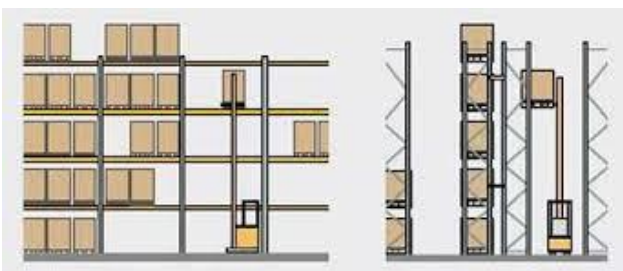


Figure 5 Standard pallet racking . (Elvedi, 2021)

Small item shelves: In such system, it is easy to make different kind of combinations which can be extended from 1 to 3 floor. Basically, the aisle width is around 1 meter and the depth of the

shelves is 30 to 60 centimeter. To pick the small materials from the rack, this system should not exceed 2.1m, so the ladder is not needed. (Elvedi, 2021)



Figure 6 Shelve racking system (Elvedi, 2021)

Transfer and handling: For the transfer of materials or goods to and from the storage include forklift of various types such as: pallets, handheld forklift, scissors etc.. Forklift are invented to raise both the pallet and operators to the range of storage of goods in a rack. And that of for bulky materials the picking case can be done manually with either handheld forklift or electric forklift as the other lifting equipments used to move through differentone locations.. Beside this various types of conveyor system can be used in warehouse for the movement of materials of goods picked. Handheld forklift is also known as pallet jack which is commonly used in warehouses to lift andnd move pallets and material handling applications. It is a most basic type of forklift that intends to move pallets within warehouse only. The capacity of suck pallet jack is upto 1.5 tonne. (Thomas, 2021)



Figure 7 Handheld forklift truck (Equipment telematics, 2016)

Wakie Stacker is an electric walk-behind forklift that is capable of raising and lowering the pallet from and to the rack. It can be used in such situation when there is racking system in a warehouse. The manufacturer of wakie stacker are: Hyster, Jungheinrich and Toyota. Based on the models from the manufacturer this type of forklift lifts upto 2500 lb. Th maximum height it goes upto is 12 feet. (Toyota forklifts, 2021)



Figure 8 Wakie stacker (Toyota forklifts, 2021)

Warehouse managment Software

Warehouse management systme software is a technology platform which offers appropriate visibility of the inventory so as to manage the supply chain order fulfillment. Such system enables companies coordinate resources and optimize the movement of materials or goods. (Oracle, 2021) This type of software can be used to manage the inventory of a warehouse as well as route the movement of materials that involves receive, take away, pick and delivery. Basically this WMS systems has been designed to imrove supply chain which involve distribution, manufacturing, inventory control and service firms. Through the use of such managment sytem for efficient warehousing operation can be carried out and a effective logistics activities are performed in short time rather than a month long. (Oracle, 2021)

3 Results

3.1 Current state of supply chain process of Unilever Nepal Limited

The supply chain process of Unilever Nepal Limited starts with planning the demand and supply raw materials from different tiers of suppliers so as to meet the targeted demand and then through operation delivery finished products to different tiers of customers and consumers.

To make the supply chain management of UNL efficient and effective, the supply chain process followed by UNL relies on five different processes: planning, sourcing, making, delivery and return, based on an interview with supply chain manager Sagar Giri. The structural supply chain process of Unilever Nepal limited is presented through the figure below (Unilever Nepal Limited, 2018):

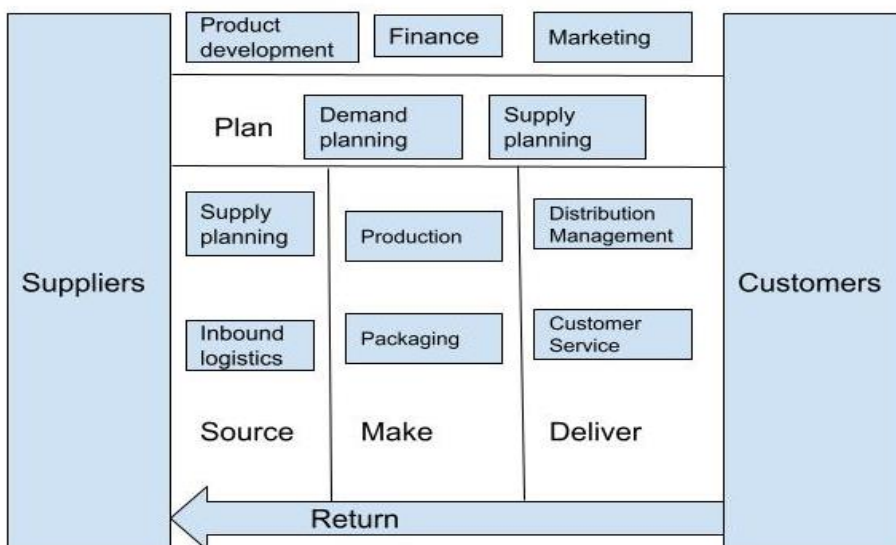


Figure 9 Supply Chain process structural view (UnileverNepal, 2018)

Based on the interview and training material provided by the Unilever Nepal Limited, the planning process is separated in two different parts as: demand planning or forecasting and supply planning. Thus, the planning demand involves collection of necessary information or data from various business sources as sales data, seasonal data, and historical data so as to forecast the next twenty-six weeks demand. With the help of ERP system the forecasted demand is provided to the supply chain team at the factory. From here the supply planning team starts planning team

consolidates the forecasted demand data so as to plan the material requirement and production and distribution of raw materials from the supplier to the firm.

According to the training material and direct observation, it is concluded that this planning process contain all short-term, mid-term and long-term plans and schedule to perform different set of activities. The flow of planning demand and supply is visualized clearly from the figure below:

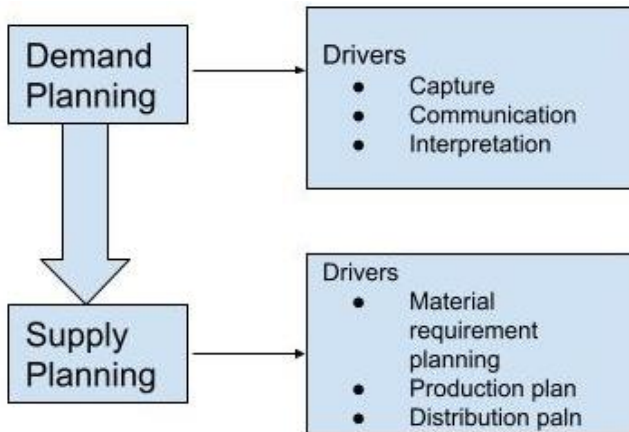


Figure 10 Planning process of Unilever Nepal (UnileverNepal, 2018)

The next step of supply chain process of UNL is sourcing which involves purchasing of raw materials from different supplier to meet the forecast demand. In this step, UNL supply chain involves relation development with suppliers, current business scenario, vendor selection, negotiation and contract establishment and management. The process flow of sourcing step is visualized as follows:

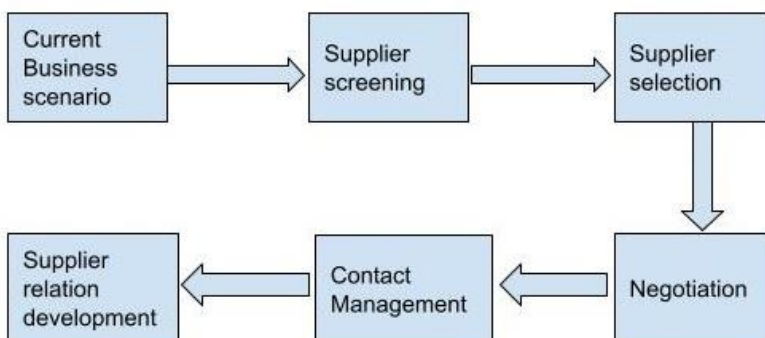


Figure 11 Supply management of Unilever Nepal (UnileverNepal, 2018).

Based on the current business scenario, UNL announces for quotations to all the key suppliers as well as post tender notice through national articles. After getting quotations from the various suppliers, UNL reviewed all the quotations based on the supplier profile, previous performance and categorized the supplier and proceeded its vendor contract agreement. An agreement policy is signed by both parties based on price, delivery terms, agreed time frame and right quantity with right location.

Under the agreed policy both parties manage its supplier relation through communication, regular support and involve Research and development of product to add value. Though UNL operates its own manufacturing inside Nepal, it shares its business globally. The other side of sourcing concentrates on Inbound logistics planning. Inbound Logistics refers to an inflow of materials into the manufacturing firm warehouse. The activities associated with the inbound logistics are delivery, receiving, receipt and storing.

Based on an agreement policy supplier releases the order of the firm to third-party transporters outsourced by the firm. After that the materials are received at the manufacturer warehouse with proper verification of the document that contains details of the materials and transport. Basically, company storage facility are divided into two different categories namely raw material as (RM) warehouse and packaging material as (PM) warehouse.

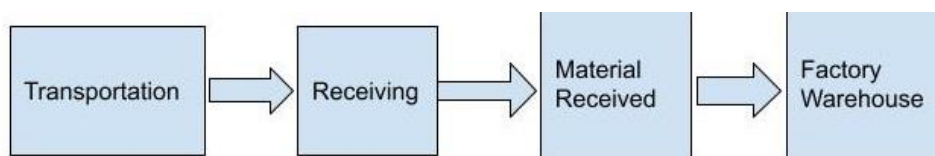


Figure 12 Inbound logics process of Unilever Nepal (UnileverNepal, 2018).

The third step is recognised as a production of finished goods through conversion of raw materials. The raw materials are released as per the production plan from the raw material warehouse to the production staging area of every plant where mixing, Chemical processing, machining and forming a specific processed material like detergents, shampoo, Soap and other various items.

After formation those items are packed in different packaging material as per its quantity and design. For example toothpaste is finally packed in carton and its lid is sealed through a machine and through conveyor it is packaged into a paper box i.e. CLD. Each CLD is design based as per each product design..

The production process runs 24/7 and work is done in three shifts. After packaging of different items in different sizes CLD. This CLD is pushed to the nearby Finished Goods staging area for some time until the Quality team checks and verifies that every CLD is well packaged and this process takes upto one day. After verifying the quality the goods are ready for distribution. The fourth supply chain process is recognized as the order fulfillment phase.

To meet the targeted demand from end consumers, company pushes its finished item stocks directly to its two distribution centres located at Chitwan and Narayanghat.. The means of transportation used is heavy trucks of size from 4 to 21 toones as per availability from different transport companies.

The distribution of finished goods starts from factory finished goods staging area and further delivered to two different distribution centres. Thus, from these two different distribution centre of company all of its 4500 outlets from east to west of Nepal received different products and sale to the end customer. Finally the end consumer consumes the various brands of Unilever products through local retail shops, department stores, and supermarkets.

The fifth process is recognised as a returnor reverse logistics concept. It occurs when there is any defect in materials found after distribution of finished goods to the customer pheripheri. The complaints are received through the customer service of the company and as per the scenario the quality department verify the feedbacck and as per the scenario, return back the whole batch if needed. This process can be done as returning from the customer warehouse to the factory warehouse and the examination of the defected product is done, as per the scenario either it is reused and repacked or disposal safely.

3.2 Realtime business case

In this section the author examines the two different business cases assigned by line manager during the trainee period between September to December 2021. Based on the examination of these two cases, development needs are figured out and discussed through analysis part of the thesis.

Case 1: Warehouse space utilization

Inside the factory, storage material is divided into four different categories: Soap Raw Material (RM), Soap Packaging Material (PM), Personal Product Raw material (PP RM) and Personal Product Packaging material (PP PM). For the storage of these raw materials and packaging materials, the company has one Raw material warehouse and another packaging materials warehouse.

Besides this, the company has one more warehouse outside the factory which is hired to keep raw materials only and is operated by a third party. The company manages to supply raw materials to its Third party manufacturing partners through 3PL warehouse service provider as well as directly deliver to third party manufacturing facility. The supply of raw materials from supplier has a lead time of 30 to 45 days to reach at factory warehouse.



Figure 13 Storage space and operation

Also due to the fluctuation in monthly demand, the demand planning team, communicate with production team to stop the production of that product item which results in freezing of all raw materials and packaging material. Therefore this extra stocking of some raw materials and increase of other product demand leads to increase such raw materials and its packaging materials. This results in increase of safety stock and of lots of raw materials stocked utilizes space in the warehouse. With the increase of demand of the consumer goods, the storage space has not been expanded and results in lack of storage space. This issue results in full space utilization of warehouses so that some heavy raw materials are kept outside the factory openly.

Secondly, The warehouse space is not effectively and properly managed. Based on the observation and survey, the area of RM warehouse is 743.2243 square meter and packaging materials is 695.78 square meter. Materials are kept on the plastic pallet of dimension 1.2*1.2*0.8 meters. Here based on the calculation the available space for palletization in RM and PM warehouse is 654.21 and 605.45 square meter respectively. This available space is obtained by subtracting the unused area (that is left for transferring and handling materials within the warehouse space) by the total area of the warehouse. After then the no of pallets used in the warehouse is calculated based on the available space to keep the pallet on the floor divided by the pallet area that is 1.44 square meter. Thus it is noted that there are 455 pallets in a RM warehouse and 423 pallets in pallets. Material height is upto 1.82 meter as per safety rules. However, the materials are of different sizes as heavy materials which includes tanks, drums, and medium sizes as bags, paper boxes, gallons, paper bins and many other small packages of raw materials. The pallet used for storing different SKUs has the maximum capacity of 1.5 tonne.

During the intern period it is noted that for raw material storage the required number pallets is about 605 pallets and for packaging materials 575. Based on the observation it is noted that the usable height in this warehouses is upto 12 feet but due to safety rules and the techniques and equipment available in a warehouse materials are stored only upto 6 feet height that is 1.82 meter.



Figure 14 Raw materials handling and storage

Though the heavy raw material and small paper box and bin packaged material occupy the full area of the pallet but still there is an issue in full pallet capacity occupancy and sometime utilizes whole pallet area with few quantity. Whereas heavy materials like drums and tank can not be piled vertically which also results in full pallet space occupancy but not the capacity due to safety height rules. This results in full utilization of warehouse space. That is why few raw materials like tank and drum packaged materials are kept openly outside the factory space due lack of pallet space inside the RM warehouse. To handle the material unloaded and supply to the production, there are two handheld forklift as warehouse equipment. The warehouse space utilization issue has direct impact on materials safety and materials handling.



Figure 15 Material handling

Case 2: Distribution of Finished goods from Factory

This case describes the flow of finished goods from factory to Distribution center. Throughout, distribution process every finished products are packed into a paperbox i.e CLD. Each SKUs produced by the company has a specific design CLD with different dimension. There are three staging area and docking point for vehicle for finished goods and after quality check it is directly loaded on a truck. A telescopic conveyor is used to load CLD from the staging area to the container of a truck.



Figure 16 Loading of Container truck with Telescopic conveyor.

Basically, the distribution of finished goods from the factory depends on the reorder placed by two distribution house of Unilever and other retail store. Based on the order from each distribution centre vehicle is selected. Usually, truck capacity used to deliver finished goods from the factory to distribution centre are 9-15-21 tonne. While loading different sizes of CLD on the truck to fulfill the order of vehicles are ordered from the transportation company. While observing the loading process as per the order, Truck is placed on each production line for example there is an order of 255 CLD of Life bouy soap then the truck is placed in the Soap Finished good staging location from where each CLD is placed in the container floor serially making a stack height of 7 CLD (i.e paper box). After this if the truck is fully loaded based on the volume or truck loading capacity it is then directly delivered to destinated distribution house, otherwise unless the volume of the container is occupied as per the order truck is move ot other Finished goods staging area where other product item is loaded based on its ordered quantity. In such a way the distribution process of finished goods from the factory to the distribution center is done. While obseving the loading process, it is noted that some prodcut item occupy the full vclume capacity of the container but cannot reach

to full load capacity and some cannot use the full volume capacity due to because of the stacking height limit. For instance: while loading "Sunsilk Black 650 mililitre" (sache) item, based on its paper box design, it occupies full volume but cannot give full load capacity of the container. Whereas, another product item "CAC hair oil 175 mililitre" cannot be top loaded in a container due to because of its maximum stacking height limit upto 7 CLD (i.e. paper box).



Figure 17 Truck Container Loading

It is also noticed that due full volumetric capacity utilization, full load capacity of the the container is not reached such as: 9 tonne of container is only loaded upto 7 tonne of load which give only 77 percent utilization of a truck and results in increase of transportation cost. It is observed that the stack height of each product item is loaded on the container is 7 CLD vertically which results in vacant of top loading space based on the truck actual loading height which is upto 1.98 meter.

3.3 Issues and Recommendation

Analysis of information collected is done through the SWOT Analysis.

SWOT Analysis of warehouse

Based on the real time business case scenario discussed in chapter 3, these are the identified strength, weakness, opportunity and threat in a supply chain process of the company.

Table 1 SWOT Analysis of warehousing system

<p>Strength</p> <ul style="list-style-type: none"> • large storage space • Vacant Usable height • Multiple warehouses to manage raw materials and packaging materials 	<p>Weakness</p> <ul style="list-style-type: none"> • Gowdown storage system for storage of raw materials • Poor material handling and management • Cross border and supplier lead time issue • Fluctuation and uncertain demand
<p>Opportunity</p> <ul style="list-style-type: none"> • Expand space through warehousing system • Upgrade the equipment • Increase productivity • Effective warehouse management 	<p>Threat</p> <ul style="list-style-type: none"> • Material is a risk as it is kept at open space. • Storage space is full. • Traffic in material handling, loading, unloading and assembly and forwarding to production.

Recommendation:

After reviewing the theoretical framework from literature and the current supply chain process and real time business case for warehouse utilization the development of supply chain process are discussed and for warehouse space optimization it is recommended that, upgradation of godown storage system to warehousing system. Also, through the use of Vendor managed inventory it is easy to manage and control inventory. If the consumption of finished products is known with the help of Vendor managed inventory system, there will not be uncertainty in demand forecasting. This results in appropriate supply planning which intern manage the flow of materials in the warehouses. Godown storage refer to as unorganized form of a warehousing system. While the warehousing system refers to the management of storage space, inventory, materials and many other activities related to warehouse management.

It is recommended that company can optimize its storage space by making shelves racking system for the small assembly of raw materials and also can built a standard pallet racking system so as to make more free space to store more raw materials and mitigate the risk of damage of materials and storage space scarcity . Also, company need the Wakie stacker forklift truck to handle materials which are stored on the racks properly either for unloading form the container or forwarding to the production. Therefore, the implementation of VMI is only possible with the super market because in Nepal there is a local retail supplier in every footsteps. Furthermore, for efficient operation and proper management of material, company can implement warehouse management system purpose through the literature review.

SWOT Analysis of Distribution of Finished Goods

Based on the real business case scenario discussed in chapter 3, the strength, weakness, opportunities and threat in distribution of goods are identified.

Table 2 SWOT analysis of distribution of finished goods

<p>Strength</p> <ul style="list-style-type: none"> • Automated container loading • Separate space for docking and loading container • Lots of manpower for loading 	<p>Weakness</p> <ul style="list-style-type: none"> • Limited option for selection of vehicle types • Systematic load planning in a container • Limited stack height of finished goods
<p>Opportunity</p> <ul style="list-style-type: none"> • Reduce transportation cost • Full Truck load capacity utilization • Improve distribution and overall efficiency 	<p>Threat</p> <ul style="list-style-type: none"> • High transportation cost • Reduce supply chain efficiency • On time fulfilment of orders

Recommendation

This truck load management software is beneficial to place all the boxes on the container reducing risk of material damage as well as utilize as much space so as to arrange the boxes in a proper way and no any extra space will be vacant and results in Full Tuck load utilization. The whole truck volume and its capacity is calculated through this truck load management software such as Container loading problem (CLP) solver tool and is mainly developed to reduce the transportation cost. This Container loading problem uses bin packing technique in which different sizes of boxes are properly arrange next and up to each other so as it reduces damaging of the container as well

as increase the loading capacity of the container. This results in increase of load ability up to 95 percent as per demanded by the line manager of UNL. However, the new setup for the warehouse space is high but in a long term and as per the current scenario, company can expand its existing warehouse and manage the flow of materials. In case of truck space optimization, company can spend certain amount on this such of Truck load management system software so as to use full truck load capacity and save the transportation cost. The below picture shows the visualization from CLP solver tool in container is loaded based on the requirement provided to the tool such as paper box dimension for different SKUs, each box weight, container capacity and its dimension.

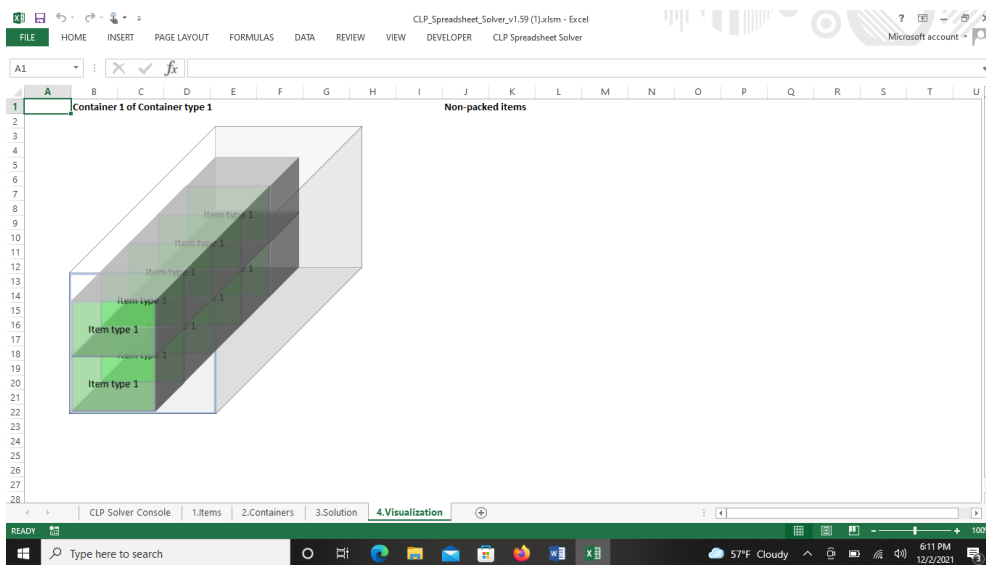


Figure 18 Visualization of container loading through CLP solver tool

The arrangement of different sizes of boxes are visualized through this container loading problem solver tool. This tool provides proper arrangement of paper boxes on the surface of the container. This tool arranges the paper boxes by placing the maximum weighted boxes at the bottom and light weighted boxes on top, so as to reduce the damages to the light boxes.

There are many other various truck load management software and tools to manage the container and place as much paper boxes as possible inside the container. The proper arrangement of boxes inside a container results in more boxes to fit in the container and reduces the transportation cost by reducing the number of vehicles.

4 Discussion

This thesis begins with the study of Nepalese FMCG market. In Nepal there is lots of scope in FMCG market due to growing middle class population. Unilever Nepal is recognized as one of biggest multinational fast moving consumer goods Company. Through this thesis author got the opportunity to study the supply chain management of Unilever Nepal. To formulate this thesis author has worked as Supply chain intern in this company from September to November 2021. During this period author has collected primary as well as secondary data through direct observation, interview, literature, articles, journals and vast internet sources. Author has formulated three research question to study the supply chain management of Unilever. While formulating the research question and finalizing the topic, author has discussed with the line manager and thesis instructor so as to understand what kind of theoretical framework does this thesis required.

During the trainee period author has learned the training material provided by the company related to the supply chain operation. But through direct observation and interview author analyses the current scenario of supply chain process of Unilever. Also during this trainee period author has worked in two real time business cases as Warehouse and truck space utilization and optimization. Through observation the ongoing process of supply chain and real time business cases, author analyses the issues related to the business cases through SWOT analysis. The analyzed issues are discussed with the line manager and seeks for best possible solution. While seeking for the best possible solution different types of solution are reviewed through literature. Finally, based on the current working order of the company best possible solution to manage the warehouse through modern techniques of racking system and upgrading the warehouse equipment and implement warehouse management system and truck load management system is purposed to the company to improve supply and distribution of materials of Unilever Nepal. Thus with the improved supply and distribution will reduces the cost provide efficient and effective supply chain management. The solution purposed by the author is reviewed by the line manager and marked as accepted. Furthermore, line manager shows his interest to apply the suggested solution and will discuss about the implementation with the stakeholders. Finally the objective of the thesis is achieved by answering the research question and suggesting the best possible suggestion to the company so as to improve supply chain management.

5 Conclusion

According to the main objective of the thesis to study the current scenario of supply chain process of Unilever Nepal Limited so as to identify the issues and suggest the company with best possible solution. The author has achieved the objective of the thesis by developing the three research question as a principle to this thesis project.

Here, the initial research question is acknowledged through the section 3 of 3.1. Basically, the supply chain process of Unilever Nepal Limited can be visualized based on the perspective of planning the demand, sourcing raw materials based on the targeted demand and scheduled the production to make the final product. After making the product directly delivered to the customers and consumers. While delivery or if in case there is any issue in the final product there is return process which is also as reverse logistics process planned by Unilever Nepal. The first process is the planning phase which has been divided into two subdivisions as demand planning and supply planning. Similarly, make refers to the production of finished goods through operation of raw materials. Furthermore, the process continues with the delivery of finished goods to its final customer and in case of any issue from customer or consumer end, the return of product is done. Thereafter, the second research question is answered through chapter 3 of 3.2 and 3.3. From Unilever Nepal supply chain process, two different real time business cases are reviewed and issue related to supply and distribution of materials are identified through the SWOT analysis. The two different issues are warehouse and truck space utilization. Finally, the last research question is answered through the chapter 3 of 3.3 through recommendation. The issue related to supply and distribution can be developed through warehousing solution and truck load management system.

In Conclusion, the implementation of VMI is only possible with the super market because in Nepal there is a local retail supplier in every second house steps. Therefore, based on the suggestion provided to the company for two different real time business scenario cases to improve supply chain management is without proper quantitative analysis. So it is concluded that this thesis have been purely formulated based on theory only. Therefore, the future recommendation to improve this thesis to use quantifiable data and for instance proper cost analysis for the racking system and warehouse management system and formulate the simulation model to visualize the load ability of the truck and optimize the container space.

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Appendices

Appendix 1. Interview Questions

Following are some interview questionnaire to Mr. Sagar Giri, Supply Chain Manager, Unilever Nepal Limited.

1. What are the products manufactured by Unilever Nepal Limited?
2. How many manufacturing facility does Unilever have in Nepal?
3. How to do visualize the supply chain structure of UNL?
4. How do you categorize whole supply chain process in terms of Planning, Sourcing, Making, Delivery and Return and what activities are involved inside each process category?
5. How do you describe the distribution UNL products to its end customer?