

Report On

Direct dispatch automation study of Unilever Bangladesh Ltd.

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Declaration

It is hereby declared that

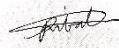
The practicum report submitted is my own original work while completing Masters in Procurement & Supply Management degree at BRAC University.

The report does not contain material previously published or written by a third party or any other candidate except where it is appropriately cited through accurate referencing.

The report does not contain material which has been accepted, or submitted, for any other degree at a university or other institution.

I have acknowledged all main sources of help.

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Abbreviations/Synonym/Acronym:

Depot. – Distribution warehouse

SKU- Stock keeping unit

SOH – Stock on hand

SIT – Stock in transit

OO – Open order

DD – Direct dispatch

DP – Demand planning

SNP – Supply network planning

IC – Inventory cost

Chapter 1:

Background of the practicum:

Every organization nowadays searches for the opportunities of cost savings in supply chain operation & automation is the best possible way to reduce some operational steps to gain some cost savings. Years after years, FMG organizations are following traditional factory-depot-distributor-retailer model for materials movement in supply chain & some of the companies are trying to by-pass some intermediate parties to reduce logistics & inventory costs. In this area, direct dispatch can serve as a perfect example of removing one enter one layer of supply chain operations by transferring the finished goods direct from factory to distributors (Avoiding depot transfer). When goods are sent directly from factory to distributors, it is known as direct dispatch process. Throughout this report, we will discuss on how we can implement direct dispatch model in supply chain for the studied organization.

Brief introduction of studied organization:

Unilever plc is a British multinational consumer goods company headquartered in London, England. Unilever products include food, condiments, ice cream, wellbeing vitamins, minerals and supplements, tea, coffee, breakfast cereal, cleaning agents, water and air purifiers, pet food, toothpaste, beauty products, and personal care. Unilever is the largest producer of soap in the world. Unilever's products are available in around 190 countries.

Unilever owns over 400 brands, with a turnover in 2020 of 51 billion euros and thirteen brands with sales of over one billion euros: Axe/Lynx, Dove, Omo/Persil, Heart (Wall's) ice creams, Hellmann's, Knorr, Lipton, Lux, Magnum, Rexona/Degree, Lifebuoy, Sunsilk and Sunlight.

Unilever is organized into three main divisions: Foods and Refreshments; Home Care; and Beauty & Personal Care. It has research and development facilities in China, India, the Netherlands, the United Kingdom, and the United States.

Unilever was founded on 2 September 1929, by the merger of the Dutch margarine producer Margarine Unie and the British soap maker Lever Brothers. During the second half of the 20th century, the company increasingly diversified from being a maker of products made of oils and fats and expanded its operations worldwide. It has made numerous corporate acquisitions, including Lipton (1971), Brooke Bond (1984), Chesbrough-Ponds (1987), Best Foods (2000), Ben & Jerry's (2000), Alberto-Culver (2010), Dollar Shave Club (2016) and Pukka Herbs (2017). Unilever divested its specialty chemicals businesses to ICI in 1997. In the 2010s, under the leadership of Paul Polman, the company gradually shifted its focus towards health and beauty brands and away from food brands showing slow growth. [\(Wikipedia, n.d.\)](#)

In this particular study, we have analyzed on Unilever Bangladesh Ltd (A concern of Unilever plc). Unilever Bangladesh Limited is a consumer goods company based in Dhaka, Bangladesh and founded in 1964, engaged in the manufacture and distribution of home care products, personal care products, and foods. It is a joint venture of the Government of Bangladesh and Unilever. (Devex, n.d.)

Rationale behind selected topic for the practicum:

Supply chain cost is one of the major cost incurring portions of any company and every company tries to cut down the cost elements as much as possible. There can be many ways to reduce the supply chain cost & automating the process is one of them. After studying the current practices of Unilever Bangladesh, we have identified a major cost saving opportunity by implementing direct dispatch operation (Transferring finished goods directly from factory to distributors (By passing transportation to depot. from factory)). We understand that the process will eliminate one full step of supply chain operation which will make significant savings. Hence, we have tried to analyze more on this topic.

Objective of the practicum:

Main objective of the practicum is to analyze the possibility of implementing direct dispatch operation in supply chain for Unilever Bangladesh Ltd.

Chapter 2:

Overall supply chain flow:

Unilever Bangladesh generally sells the products to end customers through distributors. The organization has 6 factories which are located in Chittagong, Gazipur & Tongi where the finished goods are manufactured. There are total around 300 different SKU's as finished goods. After manufacturing, the goods are transferred to regional depots. There are 7 regional depots available which are located mostly in divisions like Dhaka, Chittagong, Khulna, Bogra, Barisal & Sylhet.

The depots store the goods on behalf of Unilever and the ownership of product lies with the organization.

Regional depots are necessary to fulfill the demand of regional distributors. There are 230 distributors across Bangladesh & every distributor is tagged to a depot. (Gets the products from that particular depot only – Nearest in distance). To be more specific, dispatching products from depot to distributor means, Unilever has sold to product to distributor. From here onwards, product ownership lies with the distributors.

Furthermore, distributors sell the products to the retailers & then retailers sell the products to end customers. Hence, we see, the distribution model is Factory → Depot. → Distributor → Retailer → End customer.

How the organization manages the supply chain flow:

End to end supply chain process of Unilever Bangladesh is fully automated. To accomplish this, the organization uses an ERP software (SAP) which has different modules like production planning (PP), advanced planning & optimization (APO), sales and distribution (SD), finance & control (FICO), quality management (QM), plant maintenance (PM) & supply network collaboration (SNC).

Forward demands of the customers are generated in the system based on historical data & based on this demand, material requirement planning (MRP) is run in system & daily production plans are automatically generated, and factories produces products based on this plan. So, to generate production plan, system considers multiple factors like forecast, inventory status, availability of equipment and human resource, availability of raw materials and packaging materials, capacity of machines & other risk factors. All these things are configured in the software and no manual intervention is required.

In addition to the production plan, purchase requisitions (PR) and purchase orders (PO) are also created in system after MRP run & no manual intervention is required for this. Hence, the purchase of raw and packing materials are also fully automated.

There is a portal called supply network collaboration (SNC) where distributors place their daily orders. Based on distributors' past sales record and future demand, a proposed order is generated for them in the system & they can modify this value to a maximum and minimum level. They place orders for all 300 different SKUs as per their need. After their order placement, it flows to our system & products are allocated to them based on stock in their nearest depot.

Direct dispatch opportunity:

As we have seen so far, distributors receive products from their nearest depot plant. But there is an opportunity to send the products directly from factory to the distributors if the order size is large enough. This is called direct dispatch. By implementing this process, we can save a large logistics & inventory cost by reducing the stock movement. For example, there is a distributor who resides in Tangail and usually takes stocks from Dhaka depot. So, for that distributor, stocks are sent from factory (Chittagong, Gazipur or Tongi) to Dhaka depot & then from Dhaka depot to the distributor in Tangail. But the order size of the distributor can be high enough to fulfill a minimum truck load fill and hence in this scenario, the products could have been directly sent to distributor location from the factory. In that case, transferring the products to the depot. won't be required which will save both logistics cost of transferring the goods to that depot and inventory cost of stocking the product in depot.

Implementation plan of direct dispatch:

Implementing direct dispatch modality is not as easy as it seems. There are hundreds of variables associated with this. There are total 300 SKUs available and it is not possible to maintain it manually. Hence, there has to be some system-based control. The logic to build this kind of system-based control is very complex.

The organization has already a tool called “Allobot” which is an allocation tool that allocates stock against distributors' orders in stock constraint situation. This allobot tool considers all the variables of different scenarios during stock allocation. Before the implementation of direct dispatch modality, Allobot tool only considers stock allocation from depot to distributors based on distributors' demands. This direct dispatch modality can be developed in this tool.

Currently following things are considered in this tool:

- Stock on hand (SOH): Stock on hand refers to the total stock available in distributors' warehouse.
- Stock in transit (SIT): Stock in transit refers to the stock that has been sent from depot., but still hasn't reached the distributors' location.
- Available fund: Available fund refers to the fund available at distributor's account. Without available fund, system won't allow to send the product to the distributor.
- Norm quantity: Distributors' norm quantity refers to the highest stock that should be available in distributor's warehouse at any given point of time.
- Open order (OO): Open order refers to the previous order that has still not been serviced.
- Available stock: Available stock refers to the stock of products available to be serviced from depot.

Based on above parameters, system first generates order for the distributor and then allocates stock based on depot, stock availability.

Order generation formula: $\text{Generated order} = \text{Norm} - \text{SOH} - \text{SIT} - \text{OO}$

In system, distributor has the option to overwrite this generated order by a highest and lowest tolerance limit which is controlled by Unilever customer service team. After distributors' confirmation, the order flows to our allocation tool (Allobot) and the allocation happens for all the distributors at one go.

For stock constraint situation, system allocates stocks to the distributors based on starvation logic (The distributor who needs more stock depending on his stock situation will get more stock during allocation run). There are more than 300 SKUs, and this process is automatically done for all of them without any manual intervention.

To implement direct dispatch modality, there needs to be one more layer of logic in the system. Before allocating stock from depot., system will check factory stock & try to allocate first to the distributor from factory stock depending on the lot size of the order as truck load fill is important. For example, a distributor from Savar has ordered for 17-ton of products. Nearest depot of this distributor is Dhaka depot. Out of this 17-ton product, 12-ton stock is available in factory and can be directly dispatched to distributor's warehouse. Hence, dispatch plan will be generated in a way that 12-ton will be delivered from factory and rest 5-ton will be delivered from depot. It will save big amount of logistics cost & will increase service level.

Chapter 3

Conclusion:

The main objective of supply chain -decision is always to reduce overall cost & by implementing direct dispatch model, a huge amount of logistics and inventory cost will be saved. It also eliminates an entire layer of supply chain operation which makes it more automated & brings more control. Furthermore, data driven decision making for direct dispatch means there will be less errors in calculation & the output coming will be more accurate & error free. By implementing this process, there can be an enormous cost savings as the goods will be directly sent to the distributor from the manufacturer avoiding depot transfer which would involve additional logistics & inventory costs Hence, every FMCG organization of similar model can try to implement & incorporate the same in their operation which will add much value.

References

(n.d.). Retrieved from Wikipedia: <https://en.wikipedia.org/wiki/Unilever>

(n.d.). Retrieved from Devex: <https://www.devex.com/organizations/unilever-bangladesh-150365>