RESEARCH REVIEW JOURNALS
Volume-03
Issue-11
November -2018

ISSN: 2455-3085 (Online)
RESEARCH REVIEW International Journal of Multidisciplinary
www.rrjournals.com [UGC Listed Journal]

Lean Thinking in Supply Chain Management with an Insight into Warehouse Safety

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ARTICLE DETAILS

Article History
Published Online: 10 November 2018

Keywords
Supply Chain Management, Warehouse safety, Housekeeping, Logistics

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ABSTRACT

Lean Thinking in Supply Chain Management with an Insight into Warehouse Safety refers to the process of evaluating the importance of lean thinking in supply chain management (SCM). Lean thinking refers to the practice of taking every possible cost out of the system, cost cutting in lay man's terms. The decision of incorporating the warehouse safety was included on the recommendation of our industry guide. Warehouse safety is one of the most important aspect that not only helps in protecting the warehouse but also contributes at a large in lean management. Keeping the goods safe will reduce the cost that otherwise would have incurred in case the goods were damaged. The objectives of this project are to evaluate how cost cutting can be done in the present scenario of the SCM systems being followed by the Godrej & Boyce Mfg. Co. Ltd. The costs incurred in housekeeping, logistics and day to functioning and how can be controlled. The paper throws light the various aspects of the company and how they conduct their works. This report is based on the methodology of personally interviewing the people involved in the SCM process either directly or by the means of logistics. Since there are not many people who know about the processing of a supply chain, personal interviews were conducted with the officials working in the company and the visiting people such as the proprietor of the logistics company etc.

1. Introduction

Supply Chain Management transformation is a strategic imperative for any manufacturer. This new perspective, one that will continue to gain importance, sees all suppliers and customers as part of one complex supply chain network and understands that transforming that supply chain into a synchronized chain is the primary goal.

Supply chain management transformation provides fast access to relevant and accurate information. This timely supply chain information can pay off handsomely in lower costs, less inventory, improved throughput, shorter cycle times, and the highest levels of customer service. The very essence of supply chain management is effective information and material flow throughout a network of customers and suppliers. By using the Internet, companies simply have better and more far-reaching ways to speed up the information flow process and make it more effective.

For many companies, it is now clear that the supply chain that best manages the flows of both information and material can significantly differentiate itself from its competitors. As customers and suppliers band together in mutually beneficial partnerships, the need for better and better supply chain management processes and systems becomes more critical. Within the boardroom, improving supply chain management is getting lots of attention because forward-thinking management teams know it is the best strategy to increase and maintain market share while at the same time increasing profits. Experts now agree that in many industries, market share will be won and lost based on supply chain performance.

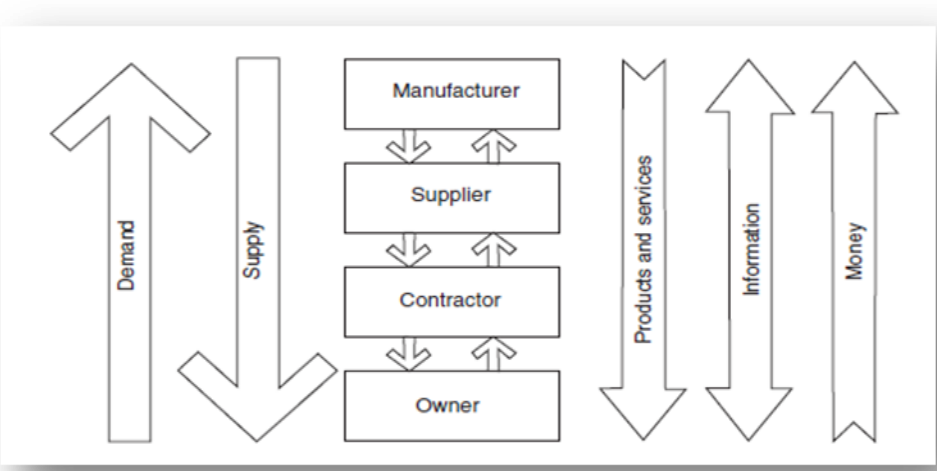
Good supply chain practitioners know that information should be passed on only to those who need to know it, when they need to know it, and in the form they need to have it in. Changes in demand information, inventory positions, order fulfilment, supply management, and a whole host of other information exchange activities will transform how we sell products, supply products, and make and receive payments for goods and services. Tomorrow's supply chain will link customers and suppliers together seamlessly throughout the world. The higher speed of information flow itself will in turn mandate faster flows of material, which only lean manufacturing operations can generate.

Executive management is taking a good hard look at supply chains and finding a dysfunctional mix of processes, policies, systems, communications, performance measures, and organizational accountability. Some of these processes are clearly functionally divided silos; those barricaded "power pockets" of the internally focused corporate hierarchical maze that was the standard for decades. Other processes are hybrid and include everything from manual order entry to faxes and phone communications and e-mail. Still other processes reveal the current trend toward full electronic communication and collaboration throughout the supply chain, including automated order entry, delivery tracking, and inventory planning systems. Whatever the exact mix, it is clear that most companies have a long way to go before they will have fully transformed their supply chain for the twenty-first century.

2. Essential Components of SCM

Like manufacturing processes, supply chain processes involve the flow of information and materials. The information flow precedes and causes material to continue (or stop) flowing through the supply chain. Thus, your supply chain material flow will, by and large, only be as good as the information that drives it. The supply chain management overview diagram depicts the flows of information and material and their relative timing. Manufacturers need to develop supply chain management processes and systems to support this model's

components. It is important to understand the distinctions between these components and what position each holds in the supply chain.



Throughout the supply chain, there are some absolutely critical and predictive event questions your system should accurately and quickly answer:

- When will specific orders really ship?
- Which orders will be late?
- Why will these orders be late?
- What are the specific problems that are delaying the schedule?
- What are the future schedule problems and when will they occur?
- What is the best schedule that can be executed now?

3. Lean Thinking in Supply Chain

Lean Thinking will always strive to drive the cost out of the system. Several components such as effective route planning, using better logistics and using ERP systems for a company's functioning are used.

Lean Thinking in Supply Chain incorporates the following points:

Creating Value

Lean principles focus on creating value by:

- Specifying value from the perspective of the end customer
- Determining a value system by:
  - Identifying all of the steps required to create value
  - Mapping the value stream
  - Challenging every step by asking why five times
- Lining up value, creating steps so they occur in rapid sequence
- Creating flow with capable, available, and adequate processes
- Pulling materials, parts, products, and information from customers
- Continuously improving to reduce and eliminate waste

"Waste" Reduction

The "Waste" reduction process begins with the question "What can we do to improve?" Some answers may include:

- Stop defective products at their source
- Flow processes together or change the physical relationship of components of the process
- Eliminate excess material handling or costly handling steps
- Eliminate or reduce pointless process steps
- Reduce the time spent waiting for parts, orders, other people, or information

4. Components of the Lean Supply Chain

- Lean Suppliers
- Lean Procurement
- Lean Manufacturing
- Lean Warehousing

Lean warehousing means eliminating non-value added steps and waste in product storage processes. Typical warehousing functions are:

- Receiving
- Put-away/storing
- Replenishment
- Picking
- Packing
- Shipping

Warehousing waste can be found throughout the storage process including:

- Defective products which create returns
- Overproduction or over shipment of products
- Excess inventories which require additional space and reduce warehousing efficiency
- Excess motion and handling
- Inefficiencies and unnecessary processing steps
- Transportation steps and distances
- Waiting for parts, materials and information
- Information processes

5. Lean Transportation

Lean concepts in transportation include:

- Core carrier programs
- Improved transportation administrative processes and automated functions
- Optimized mode selection and pooling orders
- Combined multi-stop truckloads

- Cross docking
- Right sizing equipment
- Import/export transportation processes
- Inbound transportation and backhauls

6. Objectives of the Project

Although lean thinking is typically applied to manufacturing lean techniques and focus are applicable anywhere there are processes to improve, including the entire supply chain. A lean supply chain is one that produces just what and how much is needed, when it is needed, and where it is needed. . This means focusing on each product and its value stream. The most important thing to remember is that lean is not simply about eliminating waste—it is about eliminating waste and enhancing value.

The objective of the project is to study each and every aspect in the supply chain mechanism that can help reduce cost throughout all the processes of the system.

The method used to gather the information during my project was **Personal Interview** method. People were approached who were working in the organization and people who were in a way associated with the **Supply Chain Mechanism** at **Godrej & Boyce Mfg. Co. Ltd**.

7. Conclusions and Recommendations

Conclusion

As a result of the studies conducted in the warehouse regarding the importance of lean thinking in supply chain management we can say that the lean process is slowly and steadily being incorporated into the company's old business model. New routes are being developed and more efficient logistics team is being provided the work. There are just a few loopholes in the warehousing process which can be taken care of with little effort from the Middle and Top Management of the company.

The stocks and excess inventory are a major source of cost in the business. The costs of holding stock include:

- The **opportunity cost** of working capital tied up in stock that could have been used for another purpose
- **Storage costs** include the rent, heating, lighting and security costs of a warehouse or additional factory or office space
- **Bank interest** , if the stock is financed by an overdraft or a loan
- **Risk of damage** to stock by fire, flood, theft etc; most businesses would insure against this, so there is the cost of **insurance**
- Stock may become **obsolete** if buyer tastes change in favour of new or better products
- Stock may **perish** or **deteriorate** – especially with food products

The ERP solutions have helped improve the business of the companies in a great manner. Though the BAAN ERP has certain limitations, talks are on in the company to assign a new ERP system very soon.

Goods are sent to the destinations either using the logistics team or the courier services in case of smaller orders. However the courier services costs about 4 times than that of the goods being transported through the logistics team. Therefore, the courier services are usually discouraged and an order might be delayed due to unavailability of the logistics support on the route that particular day.

Godrej & Boyce Mfg. Co. Ltd. is a firm which conducts a business of about Rs. 300 Cr. per year. The Banur Warehouse is the mother warehouse for the northern region and the team handling the warehouse was awarded the awards for being the

Best Warehouse Northern Region and **Best Housekeeping Team.**

The Banur Warehouse supplies the entire state of Punjab, Himachal Pradesh and Jammu & Kashmir. Having a support warehouse in Industrial Area Chandigarh- which caters to the needs of the Chandigarh city and a few parts of Haryana i.e. up to Kalka. The company also has a support warehouse in Jammu which deals with the needs of Jammu & Kashmir.

Recommendations

1. Improved Software

Inventory management is a wonderful idea, but it has to be carried out correctly. Some suggestions for successful implementation of inventory management are to have the best software available for one's company. This does not necessarily mean the most expensive, or technologically advanced. Rather, having the best software to suit the needs of the particular company. It is also important to have highly trained personnel working on inventory management. Employees must be able to adjust to changes in demand and supply as quickly as possible. As a business grows, its processes get harder to manage. More suppliers, more stock on hand and more staff (all signs of a thriving business) needs 'more system'. A stock control system works by reducing the amount of admin needed to sell. How? Firstly a good stock control system will eliminate double entry, you only have to enter a sale once, the stock is updated automatically purchasing is advised and invoices are transferred to an accounts package such as Sage with just a few clicks.

Secondly, integrating it with customers, suppliers, website and carriers further reduces the double entry. If the customers can place an order online, you then import it automatically, allocate stock or place orders with your supplier and finally advise the carrier to make the delivery with a single click (or less); one will soon see that fulfilling sales can be the slickest part of your business. This level of automation is what a good stock control system can achieve, quite simply.

The next key benefit of stock control is better cash flow. If a company has hundreds or thousands of stock lines it becomes impossible to predict its stock requirement. This often leads to over ordering and over stock and cash tied up in slow or non moving stock can seriously impact a company's ability to react to fluctuations in sales or purchasing. A stock control system can calculate thousands of movements on thousands of stock lines in seconds, not only speeding up the

purchasing process but reducing the normal human tendency to over order.

Not all stock systems are the same, some are quite happy to count stock but the real benefits come from managing the supply chain as well. Knowing the lead times, alternative suppliers and seasonal trends take a simple stock count and turn it into tool managers can use to scale their business up without the extra resources one would otherwise expect.

The Baan ERP system is a cause of major work hauls at times. The tasks are delayed just because the BAAN server is down and hence increases the cycle time. Moreover, the server has many shortcomings and limitations.

2. More Racks and palettes

The service department can certainly use more palettes and racks as the service department, especially the appliance service section that comprises of so many spare parts, which are often very small in size. Since Godrej is very strict about the norms of stacking they do not put any parts on the floor. Due to lack of racks and palettes the parts are put inside boxes and stacked in existing racks. This increases the cycle time as it takes more time to find the spare parts. In addition a novice may not be able to find the parts in the service area.

3. Maintenance of old records

The old records should be protected more efficiently than the way they are kept at present. They are stacked in old cupboards and documents are placed in haphazard manner. Finding an important document inevitably takes long and wastes priceless time. An electronic database would be a good idea to save space in the warehouse.

4. Basic amenities

Basic amenities such as washrooms, medical facilities and canteen area should be constructed and improved. During lunch time employees generally get their food from nearby *dhabas*. Then they make up some space in one of the offices in the warehouse where the seating arrangement is as low as three or four. All other employees consume their lunch standing and at unease. The water filter, recently constructed, is also outside the storage area. Keeping employees refreshed and alert is in direct correlation with their performance.

5. Location

Location is a matter of debate as the current location suffers from power outages every day, disputes with the locals, etc. Since, the place is in the middle of a village that suffers from regular power failures. This not only results in increased expense on electricity generators but also interrupts work.

6. Bar Coding System

Bar-coding system should be incorporated into the inventory. The bar-coding will help in easy maintenance of the inventory reducing the need for PIC- Perpetual Inventory Count. Stock is physically counted before transmitting out and on receiving. To err is human and when such huge volumes of stock (worth both in quantity and monetary value) are to be handled every day, any mistake could be very costly for the company.

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