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Chapter 1: Basic Principles of Supply Chain Management

Objectives

- Define and understand supply chains.
- Understand why supply chains are necessary in the new environment.
- Appreciate new security regimes and impact on supply chains.

1. Definition

The philosophy of SCM extends the concept of partnerships into a multi-firm effort to manage the total flow of goods inventory from the supplier to the ultimate customer.

The chain is viewed as a whole, a single entity rather than fragmented groups, each performing its own functions.

Supply chain management (SCM) is the optimization of the flow of goods and information from suppliers to the final customer.

SCM begins and ends with the customer.

The delivery of enhanced customer and economic value through synchronized management of the flow of physical goods and associated information from sourcing and consumption.

“The management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole”.

(Christopher, 2011, p3)

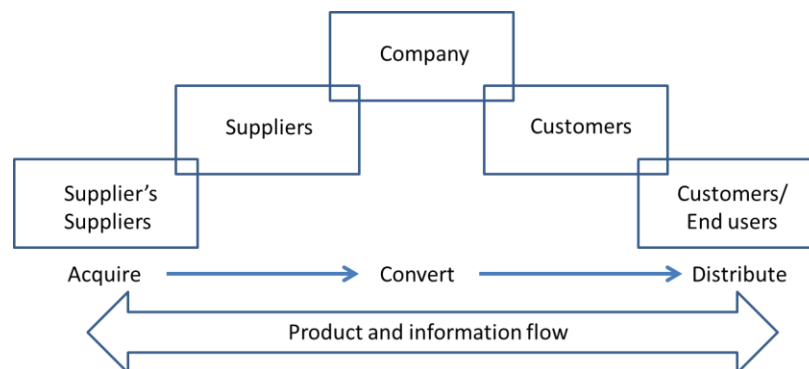


Figure 1-1: Scope of the Modern Supply Chain (after Ballou, 2004, p27)

The model describes the following:

Every facility has an impact on the entire supply chain.

The supply chain management is to be efficient and cost-effective.

The supply chain encompasses and integrates the firm's activities.

2. Goal and Objectives of SCM

The objectives of an SCM are to:

- Get the right product to the right place at the least cost.
- Keep the inventory as low as possible and still offer superior customer service.
- Reduce cycle times from raw material to finished good, including delivery.

3. Reasons for SCM

3.1 Business environment is in constant transformation:

- Globalization of markets and competition. Complex logistics, sourcing and distribution problems.
- Consolidation, downsizing and outsourcing.
- Customer driven demand and increasing customer expectations.
- Increasing cost pressures.
- Shorter product life cycles.
- Accelerating pace of technology change.

4. Current Business Environment

4.1 Customers are Demanding

- Customized products
- Faster delivery
- Higher quality
- Lower cost

4.2 Corporations are Competing through:

- Customer responsiveness

- Market reach
- Cost and time
- Quality and service

5. For a corporation to be viable, it must possess:

- Customer responsiveness
- Agility, adaptability
- Operational efficiency
- End-to-end supply chain integration
- Strategic use of information and technology for competitive advantage.

6. Improvement in Operating Efficiency

- Reduce Inventory
- Reduce lead/cycle times
- Reduce material costs
- Optimize resources
- Reduce waste
- Eliminate non-value added
- Continuous improvement

7. Benefits of SCM

The benefits that can be derived from an effectively managed SCM are:

- A streamlined and integrated procurement process
- Improved customer satisfaction
- Simplified and improved forecasting
- Better management of suppliers
- Reduced inventory

- Closer relationship between suppliers, manufacturers and consumers
- Improved cash flow
- Greater flexibility in meeting customer demand
- Lower administrative costs
- Improved bottom line

8. Construction of A Typical Supply Chain

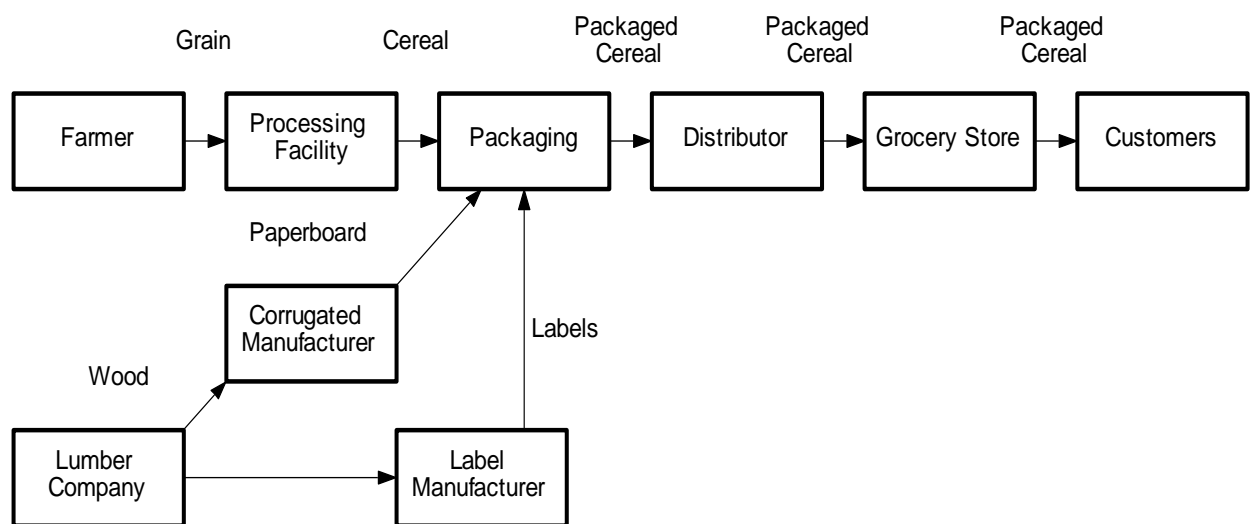


Figure 1-2: An Example of Supply Chain (after Handfield & Nichols, 1999 p4)

Before we end this chapter on supply chains, it is obvious that some supply chains are less complex whilst others are tall and broad.

Figure 1-2 is an example of a supply chain.

Figure 1-3 is a simple model. The supply chain shows the integration of supply chain partners. The process of integrations requires these partners to share information and allow physical products to flow seamlessly from one to the other.

When this occurs, integration has taken place. Integration may be considered as a product of collaboration. In turn collaboration allows logistics solutions to be implemented with ease.

These logistics solutions include JIT, CPFR, MRP and VMI.

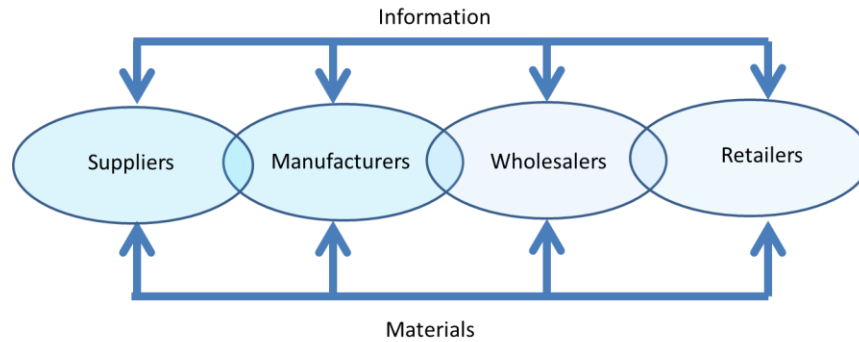


Figure 1-3: Simple Model of Supply Chain

Figure 1-4 is a typical example of automotive supply chain.

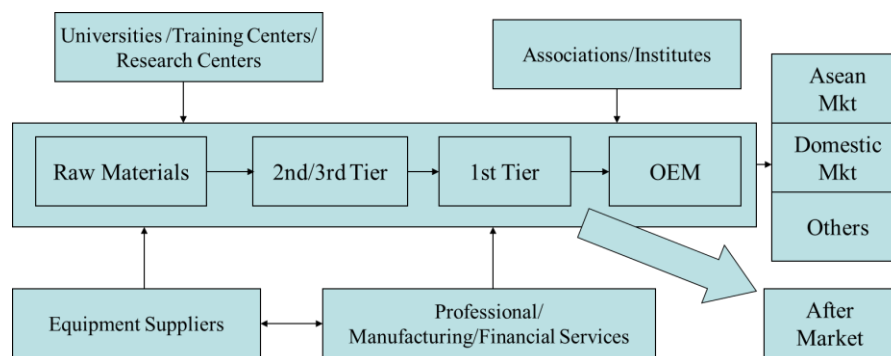


Figure 1-4: Automotive Supply Chain

A more complex supply chain is the automotive supply chain. There are many partners. The relationship between each partner can be described as a web where each entity has a relationship with others simultaneously.

9. Conclusion

The chapter begins by understanding the definitions of supply chains and why supply chains are necessary in the new millennium shaped by changing customers' demands, short product life cycle and other factors.

The chapter ends with governmental initiatives to ensure supply chains are preserved and protected and trade continues to flow seamlessly between countries.

What was covered was the integration of supply chain meaning the alignment and interlinking of business processes.

This subject focuses on collaboration. It is a relationship between entities over a period of time. Integration is an enabler of collaboration.

Supply chains which practice collaboration will allow the facilitation of systems such as JIT, MRP, CPFR, VMI and others. These will be covered in the next few chapters.

References

1. Christopher, M. (2011) Logistics & Supply Chain Management, 4th Edition, Pearson, Great Britain.
2. Ballou, R.H (2004) Business Logistics / Supply Chain Management, 5th Edition, Pearson, New Jersey.
3. Handfield, R,B and Nichols, E.L. Jr (1999) Introduction to Supply Chain Management, Prentice Hall, New Jersey.