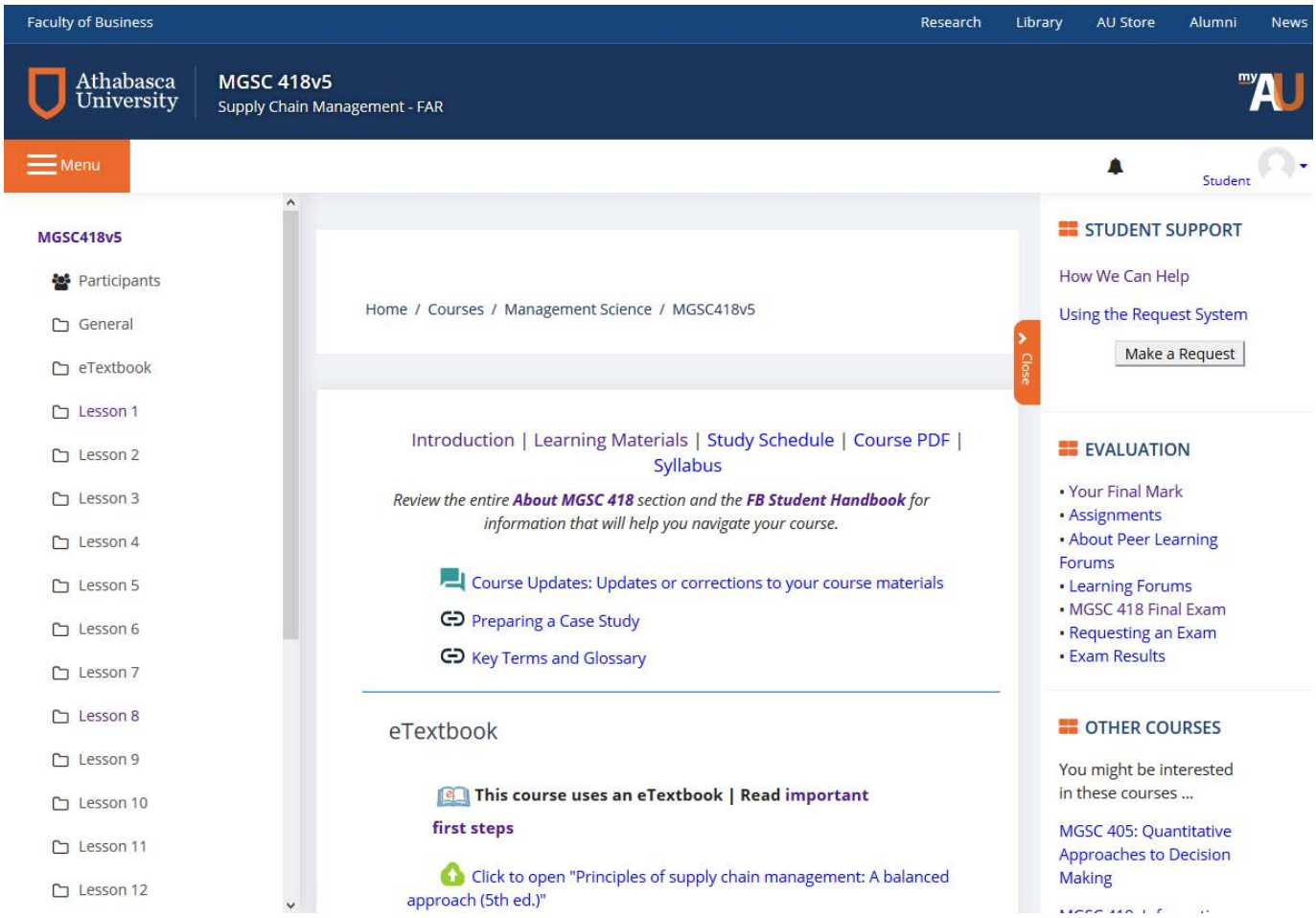
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Lesson 1: Introduction to Supply Chain Management

Learning Objectives

After completing Lesson 1, you should be able to

1. describe a common supply chain and provide examples.
2. define *supply chain management (SCM)* and outline the objectives of SCM.
3. describe the critical elements of successful SCM.
4. identify the important issues across the critical SCM elements.
5. explain the challenge that vertically integrated firms have in accruing their intended benefits.
6. explain the role of location in SCM activities.
7. describe the historical development of SCM, and discuss how supply chains have increased their speed of operation throughout their development.
8. describe the bullwhip effect, and explain its impact on a supply chain.

Learning Activities

Readings

- Read Lesson 1 Notes.
- Read Chapter 1 in the textbook.
- Watch the YouTube presentation, "What Is Supply Chain Management?" (8:05)

Questions and Problems

- Complete Discussion Questions 2, 5, 11, and 15 (textbook, pp. 24–25). Suggested answers are provided at the end of this online lesson.

Review Activities

- Work through the Review Activities at the end of this lesson.

Lesson Notes

Description of a Supply Chain (p. 5)

A supply chain comprises the flow of products and services from raw materials to consumer-ready finished products. It can be easily understood in association with traditional production cycles in which some firms are providing raw materials to other firms that are manufacturing products. Finished products are then delivered to other firms who sell these products to customers (Figure 1.1, textbook, p. 6). This type of relationship could be extended to all companies that provide various products or services.

The links in the supply chain are connected by transportation and storage activities. Integration is achieved through sharing information, planning, coordination, teamwork, trust building, and common decision making. Once all these links in the chain are integrated, the chain becomes competitive—it is partnership that works to achieve common goals. Integration allows multiple companies to react quickly as one unit, which results in enhanced responses to changes in demand on the marketplace.

Definition of SCM (pp. 5–9)

There are various definitions provided by competent professional associations such as the Institute for Supply Management, the Association for Operations Management, and the Council of Supply Chain Management Professionals. Common to all the definitions is the idea of coordinating or integrating the activities among the chain participants to improve efficiency, quality, and customer service so as to gain competitive advantage for all of the organizations in the chain.

Importance of SCM (pp. 9–11)

The reciprocal sharing of future plans between a firm and its customers and suppliers, and the willingness to work together have positive consequences in terms of enhanced productivity, cost savings, quality improvement, and service enhancement. Independent planning and the lack of supply chain coordination lead to the *bullwhip effect,* in which erratic demand leads to the inclusion of safety stock, which then increases supplier forecasts (Example 1.1, textbook, p. 10). SCM is aimed at reducing costs (limiting the bullwhip effect) and improving the coordination of activities among the members of the supply chain (supply chain synchronization).

Significant benefits of SCM include reductions in

- amount of inventory
- number of suppliers
- time needed to handle complex products
- time to respond to customers with large purchasing budgets.

In general, a firm follows these steps in implementing an SCM program:

1. Start working more closely with key suppliers.

2. Improve ties with other chain members: shippers, customers, and suppliers.

3. Improve ties to second-tier suppliers and customers.

History of SCM (pp. 11–14)

A number of significant developments have occurred in SCM over the last six decades:

- 1950s—mass production (cutting costs by improving production efficiency)
- 1960s—materials management (inventory management and cost control)
- 1970s—improved inventory management (introduction of computers, detailed bill of materials, materials requirement planning)
- 1980s and 1990s—global market developments (total quality management [TQM], just-in-time [JIT], business process re-engineering [BPR]) that have resulted in SCM
- 2000s to present—integrated applications (SAP, PeopleSoft, Oracle), outsourcing, 3PLs, EDIs, closer long-term relationships within supply chains, global competition between supply chains, increasing buyouts and mergers, integration using electronic commerce components, focus on environmental and social impacts of SCM

Foundation Elements of SCM (pp. 14–21)

The four foundation elements of SCM (see Table 1.1, textbook, p. 14) are as follows:

Supply	long-term relationships with suppliers, alliance partners, and strategic sourcing; also known as *purchasing management*
Operations	better forecasting and responsiveness for inventory using various techniques such as demand management (CPFR, MRP, ERP, JIT, TQM, lean systems, Six Sigma quality)
Logistics	improved logistics such as transportation, customer relationships, network (re)design, and service management; also known as *distribution management*
Integration	critical information systems linkage and sharing, which includes coordination/integration of responsive systems, global integration efforts, and measurement of key performance indicators (quality, accuracy, timeliness, and cost)

Current Trends in SCM (pp. 21–23)

Although the practice of SCM by itself is a relatively recent phenomenon, some newer trends have emerged:

- using supply chain analytics (make better business decisions with the help of big data)
- expanding/shrinking the supply chain (together with the market, in breadth with foreign sites and in depth through second- and third-tier suppliers and customers)
- increasing supply chain visibility and responsiveness (as firms must become more flexible and responsive to customer requirements and market changes to increase competitiveness)

- greening of supply chains and improving their sustainability (which is encompassed in the general effort of governments and firms to reduce environmental problems and impact on future generations)

- reducing supply chain costs (which occurs in time with increased knowledge and experience, benchmarking successful supply chains, and continuously adjusting activities to improve performance)

Practice and Review

Key Terms

To test your understanding of some of the key terms and concepts for this lesson, try some of these key terms exercises.

Practice Quiz

Complete the Lesson 1 true/false and multiple-choice quiz. The link to the practice quiz is also on the main *MGSC 418* course page.

Short-Answer Questions

Answer the following questions on your own, and then check your responses against the suggested answers on the next page.

1. Explain the benefits of supply chain management.

2. Can nonprofit, educational, or government organizations benefit from supply chain management? How?

3. Discuss the differences between supply chain partnerships of the past and those that are developed today.

4. Define the terms *third-tier supplier, third-tier customer,* and *focal firm.* Provide examples.

5. Is the use of a large number of suppliers a good idea? Explain your answer.

Review any questions you answered incorrectly, and clarify any learning difficulties or issues with your academic expert.

Key Terms & Glossary

The activities below are provided to help you practice and self-assess your knowledge of the key terms and definitions found throughout the course.

Click Glossary for the terms and definitions found in all the lessons. You may click **All** to see all the terms and definitions for the course listed in alphabetical order.

The definitions were written with these activities in mind, so they may have been shortened. Your textbook is the best source of complete definitions.