Chapter Outline

# Chapter 14: Lean Operations and Supply Chains

***See pages 500-530.***

Operations Profile: Lean Operations at Rolls-Royce Indianapolis

 Introduction to Lean Operations

 The Philosophy of Lean Systems

 Elements of Lean Systems

 Workflow and Throughput

 Pull Systems Versus Push Systems

 Focused Factories

 Value Stream Mapping (VSM)

 Quality and Lean Systems

 Lean Six Sigma

 Quality at the Source

Consider This 14.1: Calculating Takt Time

 Plant Layouts That Balance Workflow

 Stable Schedules

 Faster Setup Times

 Group Technology

 Kanban Systems

Operations Profile: Kanban Systems at Dell

 Reduced Inventory

 Improved Product Designs

 Lean Services

Operations Profile: WIPRO Limited and Lean Software Development

 Lean Supply Chains

 Characteristics of Lean Supply Chain

 Full Collaboration Among the Supply Chain’s Partners

Operations Profile: Lean Operations at Exempla Lutheran Medical Center

 Transparent Information

Operations Profile: Wal-Mart’s Lean Supply Chain Operations

 Lean Logistics

 Performance Measurement and Continuous Improvement

 Lean Global Supply Chains

Operations Profile: Lessons Learned: Crocs: Getting Off on the Wrong Foot

 Sustainability Issues

 Chapter Summary

 Key Terms

 Discussion and Review Questions

 Solved Problem

 Problems

 Case Study 14.1: Lean Global Supply Chains and Boeing’s Dreamliner

 Case Study 14.2: TAL Apparel and JCPenney

 Video Case

 Critical Thinking Exercises

 Appendix 14.1: Value Stream Mapping Symbols

 Appendix 14.2: Steps for Developing a Value Stream Map