 9.1 Explain the systems perspective' and identify seven principles of systems thinking that can improve your skills as a manager.

 9.2 Describe the **value chain** and **value web** concepts' and discuss the controversy over off shoring.

 9.3 Define **supply chain** management' and explain its strategic importance.

 9.4 Identify the major planning decisions in production and operations management.

 9.5 Explain the unique challenges of service delivery.

 9.6 Define **quality** ' explain the challenge of quality and product complexity' and identify four major tools and strategies for ensuring product quality.

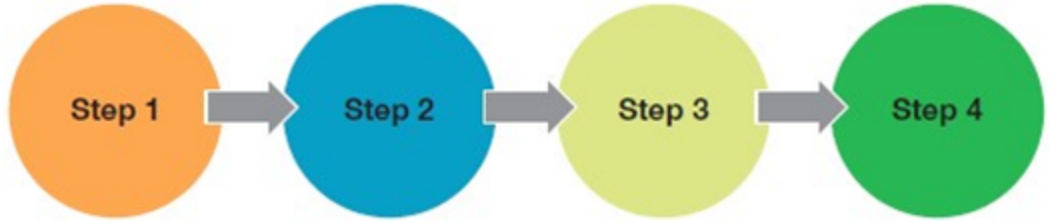
 9.7 Explain the concept of Industry 4.0 and the

The Systems View of Business

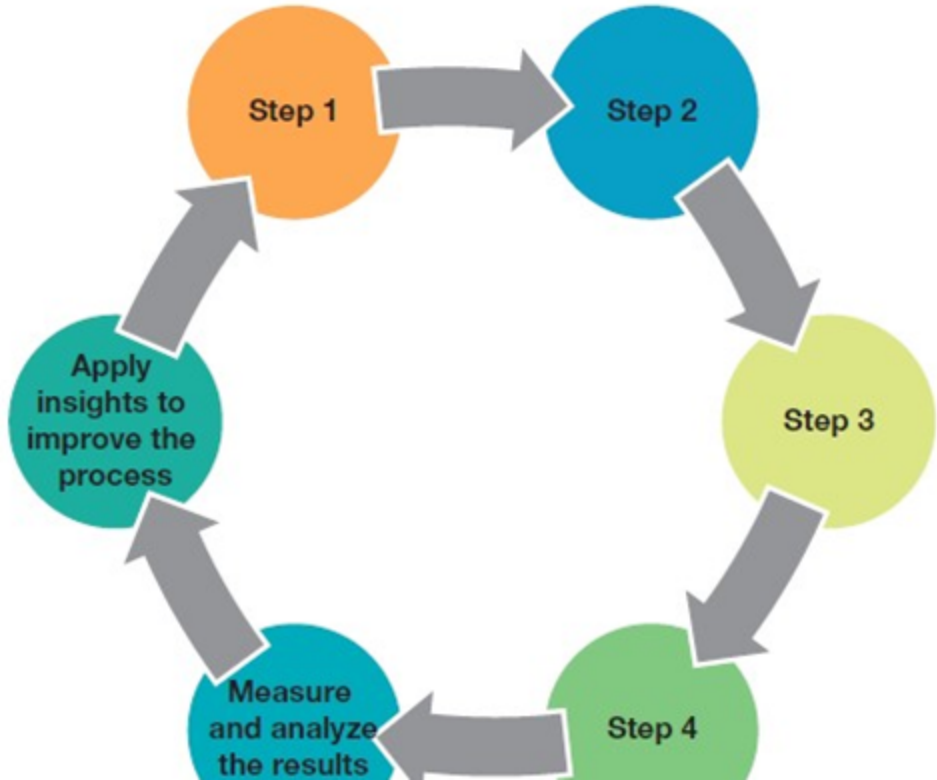
- **System**
  - An interconnected and coordinated set of **elements** and **processes** that converts **inputs** to desired outputs

Point view: A single task is completed in isolation.

Line view: A series of related tasks are completed in succession.



Circular view: A series of related tasks are completed in succession, the results of the effort are analyzed, and the insights from that analysis are used to improve the quality and efficiency of the next cycle of the process.



Managing Systems for Peak Performance (1 of 2)

Help everyone see the big picture

Understand how **individual systems** really work and how they **interact**

Understand problems before you try to **fix** them

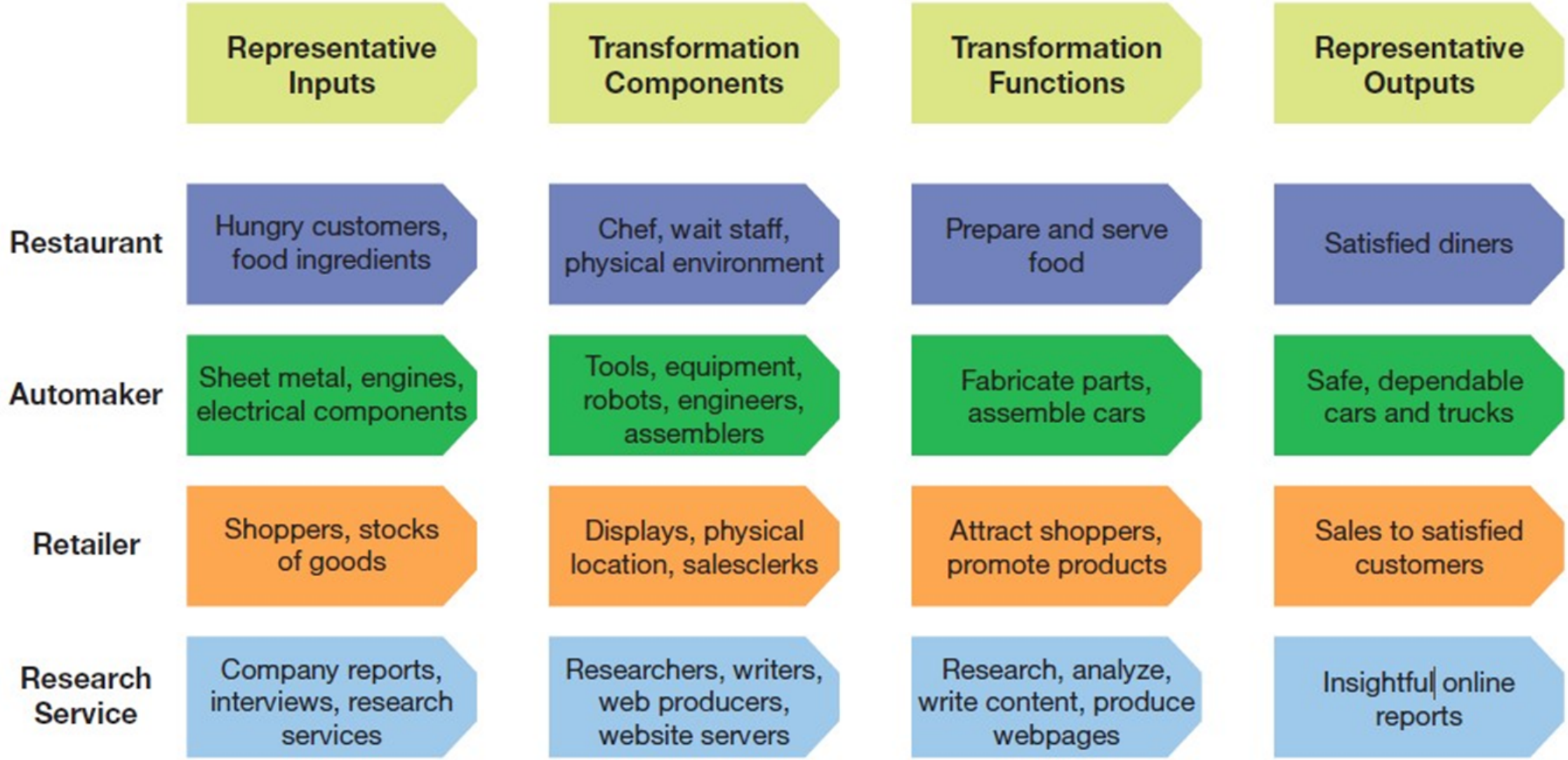
Understand the **potential impact** of solutions before you implement them

Don’t just move problems **around—solve them**

Understand how feedback works in the system

Use mistakes as **opportunities** to learn and improve

Exhibit 9.2 Business Transformation Systems



Value Chains and Value Webs

- **Value chain**
  - All the elements and processes that add value as raw materials are transformed into the final products made available to the ultimate customer

Redefining Organizations with Value Webs

- **Outsourcing**
  - Contracting out certain business functions or operations to other companies
- **Value webs**
  - Multidimensional networks of suppliers and outsourcing partners

The Offshoring Controversy

- **Offshoring**
  - Transferring a part or all of a business function to a facility .a different part of the company or another company entirely. in another country

Supply Chain Management (1 of 2)

- **Supply chain**
  - A set of connected systems that coordinates the flow of goods and materials from suppliers all the way through to final customers
- **Supply chain management .S C M.**
  - The business procedures' policies' and computer systems that integrate the various elements of the supply chain into a cohesive system

Strategic Impact of S C M

Managing risks

Managing relationships

Managing trade.off

Promoting sustainability

- **Inventory control**
    - Determining the right quantities of supplies and products to have on hand and tracking where those items are
- **Procurement**
    - The acquisition of the raw materials' parts' components' supplies' and finished products required to produce goods and services
- **Material requirements planning .M R P.**
    - A planning system that works backward from a company’s sales forecasts to make sure it has enough of everything required to build those goods or perform those services in a timely manner
- **Manufacturing requirements planning .M R P.**
    - A planning system that works backward from a company’s sales forecasts to make sure it has enough of everything required to build those goods or perform

Production and Operations Management (1 of 3)

- **Production and operations management**
  - Overseeing all the activities involved in producing goods and services

Facilities location and design

Forecasting and capacity planning

Scheduling

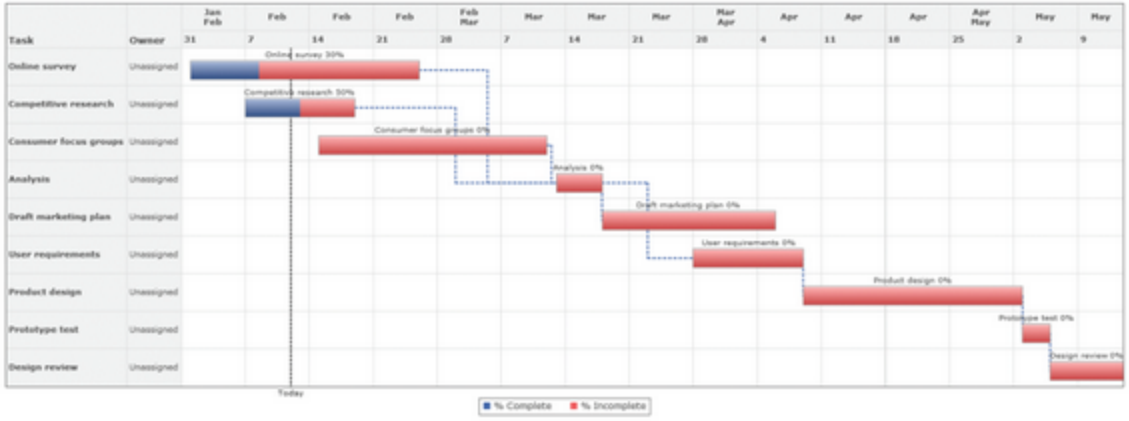
Lean systems

- **Capacity planning**
  - Establishing the overall level of resources needed to meet customer demand
- **Critical path**
  - In a PERT network diagram' the sequence of operations that requires the longest time to complete

Lean Systems (1 of 2)

- **Productivity**
  - The efficiency with which an organization can convert inputs to outputs
- **Lean systems**
  - Systems .in manufacturing and other functional areas. that maximize productivity by reducing waste and delays

Exhibit 9.3 Gantt Chart



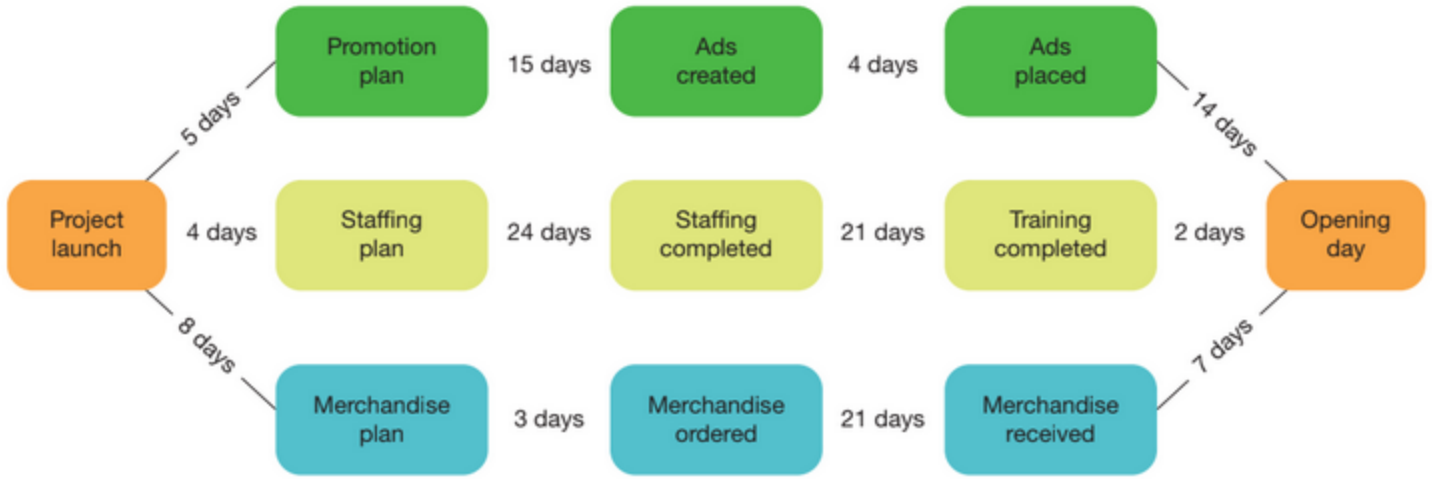
Lean Systems (2 of 2)

- **Just.in.time .J I T.**
  - Inventory management in which goods and materials are delivered throughout the production process right before they are needed

Mass Production, Customized Production, and Mass Customization (1 of 2)

- **Mass production**
  - The creation of identical goods or services' usually in large quantities
- **Customized production**
  - The creation of a unique good or service for each customer
- **Mass customization**
  - A manufacturing approach in which part of the product is mass produced and the remaining features are customized for each buyer

Exhibit 9.4 Simplified P E R T Diagram for a Store Opening



The Unique Challenges of Service Delivery

Perishability

Location constraints

Scalability challenges

Performance variability and perceptions of quality

Customer involvement

Service provider interaction

- The degree to which a product or process meets reasonable or agreed.on expectations

- **Quality control**
  - Measuring quality against established standards after the good or service has been produced and weeding out any defective products
- **Quality assurance**
  - A more comprehensive approach of companywide policies' practices' and procedures to ensure that every product meets quality standards
- **Total quality management**
  - An approach to quality assurance that encompasses every aspect of a company’s operations
- **Statistical process control .S P C.**
  - The use of random sampling and tools such as control charts to monitor the production process

Exhibit 9.5 The D M A I C Process in Six Sigma Quality Management

Product and Process Quality (4 of 4)

- **I S O 9000**
  - A globally recognized family of standards for quality management systems

Thriving in the Digital Enterprise: Industry 4.0 and the Smart Factory

- **Industry 4.0**
  - The digital transformation of manufacturing' moving from automated factories to smart factories that emphasize the use of cyber.physical systems

Applying What You've Learned (1 of 2)

Explain the systems perspective' and identify seven principles of systems thinking that can improve your skills as a manager.

Describe the value chain and value web concepts' and discuss the controversy over off shoring.

Define supply chain management' and explain its strategic importance.

Identify the major planning decisions in production and operations management.

Explain the unique challenges of service delivery.

Define quality' explain the challenge of quality and product complexity' and identify four major tools and strategies for ensuring product quality.

Explain the concept of Industry 4.0 and the smart factory.