Chapter 5
Building and Changing Global Business Processes

Managing and Using Information Systems: A Strategic Approach

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Learning Objectives

- List how IT enables business change
- Identify ways in which IT can impede business change
- Understand the problems that are caused by the functional (silo) perspective of a business
- Identify how the process perspective keeps the big picture in view and how IT can be used to facilitate this perspective
- Define TQM and BPR and explain how they are used to transform a business
- Explain an enterprise system and how they are used to implement organizational change

Real World Examples

- Cemex, a concrete company located in Mexico, needed to “transform” the way they did business.
  - After 16 years they changed their customer key processes.
  - The CEO did this by challenging management to address the processes that caused late shipments and unforseable demand.
  - Cemexnet was built to link all of the plants together and to keep them up to date on supply and demand issues.
  - GPS system was implemented to help manage their fleet of trucks.
  - They also created a set of global processes that enabled customers, suppliers, and distributors to manage their orders.
- Dramatic results occurred due to this transformation.
  - Delivery windows went from 3 hours to 20 minutes with a 98% rate.
  - Sales increased 19% in the first quarter.
  - Their reputation was greatly enhanced.
- Cemex reset the bar for all others in the industry with their customer-orientation, use of technology and process redesign

SILO PERSPECTIVE VERSES BUSINESS PROCESS PERSPECTIVE

Silo (Functional) Perspective

- The silo perspective views the business as discrete functions (accounting, sales, production, etc.).
  - Figure 5.1 shows a traditional organizational chart which is how a functional business is organized.
- Each functional area determines its core competencies and focuses on what it does best.
- Advantages:
  - Allows optimization of expertise.
  - Group like functions together for learning.
- Disadvantages:
  - Significant sub-optimization.
  - Tend to lose sight of overall organizational objectives.

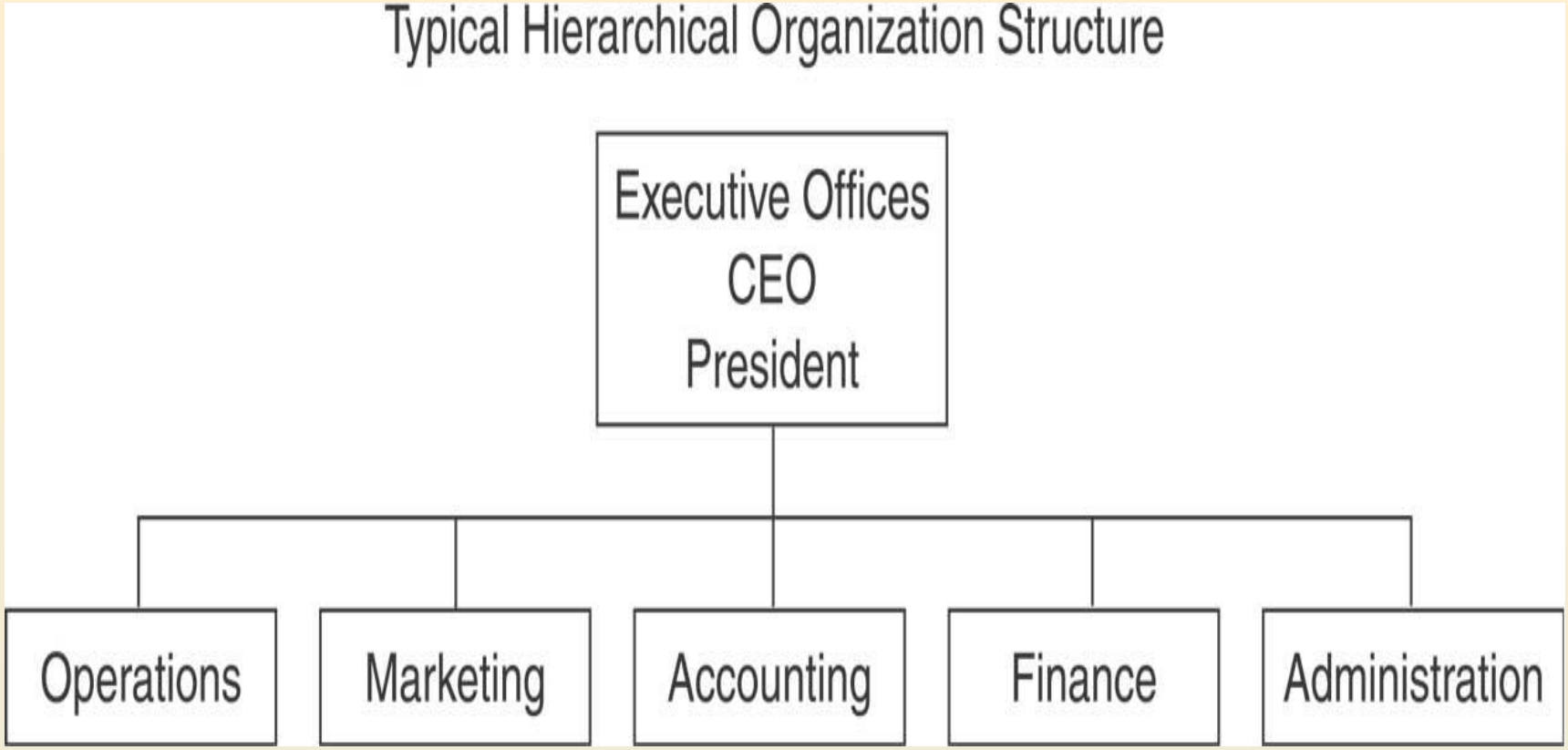

Figure 5.1 Hierarchical Structure

Process Perspective

- Keeps the big picture in view.
- Focuses on work being done to create optimal value for the business.
- **Process** is defined as an interrelated, sequential set of activities and tasks that turns inputs into outputs, and includes the following:
  - A beginning and an end
  - Inputs and outputs
  - A set of tasks (subprocesses) that transform the inputs into outputs
  - A set of metrics for measuring effectiveness

Process Perspective

- Examples of business processes include:
  - customer order fulfillment
  - manufacturing, planning and execution
  - payroll
  - financial reporting
  - procurement (see figure 5.2)

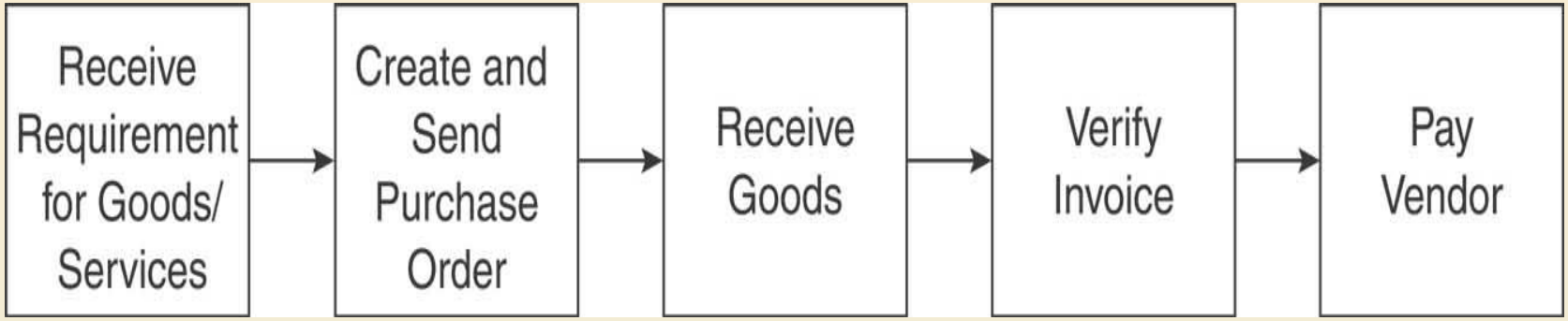

Figure 5.2 – Sample business process

Process Perspective

- Advantages:
  - Helps avoid or reduce duplicate work.
  - Facilitate cross-functional communication.
  - Optimize business processes.

- Figure 5.3 shows the cross-functional view of processes as they cross departments (functions).

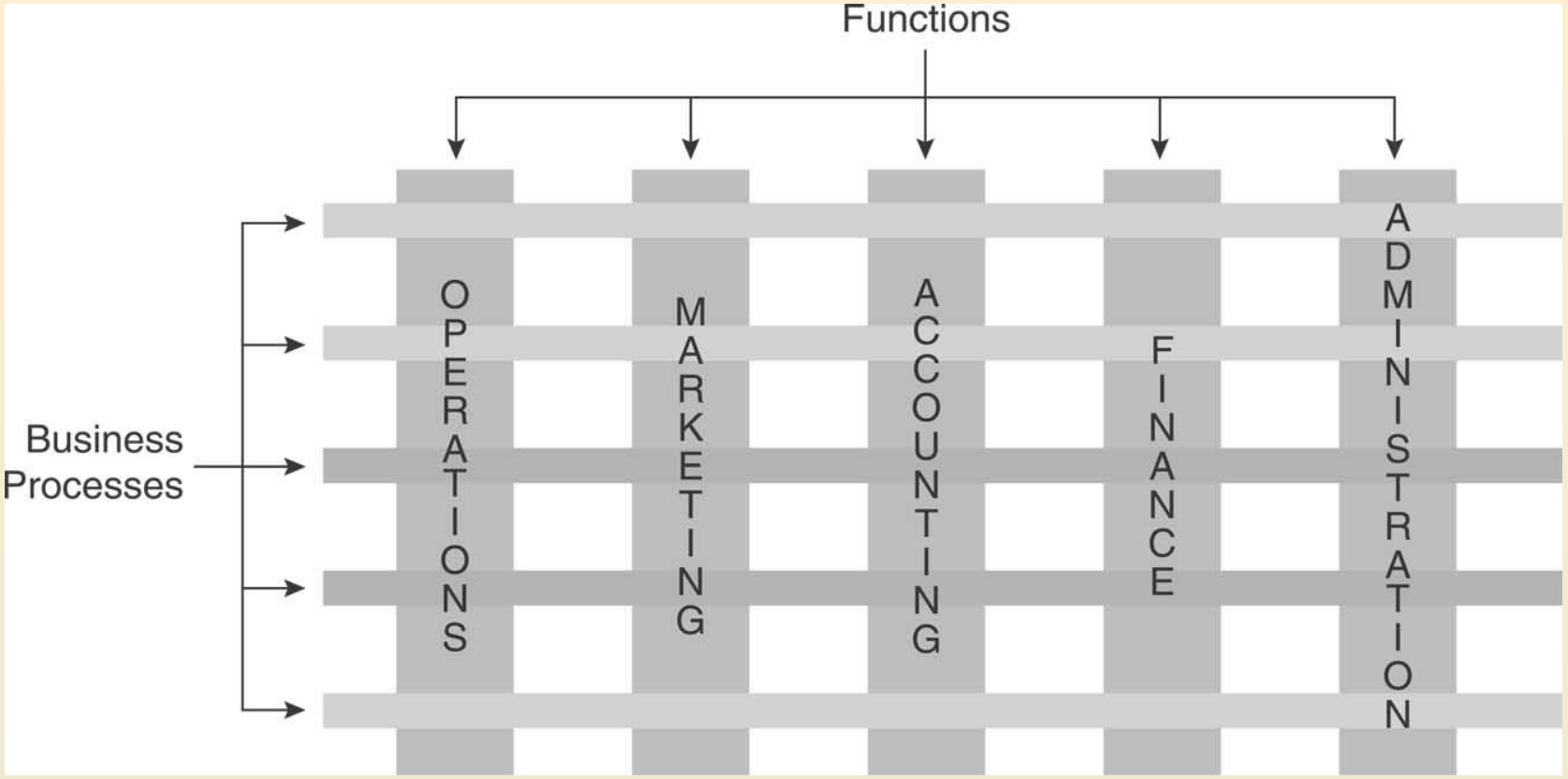

Figure 5.3 Cross-functional nature of business processes

Process Perspective

- When managers gain the process perspective they begin to lead their organizations to change.
  - Question status quo.
  - Don’t accept “because we have always done it that way” as an answer to why business is done in a particular way.
  - Allows managers to analyze business’s processes in light of larger goals.
- Zara is a good example of a process perspective business (see chapter 2).

	Silo Perspective	Business Process Perspective
Definition	Self-contained functional units such as marketing, operations, finance, and so on	Interrelated, sequential set of activities and tasks that turns inputs into outputs
Focus	Functional	Cross-functional
Goal Accomplishment	Optimizes on functional goals, which might be a suboptimal organizational goal.	Optimizes on organizational goals, or “big picture”
Benefits	Highlighting and developing core competencies; Functional efficiencies	Avoiding work duplication and cross-functional communication gaps; organizational effectiveness

Figure 5.4 Comparison of Silo Perspective and Business Process Perspective

THE TOOLS FOR CHANGE

Incremental Change

- Total Quality Management (TQM) is a tool for change that uses small incremental changes.
- Personnel often react favorably to TQM.
- Greater personnel control and ownership.
- Change is viewed as less of a threat.
- Six-Sigma is one popular approach to TQM

Six Sigma

- Six Sigma asserts that –
  - Continuous efforts to achieve stable and predictable process results are of vital importance to business success.
  - Manufacturing and business processes have characteristics that can be measured, analyzed, improved and controlled.
  - Achieving sustained quality improvement requires commitment from the entire organization, particularly from top-level management.
- It seeks to eliminate defects from any process.

Radical Change

- Business Process Reengineering (BPR) is a more “radical” change management tool.
- Attain aggressive improvement goals.
- Goal is to make a rapid, breakthrough impact on key metrics.
- Figure 5.6 shows the difference over time of the radical (BPR) and incremental (TQM) approaches to change.
- Greater resistance by personnel.
- Use only when major change is needed.

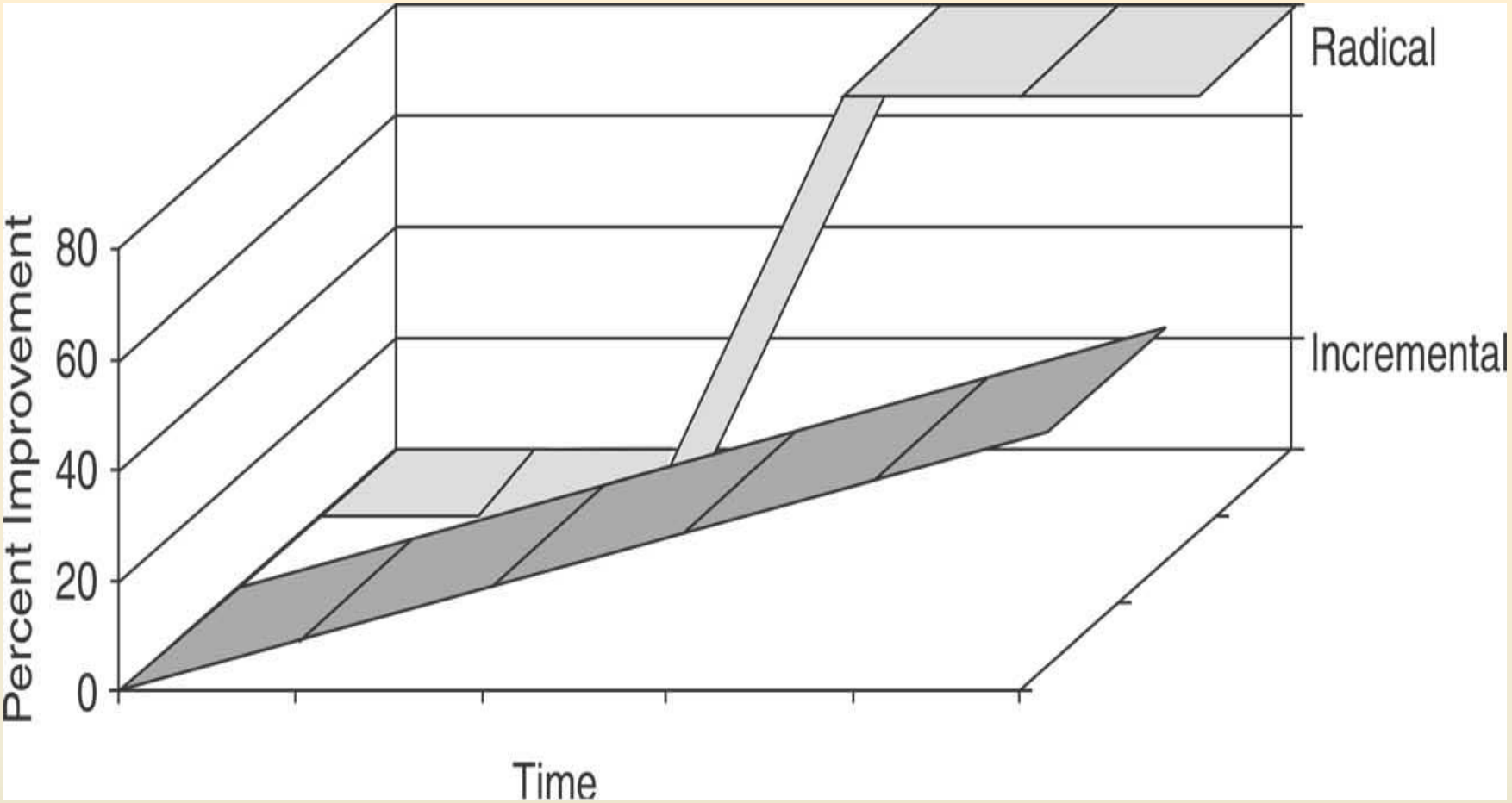

Figure 5.5 Comparison of radical and incremental improvement

The Process for Radical Redesign

- The different approaches for radical redesign all include:
  - Begin with a vision of which performance metrics best reflect the success of overall business strategy.
  - Make changes to the existing process.
  - Measure the results using the predetermined metrics.
- Figure 5.6 illustrates a general view of radical design.
- Figure 5.7 illustrates a method for redesigning a business process.
- Tool used to understand a business process is a workflow diagram.

Figure 5.6 – Conceptual flow of process design

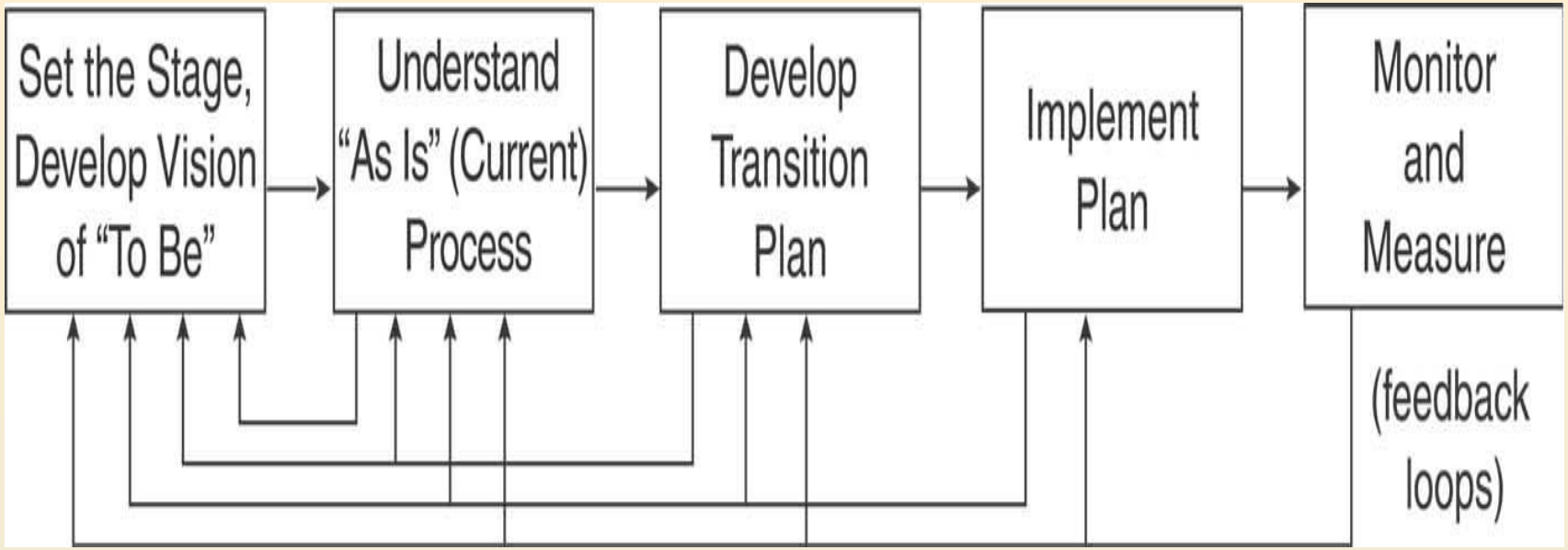

Figure 5.7 – Method for redesigning a business process

Risks of Radical Redesign

- Lack of senior management support.
- Lack of a coherent communications program.
- Introducing unnecessary complexity into the new process design.
- Introducing unnecessary complexity into the new process design.
- Combining reengineering with downsizing

AGILITY AND CONSTANTLY REDISGNING PROCESSES

Agile Processes

- ***Agile*** processes are processes that iterate through a constant renewal cycle of design, deliver, evaluate, redesign, and so on.
- Ultimate goal for some are agile processes that reconfigure themselves as they ‘learn.
- For a process to be agile necessitates a high degree of use of IT.
- Processes that run entirely on the Internet are candidates for becoming agile processes.

Shared Services

- ***Horizontal integration*** - term for looking beyond individual business processes and considering the bigger, cross functional picture of the corporation.
  - Integrated databases, web 2.0 technologies and services, and common infrastructure are the tools IT brings to the implementation of horizontal integration.
- Many organizations have restructured their common business processes into a **shared services** model.
  - This model consolidates all individuals from all business units into a single organization, run centrally, and utilized by each business unit.

Business Process Management (BPM) Systems

BPM

- In the 1990s, a class of systems emerged to help manage workflows in the business.
- They primarily helped track document-based processes where people executed the steps of the workflow.
- They go way beyond the document-management capabilities, including features that manage person-to-person process steps, system-to-system steps, and those processes that include a combination.
  - Systems include process modeling, simulation, code generation, process execution, monitoring, and integration capabilities for both company-based and web-based systems.
  - The tools allow an organization to actively manage and improve its processes from beginning to end.

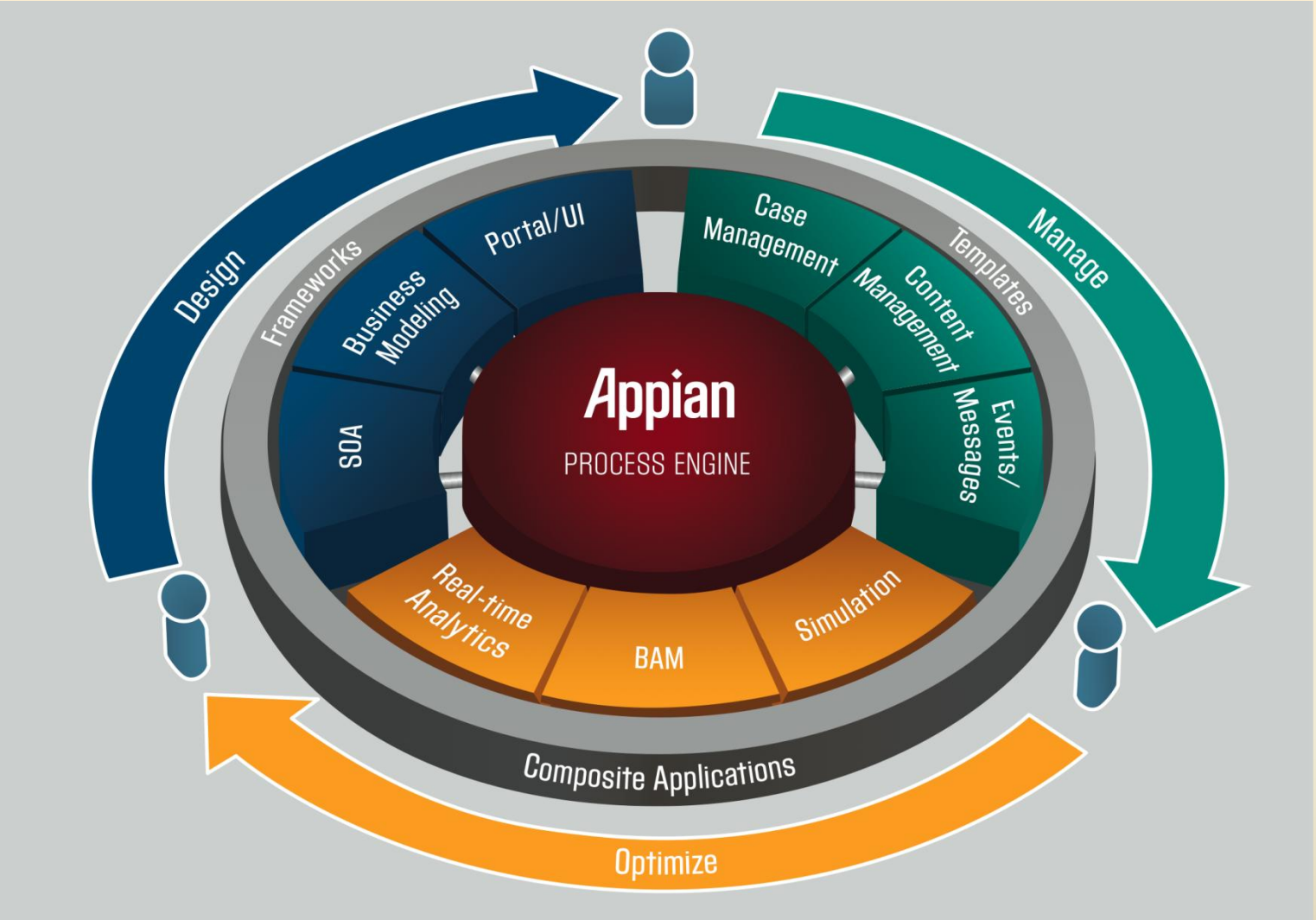

FIGURE 5.8 Sample BPM Architecture: Appian Enterprise

ENTERPRISE SYSTEMS

Enterprise Systems

- A set of information systems tools used to enable information flow within and between processes.
- Enterprise systems are comprehensive software packages.
- ERP (Enterprise Resource Planning) software packages are the most frequently discussed type of enterprise system.
- Designed to manage the potentially hundreds of systems throughout a large organization.
- SAP is the most widely used ERP software package.

Characteristics of Enterprise Systems

- Integration – seamlessly integrate information flows throughout the company.
- Packages – they are commercial packages purchased from software vendors (like SAP, Oracle, Peoplesoft, etc.).
- Best practices – reflect industry best practices.
- Some assembly required – the systems need to be integrated with the existing hardware, OS's, databases, and telecommunications.
- Evolving – the systems continue to change to fit the needs of the diverse marketplace.

Benefits and Disadvantages of Enterprise Systems

- Benefits:
  - All modules easily communicate together.
  - Useful tools for centralizing operations and decision making.
  - Can reinforce the use of standard procedures.
- Disadvantages:
  - Implementation is an enormous amount of work.
  - Most require some level of redesigning business processes.
  - Hefty price tag (sold as a suite).
  - They are risky.

The Adoption Decision

- Sometimes it is appropriate to let the enterprise system drive business process redesign.
  - When just starting out.
  - When organizational processes not relied upon for strategic advantage.
  - When current systems are in crisis.
- Sometimes it is inappropriate to let the enterprise system drive business process redesign.
  - When changing an organizations processes that are relied upon for strategic advantage.
  - When the package does not fit the organization.
  - When there is a lack of top management support.

Integrated Supply Chains

- Processes linked across companies.
- Supply chain begins with raw materials and ends with a product/service.
- Globalization of business and ubiquity of communication networks permits use of suppliers from anywhere.
- Requires coordination among partners of the integrated supply chain.

Integrated Supply Chain

- Challenges include:
  - Information integration.
  - Synchronized planning.
  - Workflow coordination.
- Leads to new business models.
  - For example when banks link up to businesses new financial services are offered such as on-line payments.
  - Companies list needs and vendors electronically bid to be the supplier.

FOOD FOR THOUGHT: IS ERP A UNIVERSAL SOLUTION?: CROSS-CULTURAL BUSINESS PROCESSES

Cross-Cultural Business Processes

- Major vendors, SAP and Oracle, show a western bias in reporting best practices.
- Due to problems encountered, businesses in non-western companies/locations are turning to local vendors.
- If the system is based on a cultural model that conflicts with the local customs and which can not easily be accommodated by the ERP it should NOT be implemented.

SUMMARY

Summary

- IS can enable or impede business change.
- You must look at business process to understand the rule IS plays in business transformation.
- TQM or BRP are normally used to make changes to business processes.
- ERP systems can be used to affect organizational transformation.
- Information systems are useful tools to both enable and manage business transformation.