

# Managing and Using Information Systems: A Strategic Approach – Fifth Edition

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## Chapter 1



## ***The Information Systems Strategy Triangle***



# Learning Objectives

- Determine the role general managers must take in decisions about IS
- Define and explain the Information Systems Strategy Triangle
- Understand the alignment between decisions of business strategy, information systems, and organizational design
- Identify and define the various business strategy frameworks
- Explain the information system strategy matrix
- Understand and apply these models to different organizations



## Real World Example

- The 2010 Deepwater Horizon oil spill became the largest marine oil spill in human history
- An estimated four million barrels per day flowed freely into the gulf waters
- Straining the marine ecosystem and threatening the shoreline from Texas to Florida
- A sequence of failures involving multiple companies and work teams
- Repeated failures to follow safety procedures



## Real World Example (Cont.)

- A series of Information Technology (IT) failures coupled with organizational misalignments that ultimately catalyzed the accident
- The crisis illustrates the need for proper alignment of
  - Business strategy
  - Information Systems (IS)
  - Organizational mechanisms
  - Practices for designing safety mechanisms
- Issues in organizational culture, process, and leadership at British Petroleum (BP)



# The Role of the General Manager

- A key decisions maker.
- Not necessary to have a deep technical knowledge of there is.
- Aggressively seek to understand the consequences of using technologies relevant to the business's environment.
- Ask questions when it's not clear.
- Should not leave IS decisions solely to the IS professionals



# Information Systems Alignment

- An IS that is inappropriate for a given operating environment can actually inhibit and confuse things, or even lead to a crisis environments.
- The IS department is not an island within a firm.
- The IS department manages an infrastructure that is essential to the firm's functioning .
- A firm's IS must be **aligned** with the way it manages its employees and processes .

# IS Strategy Triangle



- The Information Systems Strategy Triangle presented in Figure 1.1 suggests
- Business Strategy drives all other strategies
- Organizational and Information Strategy are then dependent upon the Business Strategy
- Changes in any strategy requires changes in the others to maintain balance.
- IS Strategy is affected by the other strategies a firm uses.
- IS strategy always involves consequences



# Questions for the General Manager



- What is a business strategy?
- Which factors influences a business strategy?
- How does a business change its strategy without losing balance or becoming out of **alignment**?
- Are there specific events that induce a business to change its strategies? What are they?



# Business Strategy



- A strategy is a coordinated set of actions to fulfill objectives, purposes and goals
- Strategy starts with a mission.
- Figure 1.2 shows some example mission statements
- A business strategy is a plan articulating where a business seeks to go and how it expects to get there
- There are several “**strategies**” worth examining

Figure 1.2 – Mission statements of computer companies

Company	Mission Statement
Zappos®	To provide the best customer service possible. Internally we call this our WOW Philosophy
Amazon®	We seek to be Earth's most customer-centric company for three primary customer sets: consumer customers, seller customers and developer customers
L.L. Bean®	Sell good merchandise at a reasonable profit, treat your customers like human beings and they will always come back for more



# Generic Strategies Framework

- Michael Porter describes how businesses can build a sustainable competitive advantage
- “fundamental basis of above-average performance in the long run is sustainable competitive advantage.”
- He identified three primary strategies for achieving competitive advantage:
  - **Cost leadership** – lowest-cost producer
  - **Differentiation** – product is unique
  - **Focus** – limited scope

Figure 1.3 Three strategies for achieving competitive advantage.

		Uniqueness Perceived by Customer	Low Cost Position
Industry wide		Differentiation	Overall Cost Leadership
Particular Segment Only		Focus	



# Porter's Competitive Advantage

- Remember that a company's overall business strategy will drive all other strategies
- Porter defined these competitive advantages to represent various business strategies found in the marketplace
- Cost leadership results when the organization aims to be the lowest-cost producer in the marketplace
- Through differentiation, the organization qualifies its product or service in a way that allows it to appear unique in the marketplace



## Porter's Competitive Advantage (Cont.)

- Focus allows an organization to limit its scope to a narrower segment of the market and tailor its offerings to that group of customers
  - This strategy has two variants:
    1. Cost focus
    2. differentiation focus

# Dynamic Environment Strategies



- Porter's model is useful for diagnostics, or understanding how a business seeks to profit in its chosen marketplace, and for prescriptions, or building new opportunities for advantage
- Porter model was developed at a time where the rate of change in any given industry was relatively slow and manageable
- Newer models were developed to take into account the increasing turbulence and velocity of the marketplace





# Hypercompetition Model

- Porter's model focus on creating competitive advantage, whereas hypercompetition models suggest that the speed and aggressiveness of the moves and countermoves in any given market create an environment in which advantages are rapidly created and eroded
- **hypercompetition models**
  - Fits turbulent environments
  - Enables managers respond instantly and change rapidly
  - Requires dynamic structures and processes

# Rapidly Changing Environment and Marketplace



- Firms focus on their capability to dynamically adjust their organizational resources, valuing agility itself as the competitive advantage
- Still focus on customer satisfaction, profit maximization, and other goals consistent with the business's values and beliefs
- Utilize components of business intelligence:
  - The ability to predict new opportunities, organizational designs that can sense, restructure, and respond quickly
  - Strategic signaling and actions that both surprise and confuse competitors



# Accelerated Competition

- Since the 1990s, competition led to wider gaps between industry leaders and laggards
  - “winner-take-all” environments
  - Greater churn among sector rivals
- Joseph Schumpeter predicted the “creative destruction” over 60 years ago
- Sharp increases in the quality and quantity of IT investment
- The changes in competitive dynamics are particularly striking in sectors that spend the most on IT



# Competitive Dynamics Models

- **Destroy Your Business (DYB)**- strategic planning implemented by leadership guru Jack Welch at General Electric (GE)
  - GE employees develop strategies to destroy GE's competitive advantage
- **Grow Your Business (GYB)** - strategy to find fresh ways to reach new customers and better serve existing ones
  - Complete disruption of current practices
  - Take actions to protect GE business before competitors hone in on its weaknesses
- Implicit assumption underlying DYB is that GE would not be able to sustain its position in the marketplace over the long term



# Examples of Competitive Dynamics Models

- A similar strategy of cannibalizing their own products was used by Apple<sup>®</sup> and Gillette<sup>™</sup>.
- Apple introduced the iPhone<sup>®</sup> while iPod<sup>®</sup> sales were brisk, and the iPad<sup>®</sup> while its Macintosh sales were strong
- Apple continues to exhibit this strategy with subsequent releases of new models of all of its products
- Gillette spent resources to convince customers to upgrade to the newer and more expensive products

# IS Planning and Strategic Advantage Models



- General Managers cannot afford to rely solely on IS personnel to make IS decisions
- Business strategy drives IS decision making
- Changes in business strategy should entail reassessments of IS
- Changes in IS potential should trigger business strategy reassessments (i.e. the Internet)
- Information Systems Strategy Triangle shows the proper balance of strategies
- The models are helpful in discussing the role of IS in building and sustaining competitive advantage

**FIGURE 1.4: Summary of strategic approaches and IT applications**

<b>Strategic Approach</b>	<b>Key Idea</b>	<b>Application to Information Systems</b>
<b>Porter's generic strategies</b>	Firms achieve competitive advantage through cost leadership, differentiation, or focus	Understanding which strategy is chosen by a firm is critical to choosing IS to complement the strategy
<b>Dynamic environment strategies</b>	Speed, agility, and aggressive moves and countermoves by a firm create competitive advantage	IS are critical to achieving the speed needed for moves and countermoves. IS are in a constant state of flux or development





# Building a Social Business Strategy

- A plan of how the firm will use social IT, aligned with organization strategy and IS strategy
- A vision of how the business would operate if it seamlessly and thoroughly incorporated social and collaborative capabilities throughout the business model
- Answers the same type of questions of what, how, and who, as any other business strategy



# Social Business Strategies

- **Collaboration**

- Using social IT to extend the reach of stakeholders, both employees and those outside the enterprise walls.
- Social networks enable individuals to find and connect with each other to share ideas, information, and expertise.

- **Engagement**

- Using social IT to involve stakeholders in the traditional business of the enterprise.
- Communities and blogs provide a platform for individuals to join in conversations, create new conversations, offer support to each other, and other activities that create a deeper feeling of connection to the company, brand, or enterprise

# Social Business Strategies (Cont.)



- **Innovation**

- Using social IT to identify, describe, prioritize, and create new ideas for the enterprise
- Social IT offer the community members a “super idea box” where individuals suggest new ideas, comment on other ideas, and vote for their favorite idea, giving managers a new way to generate and decide on products and services



# Applications of Social IT

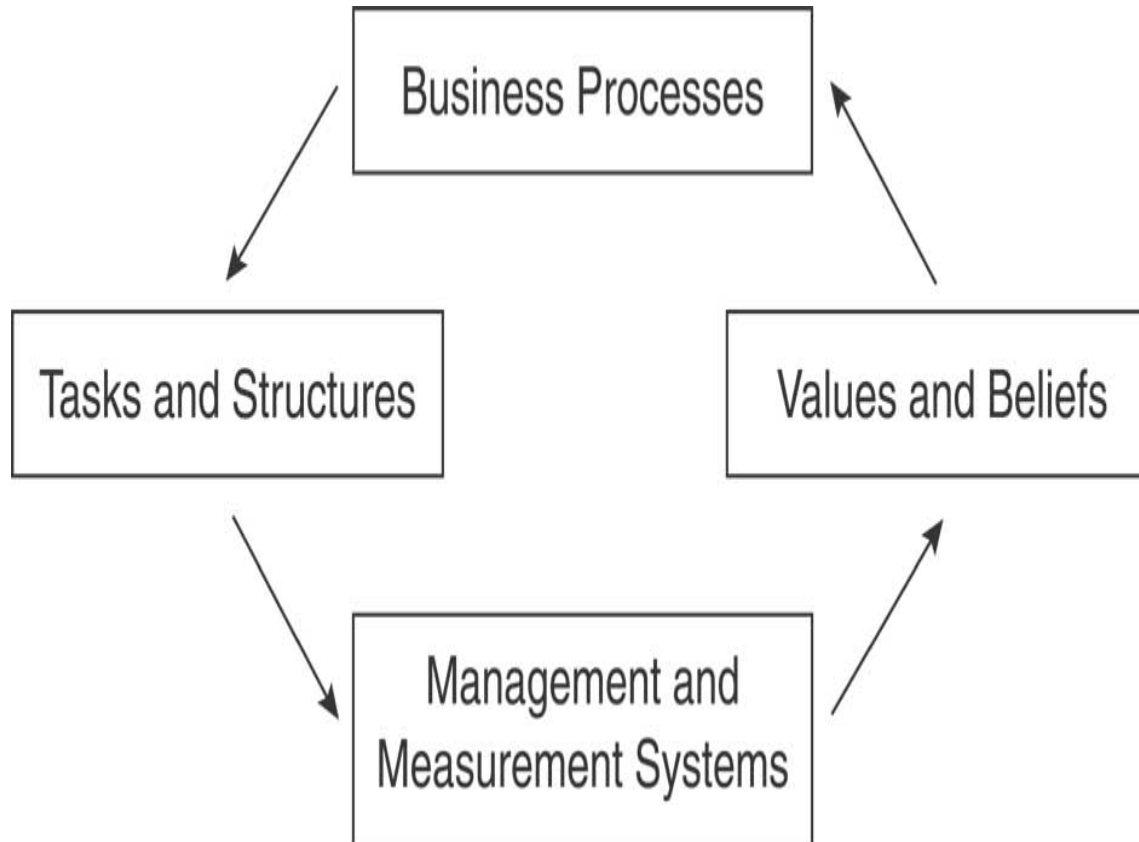
- National Instruments (ni.com) has embraced social IT and created a social business strategy
- Managers developed a branded community consisting of a number of social IT tools like Facebook<sup>®</sup>, Twitter<sup>®</sup>, blogs, forums, and more
- Thinking holistically about all of the ways customers and employees might interact with each other, the branded community has become the hub of collaboration, engagement and idea generation



# Brief Overview of Organizational Strategies

- **Organizational strategy** includes the organization's design as well as the choices it makes to define, set up, coordinate, and control its work processes
- A plan that answers the question:
  - “How will the company organize to achieve its goals and implement its business strategy?”
- There are numerous models of organizational strategy
- The **business diamond** introduced by Harold Leavitt, identifies the crucial components of an organization's plan as its information/control, people, structure, and tasks.

Figure 1.5 The Business Diamond



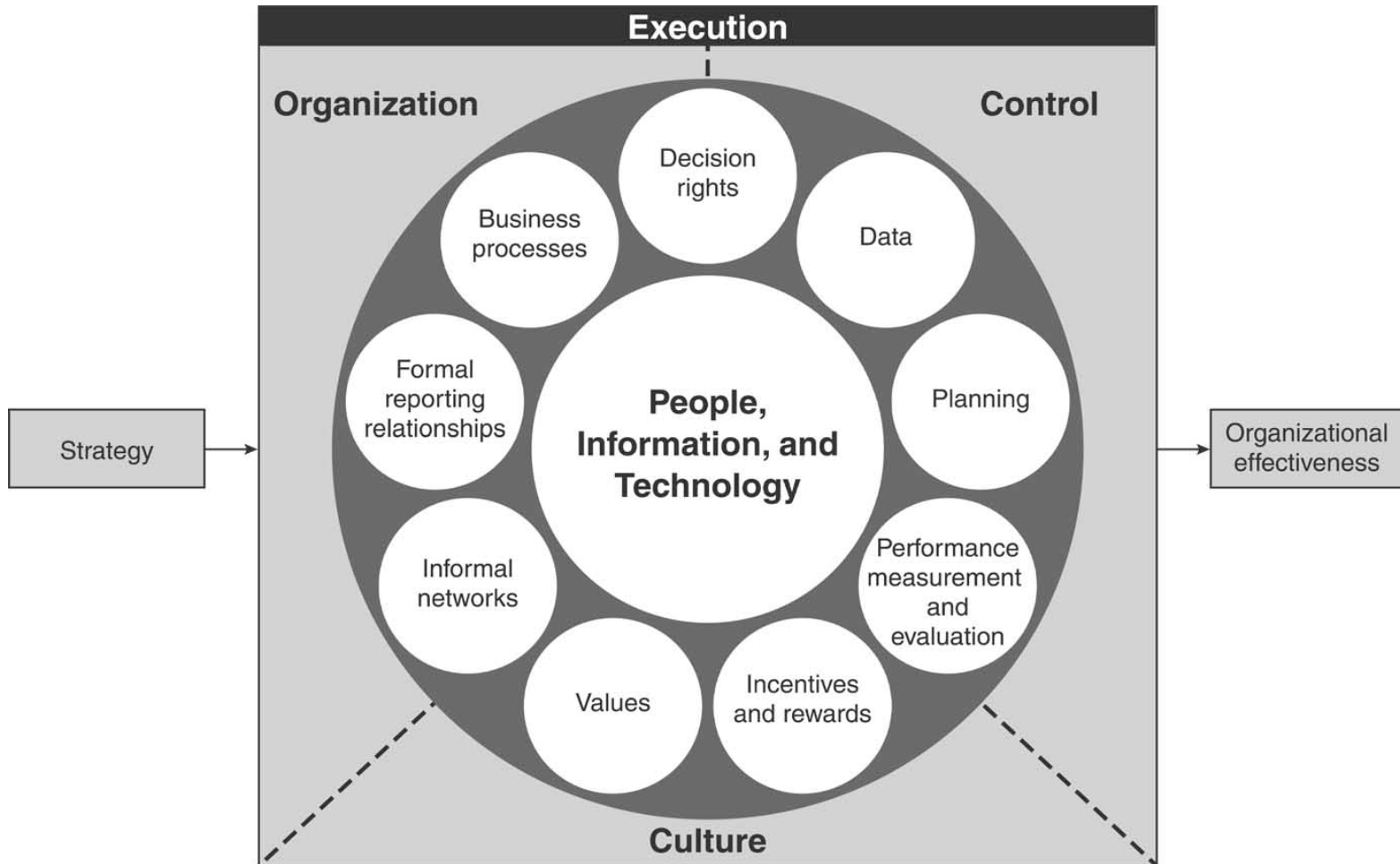


# The Managerial Levers

- This framework (Figure 1.6) suggests that the successful execution of a business's organizational strategy comprises the best combination of organizational, control, and cultural variables
- **Organizational variables** include:
  - Decision rights, business processes, formal reporting relationships, and informal networks
- **Control variables** include:
  - availability of data, nature and quality of planning, effectiveness of performance measurement and evaluation systems, and incentives to do good work
- **Cultural variables** comprise the values of the organization



Figure 1.8 Managerial levers



# Assessing the organization's Use of IS



To understand organizational strategy we must answer the following questions:

1. What are the important structures and reporting relationships within the organization?
2. Who holds the decision rights to critical decisions?
3. What are the important people-based networks (social and informational) and how can we use them to get work done better ?
4. What are the characteristics, experiences, and skill levels of the people within the organization?

# Assessing the organization's Use of IS (Cont.)



5. What are the key business processes?
6. What control systems (management and measurement systems) are in place?
7. What are the culture, values, and beliefs of the organization?

***The answers to these questions inform the assessment of the organization's use of IS***

**FIGURE 1.7: Summary of organizational strategy frameworks.**

<b>Framework</b>	<b>Key Idea</b>	<b>Usefulness in IS Discussions</b>
<b>Business diamond</b>	There are four key components to an organization's design: people, structure, tasks, and information/control	Using IS in an organization will affect each of these components. Use this framework to identify where these impacts are likely to occur
<b>Managerial levers</b>	Organizational variables, control variables, and cultural variables are the levers managers can use to affect change in their organization	This is a more detailed model than the Business diamond and gives specific areas where IS can be used to manage the organization and to change the organization



# Brief Overview of IS Strategy

- **IS strategy** is the plan an organization uses to provide information services.
- IS allows a company to implement its business strategy
- Business strategy is a function of
  - Competition (What does the customer want and what does the competition do?)
  - Positioning (In what way does the firm want to compete?)
  - Capabilities (What can the firm do?). IS help determine the company's capabilities.

**FIGURE 1.8: IS strategy matrix.**

	<b>What</b>	<b>Who</b>	<b>Where</b>
<b>Hardware</b>	List of physical components of the system	Individuals who use it Individuals who manage it	Physical location
<b>Software</b>	List of programs, applications, and utilities	Individuals who use it Individuals who manage it	What hardware it resides upon and where that hardware is located
<b>Networking</b>	Diagram of how hardware and software components are connected	Individuals who use it/ Individuals who manage it/ Company service obtained from	Where the nodes are located, where the wires and other transport media are located
<b>Data</b>	Bits of information stored in the system	Individuals who use it Individuals who manage it	Where the information resides

# Chapter 1 - Key Terms

**Business diamond** (p. 34) - identifies the crucial components of an organization's plan as its information/control, people, structure, and tasks

**Business strategy** (p. 27) - a plan articulating where a business seeks To go and how it expects to get there.

**Collaboration** (p. 33) - using social IT to extend the reach of stakeholders, Both employees and those outside the enterprise walls.

**Cost leadership** (p. 28) - when the organization aims to be the lowest cost producer in the marketplace.

**Differentiation** (p. 29) – used by organization to qualify its product Or service in a way that allows it to appear unique in the marketplace



## Chapter 1 - Key Terms - (Cont.)

**Engagement** (p. 33) - using social IT to involve stakeholders in the traditional business of the enterprise.

**Focus** (p. 29) - allows an organization to limit its scope to a narrower segment of the market and tailor its offerings to that group of customers.

**Hypercompetition** (p. 31) - the speed and aggressiveness of the Moves and countermoves in any given market create an environment in Which advantages are rapidly created and eroded.

**Innovation** (p. 33) - using social IT to identify, describe, prioritize, And create new ideas for the enterprise.

**IS strategy** (p. 36) - the plan an organization uses to provide Information services.

# Chapter 1 - Key Terms - - (Cont.)

**Information Systems Strategy Triangle** (p. 24) – a framework that Relates business strategy with IS strategy and organizational strategy.

**Managerial levers** (p. 35) - variables used by decision makers to effect changes in their organizations.

**Mission** (p. 26) - a clear and compelling statement that unifies an organization's effort and describes what the firm is all about.

**Organizational strategy** (p. 34) - the organization's design as well as the choices it makes to define, set up, coordinate, and control its work processes.

**Social business strategy** (p. 33) - a plan of how the firm will use social IT, aligned with organization strategy and IS strategy.

**Strategy** (p. 26) - a coordinated set of actions to fulfill objectives, purposes, and goals. The essence of a strategy is setting limits on what the business will seek to accomplish.

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