Chapter 1
Managers: Key to Information Technology Results

Solutions to End of Chapter Material

Answers to What Would You Do Questions

1. A new financial analyst at your firm has been tasked with performing a competitive analysis of your firm's IT spending versus your three top competitors. Over lunch with you and a couple of other recent hires, the coworker shares that her analysis shows your firm is spending just over 4 percent of revenue (recent annual revenue for the firm was $150 million) on IT while your company's competitors are all spending less than 3 percent (recent revenue ranges from $300 million to $400 million). She asks the group if they think this spending difference is significant and if she should highlight it in her report. What would you say?

   Students' answers will vary. However, students may mention that organizations typically spend 1 to 6 percent of their total revenues on IT. This spending is generally higher for industries in which IT is more critical to success, such as health care and financial services. IT spending as a percentage of revenue is also typically higher within small organizations than large organizations.

   Students may also mention that these numbers represent rough averages. IT-related spending varies greatly, even among similar-sized companies within the same industry. While one company may outspend a competitor on IT, it is not necessarily making more effective use of IT. The most important consideration is what organizations are getting out of their investments in IT, not how much they are investing in IT. The most effective users of IT maximize value from IT investments that are aligned with their organization's strategic needs and that are well managed and executed. Managers must evaluate IT investment opportunities against existing business needs and help frame these opportunities so others can understand them. Managers must provide the leadership to recognize and advocate for those opportunities that fit with the organization's business strategy.

2. Imagine instead that the new Avon order management system was well designed and extremely easy to use. Identify key actions that the Avon management team must take to

ensure a successful rollout of an easy-to-use system for the Canadian sales reps.

Students' answers will vary. Students may mention that to implement an IT system successfully, Avon might need to change its business processes, worker roles and responsibilities, reward systems, and decision making. Many organizations have tried to implement a promising new IT system, only to have employees never use it or not use the system to its full potential. Managers must be able to overcome this resistance so that the new IT system is accepted and used throughout the organization. Several theories on organizational change management can help smooth the introduction and adoption of IT. Three such theories are: the Change Management Continuum Model, the Unified Theory of Acceptance and Use of Technology, and the Diffusion of Innovation Theory.

3. The board of directors at City Hospital is determined not to be fined for violation of HIPAA rules. They asked your consulting group to prepare a comprehensive strategy to communicate to employees and contractors the importance of following HIPAA regulations. Brainstorm the key elements of your communications strategy. What actions might you request of the board of directors and other executives at the hospital to strengthen your strategy?

   Students' answers will vary. However, students may mention that the introduction of an enterprise IT system requires large amounts of resources and significant changes in procedures, roles and responsibilities, reward systems, and decision making. In other words, it represents a major organizational change. Managers should have their work cut out to gain acceptance of all these changes. To strengthen the communications strategy, the board of directors and other executives should impose standards and procedures that spell out exactly how transactions must be conducted and how the supporting information must be captured, stored, and shared. Senior management may sometimes encourage adoption of enterprise IT by threatening penalties for nonconformance.

4. You are the new office manager for a small accounting firm of 12 people. You just received a complaint of an employee viewing pornography while at work. Not only is the employee wasting company time but he is also creating a potential liability for a sexual harassment lawsuit if the practice is allowed to continue. What action would you take to handle this situation?

   Students' answers will vary. The office manager should ensure that there is no inappropriate use of IT resources such that it reduces employees' productivity. Employees should not waste time visiting Web sites unrelated to their work. Additionally, inappropriate use of IT resources to view sexually explicit material could subject the firm to a sexual harassment lawsuit. Failure to ensure that IT risks are mitigated can lead to serious problems, such as business disruptions, data breaches exposing employee and/or customer personal data, and legal penalties. Hence, the manager must tell the employee about the consequences of breaking the rule.

Answers to Discussion Questions

1. Reflecting on what you read in this chapter and looking forward to a successful course, identify three learning objectives you want to meet this term.

   Students' answers will vary. The response will be different for every student.

2. Identify and briefly discuss an example of an enterprise or interorganizational system with which you have recently interacted.

   Students' answers will vary. They might describe a system from their personal experience.

3. Based on your own experience and reading, identify and briefly discuss an example of an organization that has invested greatly in IT and yet has relatively little to show as a result. Identify and briefly discuss an organization where the opposite is true. To what do you attribute the difference?

   Students' answers will vary. However, students may mention that while one company may outspend a competitor on IT, it is not necessarily making more effective use of IT. The most important consideration is what organizations are getting out of their investments in IT, not how much they are investing in IT. The most effective users of IT maximize value from IT investments that are aligned with their organization's strategic needs and that are well managed and executed. Managers must evaluate IT investment opportunities against existing business needs and help frame these opportunities so others can understand them. Managers must provide the leadership to recognize and advocate for those opportunities that fit with the organization's business strategy.

4. What percentage of revenue should an organization spend on IT? Explain the rationale for your answer.

   On average, organizations spend between 1% and 6% of their total revenue on IT. This can vary greatly depending on what opportunities and threats a given organization is facing. Spending also depends on how wise management is in spending its IT dollars effectively.

5. What are the basic reasons that people resist change? How can this resistance be overcome?

   Four basic reasons that people resist change are:

- Parochial self-interest—some people are more concerned with the impact of the change on themselves than with how it might improve the organization.
- Misunderstanding—some people have misconceptions or lack information about the change.
- Low tolerance to change—some people require security and stability in their work.
- Different assessments of the situation—some people disagree about the reasons for the change or do not support the change process.

One approach to help overcome resistance to change is to take people through the three phases (inform, educate, and commit) and seven stages (contact, awareness, understanding, positive perception, adoption, institutionalization, and internalization) of the change management continuum model.

6. What is meant by management expectations, and how can they affect the acceptance of new IT?

   Management expectations is the degree of belief that management wants employees to use the system. Management expects everyone to use the new technology and to behave in a manner consistent with the new work processes. Management must communicate their expectations, measure progress toward meeting those expectations, and provide feedback to end users regarding their use of the new information system and work process.

7. Develop a timeline that identifies the approximate times at which the various stages of the Change Management Continuum Model should occur for the implementation of a major enterprise system. Assume that the project will last 18 months and has these key milestones:
   - Systems definition complete at 3 months
   - System design complete at 7 months
   - System construction complete at 12 months
   - System testing complete at 16 months
   - System cutover starts at 18 months

   The approximate times at which the various stages of the Change Management Continuum Model should occur for the implementation of a major enterprise system are as follows:
   - Contact at 0 month
   - Awareness at 3 months
   - Understanding at 7 months
   - Positive perception at 12 months
   - Adoption at 16 months
   - Institutionalization at 18 months

- Internalization after 18 months

8. Considering the Diffusion of Innovation theory, which categories of adopters might you enlist to help in gaining acceptance of a new information system? What specifically would you ask of these different categories of adopters? Which category of adopters may actually impede the rollout of a new information system? What can be done to avoid this?

   Students' answers will vary. However, some students may mention that an organization should choose to adopt the category of laggards for gaining acceptance of a new information system. In this category, the organization has employees' peers demonstrate how this change has helped them and bring pressure to bear from other adopters. The innovatory category might impede the rollout of a new information system. A successful enterprise IT system requires the top-down imposition of standards and procedures that spell out exactly how transactions must be conducted and how the supporting information must be captured, stored, and shared. As a result, senior management sometimes encourages adoption of enterprise IT by threatening penalties for nonconformance.

9. Identify six key actions managers can take to increase end users' acceptance and usage of a new information system and associated work processes.

   Organizations that successfully adopt new technology recognize that managers have a crucial role in leading the successful introduction and adoption of IT. Managers have three critical responsibilities when it comes to capturing real benefits from IT: identifying appropriate opportunities to apply IT, smoothing the way for its successful introduction and adoption, and mitigating its associated risks. The key factors of IT acceptance and usage of a new information system are as follows:
   - Usefulness
   - Ease of use
   - Management expectations
   - Facilitating conditions

10. Should it be the responsibility of IT or business managers to identify and define tasks for the successful introduction and adoption of a new IT system?

    Students' answers will vary. Some students may mention that IT managers must evaluate IT investment opportunities against existing business needs and help frame these opportunities so others can understand them. Business managers must provide the leadership to recognize and advocate for those opportunities that fit with the organization's business strategy.

<u>Action Needed</u>

1. You are a new hire in the Marketing Department and just received a vague text message from your manager asking you to “get involved” in a major new marketing MIS effort. How do you respond?

   Students’ responses to this message will vary. While some students may view it as a challenge and involve themselves in the new marketing effort immediately, others may have queries about their role, purpose, duration, etc., and may prefer to wait until they have clarity on their queries.

2. You are a member of the Human Resources Department of a medium-sized organization that is implementing a new interorganizational system that will impact employees, customers, and suppliers. Your manager has requested that you work with the system development team to create a communications plan for the project. He would like to meet with you in two hours to review your thoughts on the key objectives of the communications plan. What should those objectives be?

   Students’ answers will vary. Some students may mention that the objectives of the communication plan should be the key factors that determine a user’s IT acceptance and usage. The objectives should also address the reasons employees resist change and convince them to use the system.

3. You are the newest member on the IT development team contracted to implement an enterprise resource planning system for a small retail chain. You are surprised after the project’s initial kick-off meeting that no one was there to represent the client. Following the meeting, you encounter the project manager in the hallway. What do you say?

   Students’ answers will vary. Some students may suggest asking the project manager the reason for the absence of the client in the meeting. Students may also mention that since it was the project’s initial kick-off meeting, a client representative would have helped them direct their work in the right direction.

Web-Based Case

e-Borders Revisited

1. In 2003, the United Kingdom’s Immigration and Nationality Directorate (IND) developed the initial plan of work for the e-Borders program. In 2004, the British government signed a three-year contract with IBM to deliver Project Semaphore, the first deliverable of the e-Borders project. In the following years, new government agencies, such as the Joint Border Operations Centre and the National Border Targeting Centre, were created to implement e-

Borders. Private contracts were awarded to Raytheon and other IT companies to construct the IT infrastructure. Do research online to investigate where the project went wrong during its 11-year history. Document the actions taken by both government agencies and private companies.

Students' answers will vary. Students might perform a Web search to investigate where the project went wrong during its 11-year history.

2. In August 2014, the U.K. courts ordered the Home Office to pay £224 million to Raytheon for breach of contract after Theresa May, the British home secretary, terminated the company's contract to build the immigration computer system. Explain why you think the court decided in favor of Raytheon in its breach of contract decision. Then, do research to discover if the government agencies involved with the development of this system implemented lessons learned from the e-Borders' failures. Do further research to assess whether the new Border Systems Programme is robust enough to protect U.K. citizens from looming terrorist threats.

   Students' answers will vary. Students might perform a Web search to research their answers.

Answers to Case Study

Walmart Reworking Its Supply Chain Management Systems

Discussion Questions

1. Outline a strategy that could be used by Walmart to encourage vendors to not just accept the new GRS system and processes but to embrace them. What will it take to implement these measures?

   Students' answers will vary. Students may suggest that Walmart use the key factors of IT acceptance and usage to their advantage and convince its vendors to implement the measures.

2. Write a paragraph that could be included in an email sent to all vendors that explains why it is to their benefit to participate in the new GRS system and processes and motivates them to embrace the new program.

   Students' answers will vary. However, students may mention that the email to vendors should specify the benefits of using the GRS system, such as reducing costs, saving time, and ease of use. The main goal is to provide “just-in-time” inventory, so that products sit on shelves for as short a time as possible before being replenished. The system is now being tested with a handful of Walmart’s larger vendors. Walmart hopes that this new system, along with increased labor hours, will help it overcome its recent shelving woes.

3. Identify several measures that could be taken to ease the vendors’ transition to Walmart’s new system. Why might it be worth Walmart’s time and effort to do so?

   Students’ answers will vary. Students may mention that several theories on organizational change management can help smooth the introduction and adoption of IT. Three such theories are as follows: the Change Management Continuum Model, the Unified Theory of Acceptance and Use of Technology, and the Diffusion of Innovation Theory. Students may base their answer around these theories.

4. What could Walmart do to provide more support for suppliers in using the new GRS system?

   Students’ answers will vary. Some students may mention that Walmart could train the suppliers to use the GRS system and share the cost with the suppliers. Furthermore, Walmart could restructure the “reordering system” such that suppliers can reach their Walmart contact easily to get their ordering back on track.

5. Besides putting in a new GRS system, what else must Walmart do to improve its supply situation and its relationships with vendors? How important is it for Walmart to maintain good vendor relationships?

   Students’ answers will vary. Students may suggest putting up interorganizational information system with vendors to ease sharing of data for purchase orders, invoices, and payments. This would even speed up the flow of materials, payments, and information while allowing companies to reduce the effort and costs of processing such transactions. The companies should work together to resolve technical issues relating to data definitions and formats, database designs, standards to ensure high data quality, and compatible technology infrastructures. The full integration of an interorganizational information system requires new work processes and significant organizational change.