Chapter 1: The Information Systems Strategy Triangle

Overview

This chapter presents a very simple framework, the Information Systems Strategy Triangle, which links business strategy with organizational strategy and information strategy. The chapter describes this model, and builds on several other popular strategy models and organizational models. The goal of this chapter is to make sure every student has a basic understanding of both strategy and organizations. For students familiar with business strategy and organizational behavior, this chapter is a review of key points from those two fields.

**Discussion Opener:** One of the first slides of each chapter, following the title or agenda slide (if present), provides discussion questions that cover the opening case. It would be a good idea to set the tone for the entire course by putting students on notice that they should read the chapters before coming to class. The “notes” portion of the slide deck provide brief answers that instructors can see if they use a multi-screen approach. In PowerPoint 2016 or earlier, after enabling the external screen as an extended monitor, make sure to click the “set up slide show” icon and choose “Use presenter view.” The notes will show up on your screen while the presentation will show up on the main projector.

Note: If you provide slides to the students, you should delete the brief answers on the opening slide of the student version for each chapter before making the slide decks available.

**Alternate Discussion Opener:** Why should general managers have a broad understanding of information systems? How can that knowledge be helpful in their careers?

Key Points in Chapter

The **Information Systems Strategy Triangle** in Figure 1.1 links business strategy with organizational strategy and information strategy. The triangle is used to suggest that all three points must be in balance in any organization to have optimal efficiency and effectiveness. An imbalance can lead to organizational tension or possibly a crisis. A company is out of “alignment” when its business strategy is not supported by the IS. There are several implications from this model. First, business strategy drives organizational and information strategy. Second, organizational strategy must complement business strategy. Third, information strategy must complement business strategy. Fourth, organizational and information strategy should complement each other. Finally, if a change is made to one corner of the triangle, it is necessary to evaluate the other two corners to ensure balance, or **alignment**, is maintained. That means that if the business strategy is changed (i.e. such as becoming a "bricks and clicks" company), then the manager must also consider a redesign of both the organization (i.e. do we have people that can be successful in this new strategy) and the information systems (i.e. do we have the capability to process inquiries taken off of the Web).

**Strategy** is defined and is tied to the **mission** of the organization. Examples of mission statements are provided in the text (Figure 1.2), along with a discussion of how Dell has creatively adjusted its business strategy to meet the rapidly changing computer industry.

There are several ways to describe **business strategy**. This chapter summarizes two well-accepted models: the Porter generic strategies framework and dynamic frameworks such as the Goeltz **hypercompetition** model and **blue ocean** strategy concept. Current examples are offered to illustrate the models.

A **business model** is one component of a business strategy. It is essentially a blueprint of how a company conducts business. The business model can be used to both create and capture value. A business value can create value without bringing in new revenue from customers (by saving costs or investing for future revenue). In addition, data-driven business models are both new and effective, and are enabled by big data and business analytics tools.

The Porter Generic Strategies Framework (Differentiation, Cost Leadership, Focus) has spawned many variants. A **cost leadership** focus means that the company maintains above average performance by selling products that are comparable in quality (i.e. the customer perceives relative value), but at a lower price in the marketplace. **Differentiation** strategy involves uniqueness of the product in the marketplace in some appreciable qualitative dimension. A **focused** strategy directs products to meet the specific needs of a particular segment of the market, either based on cost focus or differentiation focus.

**Dynamic environment strategies** are useful to study. One example is the **hypercompetition** concept, which asserts that it is more important to disrupt than to attempt to sustain an advantage. Another is the **creative destruction** strategy, which focuses on what competitors might do to attempt to destroy the firm, and then what moves should be taken to counteract those attacks. Finally, a **blue ocean** approach flies in the face of the **red ocean** approach. A red ocean approach attempts to steal away part of an existing market from competitors, which carves a market into smaller fragments. In contrast, a blue ocean strategy attempts to redefine, or even expand an industry, by creating new products or product categories.

A **digital strategy** can be helpful for large companies operating in dynamic environments, and can require close alignment with the IS strategy. It is influenced by the digital technological capabilities of the firm as applied in changing market environments.

**Organizational strategy** is a plan that answers the question “How will the company organize to achieve its goals and implement its business strategy?” The chapter describes a useful framework for organizational design in the **managerial levers model** (Figure 1.5). That comprehensive model links organizational structure variables, control variables, and cultural variables. Decision makers can manipulate the managerial levers to effect change within the organization. Chapters 3, 4, and 5 discuss the managerial levers in greater detail and apply the organizational strategy frameworks to assessing the impact of IS.

The **IS strategy** provides the plan for information services, and supports the business strategy through needs fulfillment. Figure 1.6 provides a basic framework showing the four components of the information system, the hardware, software, networking and data, and the key managerial concerns for each: what, who, and where.

**“A Closer Look: Building a Social Business Strategy”** – Variations on the Social Business Strategy include **collaboration** (bringing people together to share ideas, information, and expertise), **engagement** (increase perceived attachment through increased interaction), and **innovation** (development of new ideas). Example: National Instruments (ni.com) has created a ‘branded community’ to collect and disseminate new ideas.

**Optional Discussion Question:** How can we recognize a misalignment between business strategy and IS strategy? Do you have any examples from internships or work experiences?

Illustrative Answers to Chapter Discussion Questions

This is a summary chapter of the key models for the information systems strategy triangle, so discussion questions were provided to get students focused on and thinking about using these models. Below are some sample answers, but expect creative answers from your students that are not represented here. We encourage you to post some of your best answers to the online community webpage and share them with other instructors.

*1. Why is it important for business strategy to drive organizational strategy and IS strategy? What might happen if the business strategy was not the driver?*

Ans: The primary point in this chapter is that in any well-run organization, the business strategy drives the rest of the operational strategy, and information systems are no different. The business strategy defines the goals and objectives based on the organizational capabilities and structure. Information systems are intended to enable and facilitate successful realization of the goals and objectives. Technology for its own sake is not usually a good investment. However, typically, managers seem to think that changing or upgrading an information system (or even a component of an information system) will only positively impact a business. This is commonly referred to as the “Technological Imperative.” Quite the opposite, in fact, is true. By making changes only in IT, impacting the information strategy, the triangle is "out of balance" and there will be consequences in the affected areas. For example, building a virtual organization, but not changing the business and organizational strategies to support the notion of "ensuring personnel are productive and have the widest possible work place opportunities" can lead to significant disconnects between workers, their managers, and their customers. And worse, without supplying the virtual worker with the appropriate information system (a capable computer at home, a versatile and light laptop, etc.) will lead to a decrease in productivity by the virtual worker, and a major disruption of business operations. Therefore, allowing IS strategy to drive business strategy could easily lead to poor implementations with disappointing outcomes (i.e. wasted resources).

*2. In 2015, the NFL decided to hand out Microsoft Surface tablets to all coaches for use during games,\* and there are reports that in the future, they will add HoloLens devices to provide augmented reality. A HoloLens device is a high-definition, head-mounted display that allows coaches to see the plays with text and animation superimposed right on the live images. If the NFL simply handed them out without making any other formal changes in organization strategy or business strategy, what might be the outcome? What unintended consequences might occur?*

[\*Note: You might want to ask students if they see the Surface as a visible part of NFL games. As of early 2020, the Surface is still advertised as the “official laptop of the NFL.” (according to <https://www.microsoft.com/en-us/surface/devices/nfl>). Ask students if they’ve seen any Hololens devices yet.]

Ans: coaches might not use them, without training and modifications to their jobs. They may be accustomed to a manual, voice and paper system and resist moving to the tablet devices. They might not appreciate the added benefits of the dynamic animation, choosing familiar business processes instead. If they do use the devices, there will eventually be strain on the rest of the organization if it doesn't adapt to this new technology. For example, messaging might become ineffective if a head coach only uses voice messaging and special team coaches use animation to simulate plays. The head coach will never see those plays and coordination will suffer. Support systems must also be redesigned. It does a coach little good to have to give up the device during a game for repairs, and a sufficient quantity of ready-to-use backups should be available. Minor problems could be disastrous, and some moderate troubleshooting skills should be provided to coaches. Employees are adept at creating their own “workarounds,” particularly when they do not support a mandatory change.

*3. Consider a traditional manufacturing company that wants to build a social business strategy. What might be a reasonable business strategy, and how would organizational and IS strategies need to change? How would this differ for a restaurant chain? A consumer-products company? A non-profit?*

Ans: A reasonable business strategy might be to provide what the customer wants when the customer wants it. The idea is to use the Web as a mechanism to connect to customers, to take their orders, to provide services when the customer wants them, and to link with suppliers and partners. To do that, the organization would have to be actively engaged and responsive, and would have to include elements of empowerment and authority for the employees tasked with monitoring the social network. It would not work to have a centralized decision making authority if the organization wants to be responsive because it would take too long to get appropriate information and communicate decisions back to the field. The manufacturing process might be organized around build-to-order rather than on market analysis and product histories, but then there would need to be a series of organizational processes and people that would be in place to make sure the manufacturing company is able to actually build the products when they are ordered. The IS strategy to support this business strategy would be one of rethinking the use of the Web as a tool for delivering information to customers, suppliers and employees. One direct value of social networks is the involvement of customers in the design and operation of the product. It is imperative that the company listen to the customer. In all of the instances listed, organizations could use social networking technologies to advertise, set up discussion groups, monitor discussions on social networking sites, use visualization tools to promote products and services, etc. The business strategy would need to adapt to listening to the customer, rather than “if we build it, they will come.” A restaurant chain could provide incentives for customers to join the social network (e.g. coupons, special orders, preferred seating, etc.). Service industries are often more agile than manufacturing firms, so implementing changes identified by customers could be nearly instantaneous. Consumer-products companies would be expected to respond to customer notifications rapidly. Customers who take the time to provide personal opinions are usually at one of the two extremes: either very happy with their experience or very unhappy. The latter group will impatiently demand action, or they will be likely to broadcast their negative views to a wide audience. Sensitivity in the company’s reply will be critical. A non-profit would be open to learning new ways to attract contributions and volunteers. The level of creativity from a social network could far exceed the capabilities of staff members. Responding to comments can create momentum and greater interest. View social networking as enhanced word-of-mouth, and don’t underestimate the impact of the media.

*4. This chapter describes key components of an IS strategy. Describe the IS strategy of a consulting firm using the matrix framework.*

Ans: The matrix framework is a very simple structure for decomposing the confusing IS architecture of an organization. For a consulting firm, some of the components would look like this:

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **What** | **Who** | **Where** |
| **Hardware** | Tablets and servers to store information, along with necessary back up devices | Consultants have their own tablets, managed by the centralized IS dept, which also "owns" the servers | Tablets are mobile, traveling with consultants. Servers are fixed at corporate offices. |
| **Software** | Office suite, collaboration tools | Consultants have the software on their tablets, but software is managed centrally by the IS group | All software resides on the mobile devices but is backed up on servers. Some corporate applications might only be on the servers. |
| **Networking** | Internet, hard wired connections from office, dial up and/or high bandwidth lines from remote (home and client) locations (e.g. secure VPN) | ISP service is obtained from AT&T or AOL or other provider who has international access numbers for dialing in. Company has own IS group provide the necessary servers to be connected to the Internet | Global access is needed. Nodes are not managed by the consulting company, but by the ISP they contract with. |
| **Data** | Engagement data such as details of the work done for clients, client data with info about who the client is, previous engagements done for them, etc., and personnel data so consultants can be identified and assigned to projects (billable work hours) | All data is "owned" by the company, but is made available to any consultant on an as-needed basis | Data reside on the servers, but are "replicated" to the tablets as needed. Information is not considered part of the company until it is on the servers, therefore information only residing on the tablets would not be recognized until uploaded to the servers. |

*5. What does this tip from Fast Company mean: “The job of the CIO is to provide organizational and strategic flexibility”?*

Ans: The job of the CIO does not just narrowly involve information systems (IS) or solely focus on developing IS strategy. Rather the CIO must work with top-level executives and functional supervisors to ensure that the IS strategy is aligned with the business and organizational strategy. A particular challenge for the CIO is to ensure that the IS architecture and infrastructure can support the business and organizational strategy. In making long-term decisions about IS architecture, the CIO must attempt to promote flexibility in the future with scalable architecture that meets the organization’s present and future needs. Being responsive to the needs of the business will create a mutual benefit for all stakeholders.

Further Discussion Questions

1. How can managers determine an imbalance between the three strategies in the Information Systems Strategy Triangle? How might corrections be made before the imbalance leads to a catastrophic failure?

2. a. Imagine that you purchase an expensive home appliance. The first time you use the device, sparks literally fly, and the device shuts down automatically. You read on the box that the company engages in social networking using a dedicated site. Would you use the social networking site to share your concerns? Why/why not? What do you expect to happen in this instance?

b. Now imagine that you are the corporate representative assigned to respond to the customer feedback provided in part a. What is the appropriate way to engage this irate customer? (“Ignore it; hope it goes away”?)

3. Many companies have created corporate Facebook pages/groups. From your experience, are those pages well-utilized? What characteristics might lead some pages to be used widely and what characteristics would lead them to be abandoned? How might a company motivate customers to interact with it using social networking technologies? How would the organizational and IS strategies need to change to increase the effectiveness of this social business strategy?

Cases

**Case Study 1-1: Amazon in 2019**

1. How does Amazon’s Flywheel strategy fit with its evolving vision statements over the years?

Ans: Amazon has focused on expansion and acquisitions to support its original vision of being the largest bookstore in earth. Adding the notion of shipping some books directly from publishers required some changes to infrastructure, but it provides unlimited quantities and varieties of books at very low marginal cost. The newer vision of being the largest store on earth involved expanding the variety of product lines and further acquisitions to bring more revenue to spread costs over more and more units. Each additional product line does not automatically require new systems. Adding electronics to the core of books does not require double the information systems, and therefore, IT costs are then spread out over more and more units. Kitchen appliances, yard furniture, and hardware likewise bring in revenue without an increase in IT costs. Further, although some fundamental changes such as allowing third party sellers expanded product varieties profoundly, it is quite extensible, nearly making it possible to offer nearly any goods at all. Ten years of losses paid off for Amazon, and their large investments in the early years all built inertia in their “flywheel.”

2. Focusing on online product sales, which of the generic strategies does Amazon appear to be using based on this case? Provide support for your choice.

Ans: Students will likely have good reasons to pick all three strategies. Their focus appears to be the service of linking buyers to either their goods or to sellers who do. The “flywheel” notion appears to support a low cost advantage. Finally, the argument that they have a differentiation strategy could be made in the following way: They offer the most shopping convenience, with high trust, convenient policies, and data to provide guidance on purchases. There are many ways to demonstrate differentiation other than these here and class discussion should be quite interesting.

3. How far could Bezos have gone in Amazon’s evolution without using information technology?

Ans: Bezos would not have many options. The entire business requires technology, from the back office to the customer experience.

4. Assume there is hypercompetition in product sales. How is Amazon responding to that environment?

Ans: Amazon continues to innovate. The purchase of Whole Foods completely seemed to reverse their previous “e-commerce only” approach. Amazon’s ventures into Amazon Go! and announcements about healthcare mentioned in the text are aimed at disruption. Ask students to search on the web for “Amazon new ventures” and items such as self-driving cars, Internet satellites, and electric trucks will come up. Disruption seems to resonate throughout Amazon’s actions.

1. Are the newly announced endeavors in healthcare, Amazon Go! Stores, and shipping services consistent with Amazon’s vision? Defend your position.

Ans: Students will have different ideas here, but in general, Amazon’s vision is largely inconsistent with just being the largest store on Earth, just like adding electronics was inconsistent with being the largest bookstore on the planet. It seems reasonable to expect Amazon’s vision to change over the years when various of the new endeavors succeed.

**Case Study 1-2: Lego**

1. How did the information systems and the organization design changes implemented by Knudstorp align with the changes in business strategy?

Ans: Knudstorp determined that the way to save the company was to focus on productivity and profits. The organizational strategy included incentives for employees, encouraging them to develop profitable new product ideas. From the modeler approach, the IS strategy followed the same pattern. The infrastructure was streamlined and the systems supported a more responsive product ordering/operations/shipping business process. The entire company adapted to the new goals and objectives, focusing on key performance indicators of creating products that were well-received by customers.

1. Which of the generic strategies does Lego appear to be using in this case? Provide support for your choice.

Ans: Lego appears to be following a differentiated focused strategy. These are toys designed for creative play. They are high quality, and not the cheapest products on the market. However, they are designed to appeal to a variety of customers – themes to capture movie followers (e.g. Star Wars), video games, and creative artists. Each product line can be targeted toward a particular group.

1. Are the changes implemented by Knudstorp an indication of hypercompetition? Defend your position.

Ans: This would be a hypercompetition strategy since the market continues to change rapidly, and Lego must keep pace with the market. Also, the company is attempting to dynamically adapt to the rapid pace of change. Entering into new markets with innovative product offerings is one way to stay ahead of the competition.

1. What advice would you give Knudstorp and Christiansen to move Lego out of the recent doldrums, and to return to growth and relevance?

Ans: Student responses will vary. Answers should be creative and reflect deep, critical thinking. In general, Lego should remain financially viable through cost cutting practices, automation using IT, and innovative product designs based on sound marketing studies and focus groups. Remove products from inventory if they are not selling well, or if they are not resulting in financial profits. Higher margin products should be added to the portfolio to help secure the company’s future.

Supplemental Cases

**Google Inc.** by Edelman, B., and Eisenmann, T.R., Harvard Business School. 9-910-036, 21 pages, 2011 (setting: US)

This case study provides a glimpse of Google’s history and is a good compliment to the mini-case provided in the chapter. The authors discuss the strategic focus and competition with Yahoo! and Microsoft. Students will be required to recommend a course of action for the company going forward.

**Airbnb (A)** by Edelman, B., and Luca, M., Harvard Business School. 9-912-019, 7 pages, 2012 (setting: US)

Airbnb is an online apartment rental site. This case study explores the online reputation service developed to address trust issues in the apartment rental business. Students will investigate the tradeoff between complexity/simplicity and amount of information necessary.

**Introducing Expert Systems at The Corporation** by Liebowitz J., Idea Publishing Group. IT5555, 8 pages (setting: US)

This case study highlights the concept the “management” of the technology is usually the limiting factor causing the demise of a project rather than the “technology” itself. This real case study involves creating an awareness of a new technology within the company and trying to start a much-needed project using this technology.

**Risks and Rewards at Frontier Communications: Improving Customer Service Using Client/Server Technology** byMathieson, K. and T. Toland , Idea Publishing Group. IT5561, 11 pages (setting: US)

The case shows how a firm can improve a critical business function with new technology. In addition, the case shows that a firm can use new technology to build mission-critical information systems and examines the risks and benefits of restructuring.

**Business Reeingineering at a Large Government Agency** byMcGarry, N.and T. Beckman, Idea Publishing Group. IT5562, 25 pages (setting: US)

This case describes the difficulties and successes encountered in a reengineering effort. A team of consultants undertook reengineering the delivery of compensation and benefits at a large quasi-governmental agency. Benefits included six programs which accounted for time-intensive processes such as “cafeteria plan,” options enrollment period where information is dispersed to assist employees in plan selection, and retirement accounts.

**End-User computing at BRECI: The Ordeals of a One-Person IS Department** by Moffitt, K. Idea Publishing Group. IT5563, 11 pages (setting: US)

The intention of the case study is to show an unsuccessful attempt at the introduction and use of information technology in a small business, leading to the finding that the application and understanding of technology is lacking in many small businesses that could benefit greatly from its use.

**Implementing a Wide-Area Network at a Naval Air Station: A Stakeholder Analysis** Hocevar, S.P., B.A. Frew, and V.C. Bayer. Idea Publishing Group. IT5568, 13 pages (setting: US)

This case study illustrates the use of a non-traditional approach to determine the requirements for the Naval Air Systems Team Wide-Area Network (NAVWAN). It is considered to be non-traditional because the case data enable the use of Stakeholder Analysis and SWOT (strengths, weaknesses, opportunities, threats) assessments to determine the requirements instead of asking functional proponents about function and data requirements.

**Reengineering the Selling Process in a Showroom** byCrnkovic, J., N. Janicijevic, and G. Petkovic, Idea Publishing Group. IT5630, 14 pages (setting: Yugoslavia)

The case study describes a process of successful re-engineering of a small Yugoslavian showroom wholesale company (“Wissol”) during the period of economy in transition. An established organizational solution was not supported by adequate IS support. It opens possibilities for designing an IS prototype and for planning future steps in IT and IRM.

**Enterprise Wide Strategic Information Systems Planning for Shanghai Bell Corporation** byLong, Y., F. Fui-hoon Nah, and Zhanbei Shu. Idea Publishing Group. IT5581, 16 pages (setting: China)

This case examines Shanghai Bell Corporation, Limited, a leading telecommunications enterprise located in Shanghai, China, and its initiative to develop its new generation Information Technology/Information Systems (IT/IS) plan. The issues covered include alignment of IT strategy with evolving business needs, application of a methodology to develop the enterprise-wide strategic IT/IS plan, and the evaluation of strategic planning project success.

Supplemental Readings/Articles

# Coltman, Tim R., et al. "Strategic IT alignment: twenty-five years on." *Journal of Information Technology* (2015).

# Martinez-Simarro, D., Devece, C., & Llopis-Albert, C. (2015). How information systems strategy moderates the relationship between business strategy and performance. *Journal of Business Research*, *68*(7), 1592-1594.

**Kim, W. C., & Mauborgne, R. (2015). *Blue Ocean Strategy, Expanded Edition: How to Create Uncontested Market Space and Make the Competition Irrelevant*. Harvard Business Review Press.**

**Sakas, Damianos, Dimitris Vlachos, and Dimitris Nasiopoulos. "Modelling strategic management for the development of competitive advantage, based on technology." *Journal of Systems and Information Technology* 16.3 (2014): 187-209.**

**Gerow, Jennifer E., et al. "Looking Toward the Future of IT-Business Strategic Alignment through the Past: A Meta-Analysis." *Mis Quarterly* 38.4 (2014): 1059-1085.**

**Lee, Dongwon, and Sunil Mithas. "IT Investments, Alignment and Firm Performance: Evidence from an Emerging Economy." (2014).**

**Chae, H. C., Koh, C. E., & Prybutok, V. R. (2014). Information technology capability and firm performance: contradictory findings and their possible causes. *MIS Quarterly*, *38*(1), 305-326.**

# Learning to Compete: IT's Next Transformation from [EMC](http://www.webbuyersguide.com/company/120/EMC)

<http://www.emc.com/microsites/cio/articles/learning-to-compete/pwf.htm>

This white paper covers the changing relationship between IT and business. Rapid implementation, efficiency, and reliability are the clear expectations. There is competition for IT solutions not present in years past. Alignment with the business users’ needs is critical to attracting internal clients. These changes lead to operational changes as well.

**Andrew McAfee and Erik Brynjolfsson, “Investing in the IT that makes a competitive difference,” Harvard Business Review, July 2008.**

This article provides practical advice for managers to create a sustainable competitive advantage through a strategic use of technology. The three key points are: deploy an enterprise technology that is integrated, innovate by improving work processes, and propagate those successes throughout the company. It is important to continue these endeavors to stay ahead of the competition.

**Brad Wyckoff and David Thompson, “Unlocking the Value of IT” Harvard Business Review. May 25, 2010.** [**www.hbr.org**](http://www.hbr.org)

Organizations must become information-centric (predictive) rather than system-centric (historical). In order to facilitate competitive advantage, data must be pushed out to the decision makers throughout the organization. This article exposes the gap that exists between what companies say about the value of this critical asset and what they are actually doing with their data.

**Shayndi Raice, “Is Facebook Ready for the Big Time?” Wall Street Journal January 14-15, 2012, B1.**

The article features an interview with Mark Zuckerberg, Chief Executive of Facebook, and Sheryl Sandberg, former Google Inc. executive. They discuss the initial public offering for the social networking company and the original purpose behind the product.

Books

**Galliers, Robert D., and Dorothy E. Leidner. *Strategic information management: challenges and strategies in managing information systems*. Routledge, 2014.**

[**R.D. Austin**](http://cb.hbsp.harvard.edu/cb/web/search_results.seam?conversationId=439521&N=4294963272)**,** [**R.L. Nolan**](http://cb.hbsp.harvard.edu/cb/web/search_results.seam?conversationId=439521&N=4294963271)**, and** [**S. O'Donnell**](http://cb.hbsp.harvard.edu/cb/web/search_results.seam?conversationId=439521&N=4294963270)**, *The Adventures of an IT Leader*. MA: Harvard Business School Press, 2009.**

**R. D'Aveni, *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*. New York: Free Press, 1994.**

**F. Hogue, V. Sambamurthy, R. Zmud, T. Trainer, and C.Wilson, *Winning the 3-Legged Race*. Upper Saddle River, NJ: Prentice Hall, 2005.**

**M. Porter, *Competitive Advantage*. New York: Free Press, 1985.**

**M. Porter, *Competitive Strategies*. New York: Free Press, 1998.**

Websites

[**www.bp.com**](http://www.bp.com)

BP is a global petrochemical company. The website includes a tab featuring the innovative uses of technology, from seismic imaging to biofuels. Links also update the cleanup from the Gulf of Mexico oil spill that occurred in April 2010.

**Ritz-Carlton Gold Standards:** [**http://corporate.ritzcarlton.com/en/About/GoldStandards.htm**](http://corporate.ritzcarlton.com/en/About/GoldStandards.htm)

The website describes the values and philosophy for the premier hotel chain.

[**www.cisco.com**](http://www.cisco.com)The Cisco website is an excellent source of additional information on the importance of linking business, organizational and IT strategy. Look at the annual report letter from the CEO, and at the numerous cultural and organizational references Cisco describes as part of their various programs and opportunities.

[**www.cio.com**](http://www.cio.com)CIO and CIO.com are published by CXO Media Inc. to meet the needs of CIOs (Chief Information Officers) and other information executives. CIO is read by more than 140,000 CIOs and senior executives who oversee annual IT budgets in excess of $175 million. CIO.com serves over 12 million pages annually.

[**www.google.com**](http://www.google.com)

Founded in 1998, the statement from the website is, “Google’s mission is to organize the world’s information and make it universally accessible and useful.” Visitors can learn a detailed history of the company, from the original search engine to the IPO in 2004 and, more recently, the launch of Google+. This website is a valuable companion to the case study.

News

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