[CHAPTER 2]

Case Study: Collaboration and Innovation at Procter and Gamble

1. What is Procter & Gamble's business strategy? What is the relationship of collaboration and innovation to that business strategy?

P&G's business operations are divided into three main units: Beauty Care, Household Care, and Health and Well-Being, each of which are further subdivided into more specific units. In each of these divisions, P&G has three main focuses as a business:

- maintain the popularity of its existing brands, via advertising and marketing;
- extend its brands to related products by developing new products under those brands;
- innovate and create new brands entirely from scratch.

Having R&D teams spread throughout 30 sites globally, P&G is in strong need of collaboration tools that allow researchers, marketers, and managers to easily gather, store, and share knowledge and information. At 3.4 percent of revenue, P&G spends more than twice the industry average on innovation to support its business strategies.

2. How is P&G using collaboration systems to execute its business model and business strategy? List and describe the collaboration systems and technologies it is using and the benefits of each.

To support the business strategy of innovating and creating new brands entirely from scratch, P&G must find the right tools to support collaboration and innovation. Some of the collaboration system the company's employees and partners use are:

- Social networking and collaborative tools popularized by Web 2.0: Allows researchers and scientists from inside and outside the company to work together more easily and efficiently while reducing research and development costs.
- Microsoft services that include instant messaging, unified communications, Microsoft
 Live Communications Server functionality, Web conferencing with Live Meeting, and
 content management with SharePoint: Reduces the time and effort necessary to share data
 and information between employees and others involved in the company's R&D effort.
 For instance, marketers can access data from researchers and create highly targeted ad
 campaigns.

3. Why were some collaborative technologies slow to catch on at P&G?

P&G is no different than most companies when it comes to introducing new systems to employees who are used to the comfort of familiar methods and tools. In short, most people resist change whenever they can. Email was the primary method of disseminating information among researchers and scientists. It was proving to be too slow and a very cumbersome way to reach those who needed the information most. Employees have resisted the new collaborative technologies claiming the tools have added more work rather than reducing it.

The networked collaborative tools and technologies P&G introduced rely on an ever-increasing number of people using them. The more people that engage in the network the better the network

becomes. To make the new technologies successful, P&G employees had to grow the database of information and continually improve the knowledge base making it even more attractive to a wider audience of users.

4. Compare P&G's old and new processes for writing up and distributing the results of a research experiment.

Researchers used "old-fashioned" glue to compile information into traditional notebooks which were passed to only a few colleagues. An executive entered data into PowerPoint slides and emailed them to those he thought were interested in the information. The slides were emailed numerous times by others, with some receiving multiple copies of the same file.

P&G's IT department creates Microsoft SharePoint pages where researchers, executives, employees, and business partners can post documents, spreadsheets, slide presentations, and other forms of information for anyone to access and use. It's a much more efficient and effective method of collecting, storing, and disseminating information throughout the organization.

The company uses InnovationNet, a collaborative tool that allows users to access over five million research-related documents via a browser-based portal.

Rather than use cumbersome email exchanges, employees use blogs and other collaborative tools to communicate with each other.

5. Why is telepresence such a useful collaborative tool for a company like P&G?

Because P&G has employees located in more than 80 countries, it just doesn't make sense not to use telepresence technologies as a way to easily bring research and development teams together. P&G required Cisco to build individual studios to particular specifications that portrayed the distinct characteristics of each location. That helps make users more comfortable and more accurately reflects the diversity of employees at each location. Telepresence technologies have greatly improved over the years while the costs of implementing and operating the conference rooms have been significantly reduced. The usage of telepresence technologies throughout P&G ranges from 35 percent to 70 percent. The time it takes to make decisions has shrunk from days to minutes thanks to telepresence technologies.

6. Can you think of other ways P&G could use collaboration to foster innovation?

P& G could use intranets and extranets to collect information in one place and in one basic format. The nets would be accessible to anyone at any time. YouTube type videos and large audience Webinars can be used for training. Wikis can be used as a repository for knowledge management allowing information to be collaboratively reviewed and edited.

[CHAPTER 3]

<u>Case Study:</u> Will TV Succumb to the Internet?

1. What competitive forces have challenged the television industry? What problems have these forces created?

The competitive forces that challenge the television industry include:

- a. Traditional competitors: Television networks and content producers are continuously devising new, more efficient ways to increase the number of viewers and increase the amount of revenue gained from advertisers. The cable industry that relies on a captured audience of viewers who pay a monthly subscription for television content is most threatened by these changes.
- b. New market entrants: Web sites like Hulu.com, YouTube.com, Facebook, CBS's TV.com, and Joost are all new avenues for people wanting to access television content on their own time schedule, with a reduced amount of advertising. Advertising dollars must now be redistributed from traditional content providers to these new market entrants.
- c. Substitute products and services: Television viewers no longer have to rely on just a few ways to access television shows. Fiber-optic telephone lines to the home can substitute for cable TV lines and satellite TV service. If people can download their favorite television show to their iPhone and view it according to their time schedule and not someone else's, why shouldn't they? These changes pose a threat to the steady advertising income stream traditional television companies have enjoyed.

2. Describe the impact of disruptive technology on the companies discussed in this case.

Downloading video content from movies and television shows is faster and easier than ever thanks to high-speed Internet access, powerful PCs with high-resolution display screens, iPhones and other mobile handheld computing devices, and Web-enabled televisions just coming into the market. Free and often illegal downloads of some TV shows are abundant. The Internet is also providing new ways for television studios to distribute and sell their content. The television industry is embracing the Internet as another delivery system for its content. Several television broadcast networks set up Hulu.com to stream television shows and movies to viewers. The basic site is free to viewers and supported by advertising commercials. Hulu.com began a subscription service in 2010 that requires users to pay a monthly fee to enjoy advanced services. The networks and producers gain revenues from online advertising aimed at people who actively seek out the Web site. The technology threatens the cable companies if too many viewers cancel their subscriptions.

3. How have the cable programming and delivery companies responded to the Internet?

The cable companies are being forced to go where the customers are and not wait for the customers to come to them. By making more television shows available online, but only for cable subscribers, the cable networks hope to preserve and possibly expand the cable TV subscription model in an increasingly digital world. The system used in the Comcast-Time Warner trial is interoperable with cable service providers' systems to authenticate

subscribers. The same technology might also allow cable firms to provide demographic data for more targeted ads and perhaps more sophisticated advertising down the road. Cable programmers also stand to earn more advertising revenue because viewers can't skip ads on TV programs streamed from the Web as they do with traditional TV. Cable companies must be careful not to cannibalize TV subscriptions or viewership ratings that generate advertising revenue.

4. What management, organization, and technology issues must be addressed to solve the cable industry's problems?

Management: Customers accustomed to YouTube and Hulu may rebel if too many ads are shown online. If people can't access content delivered by the cable industry from any device they want, they will find alternate companies that can deliver what they want, when they want it, and how they want it. Customers will continue to drive the competitive forces for and against the cable industry.

Organization: Cable companies will start feeling the impact of customers canceling subscriptions to view online video and TV by 2012. Hulu and other Web TV and video sites will have much deeper content, and the technology to deliver that content to home viewers will be more advanced by then. Cable companies, television content producers, and advertisers must continue to devise new strategies for dealing with this shifting practice.

Technology: Cable companies and television content producers must continue to improve the technologies they use to deliver content in both traditional avenues and new Internet-related streams. If the cable companies fail to improve the traditional avenues, subscribers will increasingly find new methods for accessing content. If cable companies fail to improve and increase the number of ways subscribers can access content using Internet-related technologies like computers and cellphones, customers will go somewhere else.

5. Have the cable companies found a successful new business model to compete with the Internet? Why or why not?

Student answers will vary depending on their personal experiences and exposure to new avenues of accessing television content. Students may want to include how well or how poorly cable companies are using information system strategies for dealing with competitive forces. For instance, are they choosing to be low-cost providers, differentiating their products, focusing on market niches, or strengthening their customer and supplier intimacies?

6. If more television programs were available online, would you cancel your cable subscription? Why or why not?

Highly individualized answers will abound from this question. Many students may relate their opinion to the issue of resistance to change. Changes in personal, individual routines may be too much for some people thereby influencing whether they make the move from traditional viewing habits or stick with what's most comfortable for them. Those people who

are comfortable with new technologies will probably make the switch to non-conventional television viewing sooner than others.

Opinions may be framed in the context of the effects of disruptive technologies on the advertising and marketing industries, the television industry, the cable industry, and the Internet industry. Students should also focus on which firms may benefit the most from this trend—first movers, second movers, or innovative followers.

Case Study: Salesforce.Com: Cloud Services Go Mainstream

1. How does Salesforce.com use cloud computing?

Salesforce.com provides customer relationship management and other software applications using the software-as-a-service business model over the Internet. Cloud computing, also known as on-demand computing, eliminates the need for a business to make large up-front hardware and software investments and reduces the time to implement new programs. Subscribers to Salesforce.com don't have to purchase or maintain any hardware (albeit personal computing devices) nor do they have to install any special operating systems, database servers, or application servers. Other than the monthly user subscription fee, businesses reduce their licensing and maintenance fees. Users access the Salesforce.com cloud through a standard Web browser or a mobile handheld device. Businesses using the Salesforce.com's cloud have an easier time scaling their system as they increase or decrease their workforce – they adjust the number of subscriptions to the cloud.

Salesforce.com offers some customization of its software so a business can adjust the software to unique business processes. It offers three types of clouds: Sales cloud, service cloud, and the custom cloud. The sales and service clouds help businesses improve sales and customer service. The custom cloud provides a venue for customers to develop their own applications for use within the broader Salesforce network.

2. What are some of the challenges facing Salesforce as it continues its growth? How well will it be able to meet those challenges?

Challenges include:

- Increased competition both from traditional industry leaders and new challengers hoping to replicate Salesforce's success
- Expanding its business model into other areas
- Ensuring the system is available 24/7 with no outages
- Defending the system against security breeches

Salesforce is answering the first two challenges by partnering with Google and combining its services with Gmail, Google Docs, Google Talk, and Google Calendar to allow its customers to accomplish more tasks via the Web. Salesforce.com and Google both hope that their Salesforce.com for Google Apps initiative will galvanize further growth in on-demand software. By partnering with Apple, Salesforce.com can expand its applications to iPhone users who will have access to their data anywhere any time. Through its partnership with Amazon.com, Force customers can tap into Amazon.com's cloud computing services that can handle "cloud burst computing" tasks that require extra processing power or storage capacity.

Salesforce opened up its Custom Cloud (also known as Force.com) application development platform to other independent software developers and listed their programs on its AppExchange. The company introduced a development tool for integrating with Facebook's

social network that allows customers to build applications that call functions at the Facebook site. Small businesses can go online and download software applications, some add-ons to Salesforce.com and others that are unrelated.

In order to grow its revenues to levels that industry observers and Wall Street eventually expects, Salesforce will need to change its focus from selling a suite of software applications to providing a broader cloud computing "platform" on which many software companies can deliver applications.

To ensure system availability, Salesforce.com provides tools to assure customers about its system reliability and also offers PC applications that tie into their services so users can work offline.

3. What kinds of businesses could benefit from switching to Salesforce and why?

Small to medium-size businesses are probably the most likely ones to switch to Salesforce.com because of cost factors and the lack of having in-house resources to provide the same level of computing capacity. Businesses that are trying to increase the sophistication of their computing capabilities could also benefit from switching to Salesforce as long as the two are compatible. Businesses that rely on smart customer management would benefit greatly from using the tools available at Salesforce.com. Also companies that have small sales and marketing teams can benefit from the software-as-a-service business model.

4. What factors would you take into account in deciding whether to use Salesforce.com for your business?

Businesses should assess the costs and benefits of the service, weighing all people, organization, and technology issues. Does the software-as-a-service applications integrate well with the existing systems? Does it deliver a level of service and performance that's acceptable for the business? Does the SaaS fit with the business' overall competitive strategy and allow the company to focus on core business issues instead of technology challenges?

5. Could a company run its entire business using Salesforce.com, Force.com and App Exchange? Explain your answer.

Depending on the type of business, a company probably could run its entire operations using Salesforce.com, Force.com, and App Exchange. All four major functional areas of a business are supported: Sales and Marketing, Manufacturing and Production, Finance, and Human Resources. There are dozens of applications available to fully support all of these areas. It would be a matter of integrating the software from Salesforce.com and App Exchange with any existing legacy systems within the business.

[CHAPTER 7]

Case Study: Google, Apple, and Microsoft Struggle for Your Internet Experience

1. Define and compare the business models and areas of strength of Apple, Google, and Microsoft.

Apple: Its business model focuses on centralized control of almost all aspects of its hardware and software. It believes smartphones and tablets should have proprietary standards and be tightly controlled. It only allows apps from its App store, that have been vetted by the company, to be loaded to its products. Apple has a very loyal user base that has steadily grown and most likely will stay with Apple products in the future.

Google: Its business model has always focused on the Internet and the Web. It began as one of many search engines. It quickly ran away from the pack with its copyrighted PageRank search algorithm which returns superior search results for Web users. It also has developed extensive online advertising services for businesses of all sizes. Google provides value to the user by using an inexpensive, flexible infrastructure to speed up Web searches and provide its users with a vast array of Web-based services and software tools.

Microsoft: Its business model originally focused on the desktop computer running the Windows operating system and Office desktop productivity applications. The company and its products are staples for businesses and consumers looking to improve their productivity with computer-based tasks. While it is trying to expand its presence on the Internet, it still must try to keep customers bound to the desktop computer.

2. Why is mobile computing so important to these three firms? Evaluate the mobile platform offerings of each firm.

This case demonstrates the fundamental paradigm shift from primarily desktop PC computing to mobile computing devices accessing services through the Internet that is currently taking place. This environment is projected to be a \$400 billion e-commerce marketplace where the major acesss device will be a mobile smartphone or tablet computer. Each company is vying for the lead in a world of ubiquitous computing based on Internet access. The leader stands to make untold profits from advertising but in order to do that, the leader needs to claim the largest user base.

Apps greatly enrich the experience of using a mobile device. Whoever creates the most appealing set of devices and applications will derive a significant competitive advantage over rival companies.

Apple: by far the current leader in the number of apps users can download – over 250,000. Apple takes a 30% cut of every app purchased. Uses a closed proprietary system and apps that only provide "one way in."

Google: aggressively following the eyeballs. It has introduced the Android mobile operating system for a host of non-Apple devices. The Droid system adds features that Apple devices don't have – the ability to run multiple apps at the same time. Uses an open non-proprietary

system that allows users to grab apps from any source.

Microsoft: trying to partner with Apple and make Bing the default search engine on both the iPhone and Apple's Web browser. That would provide Microsoft with a much needed boost to its fledgling search service. Otherwise, Microsoft doesn't bring much to the table in mobile computing.

3. What is the significance of applications and app stores to the success or failure of mobile computing?

Apps greatly enrich the experience of using amobile device, and without them, the predictions for the future of mobile Internet would not be nearly as bright. Whoever creates the most appealing set of devices and applications will derive a significant competitive advantage over rival companies.

Apple makes money on each app sold through its App store. That's worth billions of dollars to the company. Even if an app is free, Apple still has an advantage because users must visit Apple's App Store and the company is betting consumers will buy something else, other apps or entertainment services, while visiting the store. However, app developers have complained that making money is too difficult. Apple has blocked some apps from its mobile devices, namely Google's voice mail management program, Google Voice. Apple claimed it violated user privacy.

Apps for the Android system used on non-Apple devices are available from many different sources. Google has worked very hard to increase the number of apps available for Droid-based mobile devices by encouraging developers to increase the number of apps. Google also makes money by embedding advertising in some of the apps used on Droid-based devices.

4. Which company and business model do you believe will prevail in this epic struggle? Explain your answer.

Students should consider these principles in their answers:

- The size, complexity, and bureaucracy of organizations affect the ability of any company to continue to innovate, grow, and expand its reach. (see Chapter 3) As all three companies try to expand into mobile computing, their ability to "turn on a dime" in the face of other competitors may be in serious jeopardy.
- Google currently has the major share of the Web-based advertising market, however Microsoft and other market entrants will be a major threat to them. The Microsoft corporation have very "deep pockets" and will stop at nothing to overturn and destroy Google's competitive advantage. Apple has had a significant lead in mobile computing for several years. However, as more companies, Google, Microsoft, and others, continue to expand into the arena, it's lead will be threatened. Legal and regulatory compliance will be a major issue as this market grows and more concerns are expressed from external environments.
- History is not on anyone's side. Every major company that's been a force in technology in one era has lost its lead in the next era. For example, IBM was king of mainframe computing in the 1940s and 1950s. DEC was king in the mini-computer

era during the 1970s. Microsoft was king in the 1980s and 1990s during the reign of desktop computers. Google reigns in the 2000s with its Web-based services. Apple began as king of mobile computing devices. Will it remain on top as technology continues to evolve?

5. What difference would it make to you as a manager or individual consumer if Apple, Google, or Microsoft dominated the Internet experience? Explain your answer.

Right now Apple leads Google in the number of apps available to users. That gap is closing quickly thanks to Google's improvements of the Android operating system and its eencouragement to app developers. Open, non-proprietary systems historically have beat closed, proprietary systems because developers and users have a wider range of choices. Business managers must try to forecast which platform will provide the right choices for emplooyees. Consumers must choose which platform will best fulfill their personal needs for the next two to three years. Switching costs play into both scenarios, not just in terms of phone purchases but the price of apps. Once a user purchases and adjusts to using a certain platform it's difficult and expensive to switch to a whole different system.

Case Study: Border States Industries Fuels Rapid Growth with ERP

1. What problems was Border States Industries encountering as it expanded? What management, organization, and technology factors were responsible for these problems?

Border States Industries had used its own legacy enterprise resource planning system since 1988 to support its core business processes. The system though had been designed exclusively for electrical wholesalers. The system could no longer support BSE's new lines of business and extensive growth. BSE chose enterprise software from SAP AG as its new information system.

Management: Eventhough senior management worked closely with IBM and SAP during the system implementation, day-to-day operations suffered while managers were working on the project. The first group of "expert users" were trained too early in the project and had to be retrained when the new system finally went live.

Organization: Prior to the implementation, BSE had no experience with SAP software and only had a few consultants familiar with the version of the SAP software that BSE was using. Instead of adopting the best-practice business processes embedded in the SAP software, BSE hired consultants to further customize the SAP software to make its new system look like its old one in certain areas. Because of the extensive customization, the launch date was pushed back four months and the cost of implementation increased by \$3 million.

Technology: The company chose to customize the system extensively, writing its own software to enable the ERP system to interface automatically with systems from other vendors. Converting and cleansing data from BSE's legacy system took far longer than management anticipated. BSE never fully tested the system as it would be used in a working production environment before the system actually went live.

When the Internet brought about the need for additional changes, the existing SAP software did not support these changes. BSE was forced to manually process thousands of transactions outside the SAP system.

2. How easy was it to develop a solution using SAP ERP software? Explain your answer.

When BSE upgraded its ERP system to a newer version of SAP software in 2004, it kept customization to a minimum and used the SAP best practices for wholesale distribution. It also replaced other software components with SAP software that provided more integration throughout the company's business processes. Because the company did not customize as much the second time around, the implementation went smoother. The new system went live on its target date and costs were 14 percent below budget. When BSE acquired a large company that added 19 new branches, the new users were able to run BSE's SAP software within a day after the acquisition had been completed.

3. List and describe the benefits from the SAP software.

Instead of waiting 15 to 20 days for monthly financial statements, monthly and year-to-date financial results are available within a day after closing the books. Manual work for handling incoming mail, preparing bank deposits, and taking checks physically to the bank is significantly reduced. Over 60 percent of vendor invoices arrive electronically, which has reduced staff size in accounts payable and the number of transaction errors. Transaction costs are lower.

Even though the IT staff used to support the SAP system increased significantly and IT costs rose by approximately \$3 million per year after the first SAP implementation, sales expanded during the same period. The increased system overhead produced a cost increase of only .5 percent of total sales.

Much of the work that was automated by the ERP systems has been in the accounting department and involved activities that were purely transactional. This has freed up resources for adding more employees who work directly with customers trying to reduce costs and increase sales.

Prior to the ERP implementation, management lacked a single company-wide version of corporate data because data were fragmented into many different systems. Now the company is standardized on one common platform and the information is always current and available to management. Management can obtain a picture of how the entire business is performing at any moment in time. Since the SAP system makes all of BSE's planning and budgeting data available online, management is able to make better and quicker decisions.

4. How much did the new system solution transform the business? Explain your answer.

BSE processes over 360,000 special pricing agreements with designated customers each year. The new software enabled BSE to reduce rebate fulfillment time to 72 hours and transaction processing time by 63 percent. In the past it took 15 to 30 days for BSE to receive rebates from vendors. Since BSE first deployed SAP software in 1998, sales have increased 300 percent, profits have climbed more than 500 percent, and 60 percent of accounts payable transactions take place electronically using EDI. The company turns over its inventory more than four times per year. Instead of waiting 15 to 20 days for monthly financial statements, monthly and year-to-date financial results are available within a day after closing the books.

5. How successful was this solution for BSE? Identify and describe the metrics used to measure the success of the solution.

In 2006, Gartner Group Consultants performed an independent evaluation of BSE's ERP implementation. Gartner analyzed BSE data on the impact of the ERP system on BSE's business process costs, using costs as a percentage of sales as its final metric for assessing the financial impact of SAP software. Costs categories analyzed included costs of goods sold, overhead and administration, warehousing costs, IT support, and delivery.

The first implementation, 1998 to 2001, cost \$9 million and the investment was returned within 2.5 years. Between 1998 and 2006 (when the second implementation occurred) BSE produced total savings of \$30 million, approximately one-third of BSE's cumulative earnings. As a percentage of sales, warehouse costs went down 1 percent, delivery costs decreased by .5 percent, and total overhead costs declined by 1.5 percent. Gartner calculated the total return on investment for the project between 1998 and 2006 was \$3.3 million per year, or 37% of the original investment.

6. If you had been in charge of SAP's ERP implementations, what would you have done differently?

ERP software is not designed for extensive customization like BSE did during the initial implementation in 1999. Rather than adopting the best-practice business processes embedded in the SAP software, BSE decided to customize the SAP software to make its new system look like its old system. BSE's second implementation went much smoother and cost less because it did not try to customize the system as much and it adopted the built-in best practices. The initial implementation involved too many peripheral systems rather than having everything consolidated into one system. The initial training for "expert users" was not handled well. The system was not tested as it would be used in a working production environment before the system actually went live. All of these were serious, costly errors that the company corrected the second time around.

Case Study: Border States Industries Fuels Rapid Growth with ERP

1. What problems was Border States Industries encountering as it expanded? What management, organization, and technology factors were responsible for these problems?

Border States Industries had used its own legacy enterprise resource planning system since 1988 to support its core business processes. The system though had been designed exclusively for electrical wholesalers. The system could no longer support BSE's new lines of business and extensive growth. BSE chose enterprise software from SAP AG as its new information system.

Management: Eventhough senior management worked closely with IBM and SAP during the system implementation, day-to-day operations suffered while managers were working on the project. The first group of "expert users" were trained too early in the project and had to be retrained when the new system finally went live.

Organization: Prior to the implementation, BSE had no experience with SAP software and only had a few consultants familiar with the version of the SAP software that BSE was using. Instead of adopting the best-practice business processes embedded in the SAP software, BSE hired consultants to further customize the SAP software to make its new system look like its old one in certain areas. Because of the extensive customization, the launch date was pushed back four months and the cost of implementation increased by \$3 million.

Technology: The company chose to customize the system extensively, writing its own software to enable the ERP system to interface automatically with systems from other vendors. Converting and cleansing data from BSE's legacy system took far longer than management anticipated. BSE never fully tested the system as it would be used in a working production environment before the system actually went live.

When the Internet brought about the need for additional changes, the existing SAP software did not support these changes. BSE was forced to manually process thousands of transactions outside the SAP system.

2. How easy was it to develop a solution using SAP ERP software? Explain your answer.

When BSE upgraded its ERP system to a newer version of SAP software in 2004, it kept customization to a minimum and used the SAP best practices for wholesale distribution. It also replaced other software components with SAP software that provided more integration throughout the company's business processes. Because the company did not customize as much the second time around, the implementation went smoother. The new system went live on its target date and costs were 14 percent below budget. When BSE acquired a large company that added 19 new branches, the new users were able to run BSE's SAP software within a day after the acquisition had been completed.

3. List and describe the benefits from the SAP software.

Instead of waiting 15 to 20 days for monthly financial statements, monthly and year-to-date financial results are available within a day after closing the books. Manual work for handling incoming mail, preparing bank deposits, and taking checks physically to the bank is significantly reduced. Over 60 percent of vendor invoices arrive electronically, which has reduced staff size in accounts payable and the number of transaction errors. Transaction costs are lower.

Even though the IT staff used to support the SAP system increased significantly and IT costs rose by approximately \$3 million per year after the first SAP implementation, sales expanded during the same period. The increased system overhead produced a cost increase of only .5 percent of total sales.

Much of the work that was automated by the ERP systems has been in the accounting department and involved activities that were purely transactional. This has freed up resources for adding more employees who work directly with customers trying to reduce costs and increase sales.

Prior to the ERP implementation, management lacked a single company-wide version of corporate data because data were fragmented into many different systems. Now the company is standardized on one common platform and the information is always current and available to management. Management can obtain a picture of how the entire business is performing at any moment in time. Since the SAP system makes all of BSE's planning and budgeting data available online, management is able to make better and quicker decisions.

4. How much did the new system solution transform the business? Explain your answer.

BSE processes over 360,000 special pricing agreements with designated customers each year. The new software enabled BSE to reduce rebate fulfillment time to 72 hours and transaction processing time by 63 percent. In the past it took 15 to 30 days for BSE to receive rebates from vendors. Since BSE first deployed SAP software in 1998, sales have increased 300 percent, profits have climbed more than 500 percent, and 60 percent of accounts payable transactions take place electronically using EDI. The company turns over its inventory more than four times per year. Instead of waiting 15 to 20 days for monthly financial statements, monthly and year-to-date financial results are available within a day after closing the books.

5. How successful was this solution for BSE? Identify and describe the metrics used to measure the success of the solution.

In 2006, Gartner Group Consultants performed an independent evaluation of BSE's ERP implementation. Gartner analyzed BSE data on the impact of the ERP system on BSE's business process costs, using costs as a percentage of sales as its final metric for assessing the financial impact of SAP software. Costs categories analyzed included costs of goods sold, overhead and administration, warehousing costs, IT support, and delivery.

The first implementation, 1998 to 2001, cost \$9 million and the investment was returned within 2.5 years. Between 1998 and 2006 (when the second implementation occurred) BSE

produced total savings of \$30 million, approximately one-third of BSE's cumulative earnings. As a percentage of sales, warehouse costs went down 1 percent, delivery costs decreased by .5 percent, and total overhead costs declined by 1.5 percent. Gartner calculated the total return on investment for the project between 1998 and 2006 was \$3.3 million per year, or 37% of the original investment.

6. If you had been in charge of SAP's ERP implementations, what would you have done differently?

ERP software is not designed for extensive customization like BSE did during the initial implementation in 1999. Rather than adopting the best-practice business processes embedded in the SAP software, BSE decided to customize the SAP software to make its new system look like its old system. BSE's second implementation went much smoother and cost less because it did not try to customize the system as much and it adopted the built-in best practices. The initial implementation involved too many peripheral systems rather than having everything consolidated into one system. The initial training for "expert users" was not handled well. The system was not tested as it would be used in a working production environment before the system actually went live. All of these were serious, costly errors that the company corrected the second time around.

Case Study: Amazon vs. Walmart: Which Giant Will Dominate E-commerce?

Case Study Questions

1. What concepts in the chapter are illustrated in this case?

Seven of the eight unique features of e-commerce technology are illustrated in this case:

- Ubiquity: Both e-commerce sites are available everywhere, 24/7
- Global reach: Customers around the world can access both sites
- Universal standards: Both sites employ Internet standards
- Richness: Both sites employ a single marketing message and consumer experience
- Interactivity: Both sites have a great deal of customer interaction
- Information density: Both sites provide plentiful, cheap, and accurate information
- Personalization/customization: Both sites allow a certain amount of both features

The only e-commerce technology feature not widely developed on either site is social technology.

Both sites do a good job of employing the principles of disintermediation. Amazon probably has the lead on this concept since it provides a wider array of products/services from a wider range of third-party merchants while Wal-Mart usually only sells products that it has obtained through its supply chain.

Digital goods like music and e-books are easily obtained from both sites for about the same price.

2. Analyze Amazon and Walmart.com using the value chain and competitive forces models.

Wal-Mart arguably wins over Amazon in the Traditional Competitor category of Porter's Competitive Forces Model. However, Amazon could be classified as a traditional competitor in e-commerce since it's been around the longest and has the biggest presence and name-brand in online retailing. Because Amazon can draw from thousands of partner merchants through its online auction site and general merchandise, it can compete effectively with Wal-Mart in the Substitute Products and Services category. Both of them compete head-to-head for customers but Wal-Mart probably wins the Supplier category in Porter's model with its legendary continuous inventory replenishment system. Amazon is doing a better job than in the past with its increased focus on faster delivery times and its same-day delivery in select cities and its Saturday delivery offer.

Amazon probably has done more to extend the value chain to the value Web. Along with its strategic partners it has made it easy for suppliers to display goods and open storefronts on its site. Because these partners can use Amazon's own payment system it's easy for customers to pay for goods even if the products are from different sellers. Amazon coordinates the shipment of goods to customers along with shipment tracking systems for customers. That relieves the individual merchants from bombarding customers with different shipment messages and

processes. On the other hand, Wal-Mart doesn't have to go to great lengths to build the kind of systems that Amazon has because all products come from a single supply chain.

3. What are the management, organization, and technology factors that have contributed to the success of both Wal-Mart and Amazon?

Management: Amazon's management team has done an excellent job of building its brand through the years. When overall retail sales fell throughout the 2008-2009 recession, Amazon's sales increased by 24 percent. It recognizes that e-commerce is expected to become an increasingly large portion of total retail sales in the coming years. E-commerce has recovered more quickly from the recession that traditional retail, giving Wal-Mart more reason for concern in its battle against Amazon. Wal-Mart has flexibility in establishing prices because of its size and ability to keep overhead costs to a minimum. Wal-Mart's efficiency, flexibility, and ability to carry the exact products consumers want have been enduring sources of competitive advantage.

Organization: Amazon started as a technology e-retailer with no off-line presence. In many ways that gave it a leg up in the race for online sales. It doesn't have to contend with managing offline store locations but rather can focus fully on its online presence. Wal-Mart started as a traditional brick-and-mortar retailer and played catch-up over the years in online retailing. Even though it has done a good job meshing its offline systems with its online systems, it still lacks some of the "buzz" and reputation for online sales that Amazon has enjoyed over the years.

Technology: Wal-Mart's legendary continuous inventory replenishment system provides customers with a level of confidence that what they order will immediately be available. It's "instore pick-up" with associated free shipping gives it an advantage over Amazon who must ship all products to a private home or business. Amazon has done a great deal to improve its distribution network specifically designed for Web shopping. It now offers a premium shipping service that provides "free" two-day shipping at an affordable price. Amazon's technology platform is big and powerful enough to support small and large third-party businesses that integrate their products into Amazon's Web site and use its order entry and payments systems.

4. Compare Wal-Mart's and Amazon's e-commerce business models. Which is stronger? Explain your answer.

Amazon primarily uses an E-tailer business model while Wal-Mart combines the traditional bricks-and-mortar model with an E-tailer model. There are pluses and minuses to both companies in this model as explained in previous answers. However, Amazon adds to its mix a Market Creator business model that provides a digital environment in which buyers and sellers can meet, display products, search for products, and establish prices. By partnering with other businesses and acting as a middleman for other sellers, Amazon can offer a wider variety of products/services than Wal-Mart. That gives Amazon a slight lead in e-commerce. Amazon also uses a Service Provider business model with its cloud computing service. Wal-Mart has some presence in this category by offering photo sharing services and in-store pickup of photo prints.

5. Where would you prefer to make your Internet purchases? Amazon or Walmart.com? Why?

Answers to this question will obviously vary. Some students may prefer Wal-Mart's in-store pickup service while others will value Amazon's home delivery based on time and convenience. Some students may choose one merchant over the other based strictly on prices - it's a toss-up as to which one has the lower price though. Product and service availability may rise to the top for some students - again, it could be a toss-up as to which merchant has more and better offerings. For others, it may depend on the situation as to which one they prefer more.