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CHAPTER 2: IMPLEMENTING STRATEGY: THE VALUE CHAIN, THE BALANCED SCORECARD, AND THE STRATEGY MAP

QUESTIONS

2-1 The two types of competitive strategy (per Michael Porter, as explained in chapter one) are cost leadership and differentiation. Cost leadership is the competitive strategy in which the firm succeeds by producing at the lowest cost in the industry. Differentiation is the competitive strategy in which a firm succeeds by developing and maintaining a unique value for the product, as perceived by consumers.

2-2 Many possible examples would be correct here. Examples offered in chapter one include Walmart, Texas Instruments, and HP (Hewlett-Packard).

2-3 Many possible examples would be correct here. Examples offered in chapter one include Tiffany, Bentley automobiles, Rolex, and Maytag.

2-4 The four strategic resources are used as follows. First the firm determines the critical success factors using SWOT analysis, and then uses execution to excel on these CSFs. The value chain is used to provide a more detailed understanding of the strategy and CSFs, by activity. Finally, the balanced scorecard is used to monitor and reward achievement of the CSFs and to provide a means for continual feedback to SWOT analysis, for desired changes in the overall strategy.

2-5 A strategy map is a framework for showing the relationships among the perspectives of the balanced scorecard. Typically, the scorecard has the following relationships; first, achievement in the learning and growth perspective contributes to successful performance in the internal processes perspective, which in turn leads to success at the customer perspective, and then finally the desired performance on the financial perspective.

2-6 SWOT analysis is a systematic procedure for identifying a firm's critical success factors: its internal strengths and weaknesses, and its external opportunities and threats. It is used in the first of the three steps of identifying a competitive strategy.

2-7 A management accountant is not focused on or limited to financial information only, as in the traditional view of cost and management accounting. In contrast, a strategic cost manager includes a consideration of the firm's critical success factors, which might include such non-financial information as delivery speed and customer satisfaction.

2-8 Critical success factors are strategic financial and non-financial measures of success. Critical success factors are used to define and measure the means by which a firm achieves a competitive advantage. Strategic cost management involves the development, understanding, and use of critical success factors to manage business firms and other organizations. Examples of CSFs are shown in Exhibits 2.1 and 2.5.

2-9 Several potential critical success factors for an industrial chemical manufacturer might include:

1. cost and price, since most chemicals are commodities which compete principally on price
2. speed of delivery, since many applications for these chemicals require prompt delivery
3. quality of the chemicals, so that they meet the required specifications of the customers
4. location and cost of storage, to enhance customer service and reduce overall costs
5. modernization of production and processing facilities, to produce the highest quality chemicals at the lowest prices
6. research and development, to introduce new and improved products

2-10 Several potential critical success factors for a large savings and loan institution might include:

1. Spread between the cost of funds and the earnings on investments and loans
2. Amount of total deposits, number of depositors, number of new offices, number of loans
3. Decrease in loan losses, number of bad loans, losses due to theft and fraud
4. Training hours per employee and employee turnover
5. Customer satisfaction as measured by phone survey or other means

2-11 Several critical success factors for a small chain of retail jewelry stores might include:

1. Growth in sales, number of new customers, number of new products, number of branch stores
2. Operating costs, by category
3. Customer satisfaction as measured by phone survey or mail survey
4. Identification and introduction of new products
5. Effective promotion and advertising using a variety of media
6. Competitive service policies
7. Identification of attractive store locations
8. Effective control of inventory to prevent fraud and theft

2-12 Several potential critical success factors for a large retail discount store might include:

1. Growth in sales, number of new branch stores
2. Operating costs, by category
3. Customer satisfaction, as measured by phone survey or mail survey
4. Identification and introduction of new products
5. Effective promotion and advertising using a variety of media
6. Competitive service policies
7. Identification of attractive store locations
8. Effective inventory management, both to reduce employee theft and also to reduce waste, overstocking and excessive out-of-stock conditions
9. Choice of merchandise mix, to attract customers

2-13 Several potential critical success factors for an auto-repair shop might include:

1. reliability of service
2. fair pricing
3. warranty for service; and policies for satisfying customer complaints when they occur
4. inventory management to reduce loss, waste and to reduce the cost of carrying inventory of parts
5. proper location with sufficient parking and easy access
6. effective marketing using the appropriate media

2-14 The balanced scorecard is an accounting report that includes the firm's critical success factors in four groups or "perspectives": customer satisfaction, financial performance, internal business processes, and learning & growth (human resources). The primary objective of the balanced scorecard is to serve as an action plan, a basis for implementing the strategy expressed in the CSFs, by aligning performance of managers and employees with the firm's strategy.

2-15 The balanced scorecard is important to integrate both financial and non-financial information into management reports. Financial measures reflect only a partial -- and short-term -- measure of the firm's progress. Without strategic non-financial information, the firm is likely to stray from its competitive course and to make strategically wrong product decisions -- to choose the wrong products, the wrong customers. The balanced scorecard provides a basis for a more complete analysis than is possible with financial data alone.

2-16 Sustainability means the balancing of short- and long-term goals in all three dimensions of the company's performance – economic, social and environmental. The concept is used by firms to expand their strategy to include social and environmental as well as economic goals. Some firms that have included sustainability have found that it is also good economics.

2-17 Value-chain analysis is a strategic analysis tool used to identify where value to customers can be increased or costs reduced, and to better understand the firm's linkages with suppliers, customers, and other firms in the industry.

BRIEF EXERCISES

2-18 There are a number of possible examples here. If you have trouble getting a discussion going refer the class to chapter 1 and some of the firms that were discussed there as cost leaders. For example, Walmart, which has the strengths of size, operating efficiency through innovative supply chain, and low cost operations; weaknesses would include the recent negative publicity the firm has had for its labor practices and for the negative economic consequences to competing business in communities where a Walmart is located.

2-19 There are a number of possible examples here. If you have trouble getting a discussion going refer the class to chapter 1 and some of the firms that were discussed there as differentiators, such as Target. A strength of Target is its customer loyalty and its success in developing customer appreciation for the style and quality of its products, and for the attractiveness of the stores. Survey results reported in chapter 1 show that particularly wealthy shoppers prefer Target. Weaknesses include smaller size relative to Walmart, Sears/Kmart, and other competitors, and to less efficient supply chain relative to Walmart.

2-20 Perhaps the easiest illustration of the application of the value chain is in the manufacturing industry because it is relatively easy for the students to see or imagine the processes and steps that take place in a typical manufacturing plant, from raw materials to assembly and finishing. This is why the examples in the chapter use manufacturers. The auto industry is a good additional example. example. Ask the class to consider Walmart or Target (as large retailers) and consider the supply chain at Walmart as an example of a very effective value chain.

2-21 The value chain is a detailed look at the processes within the firm to accomplish the ultimate strategic goals. Since the balanced scorecard represents the CSFs that lead to strategic success, the two are definitely related. The BSC is likely to be developed to the level of detail so that the CSFs of a given activity are represented as the balanced scorecard for that activity. For example, a hospital that uses the balanced scorecard will likely have a BSC for the admission function, which is one key link in the value chain, or similarly, the hospital will likely have a BSC for the housekeeping function, or the dietary function, each a key part of the hospital's value chain.

2-22 This is a potentially great application for value chain analysis. By identifying the two firms' value chains and then comparing relative strengths and weaknesses across the two value chains, it would be possible to see how the combined firm might be more competitive than the two separate firms. For example, consider the merger of Disney and ABC; the combination brought together a great synergy - one firm (Disney) with great content, and the other (ABC) with the media network to distribute it most effectively.

2-23 The answer should be the same. The merger of HP and Compaq in September 2001 is an example here. Also Tyson Foods and Hillshire Brands in August 2014.

2-24 To be implemented effectively, the balanced scorecard should:

Have the strong support of top management

Accurately reflect the organization's strategy

Communicate the organization's strategy clearly to all managers and employees, who understand and accept the scorecard

Have a process that reviews and modifies the scorecard as the organization's strategy and resources change

Be linked to reward and compensation systems; managers and employees have clear incentives linked to the scorecard

Include processes for assuring the accuracy and reliability of the information in the scorecard

Assure that the relevant portions of the scorecard are readily accessible to those responsible for the measures, but that the information is also secure, available only to those authorized to have the information

2-25 Normally there are fewer than 100 measures, but sometimes more than 100. The median number of measures is between 20 and 50.

Source: Raef Lawson, Toby Hatch and Denis Desrouches, *Scorecard Best Practices*, Wiley, 2008.

2-26 1. Commodity producers are likely to compete as cost-leaders because the product is difficult to differentiate.
2. Professional service firms are usually differentiators, as consumers are likely to choose their doctors, lawyers, and accountants, etc., on the basis of proven expertise, licensure, and experience.

2-27 The growth of the contract manufacturers in the electronics industry has had important effects in the competition within this industry. For example, in the TV business, it is now possible for a small firm to develop its own design and marketing organization and outsource all of its production to the contract manufacturers, thereby avoiding all of the manufacturing-related development costs that had represented a barrier to entry to the industry in prior years. Many of the contract manufactures also provide design and marketing services, so that a small firm can enter the market with a relatively small investment. This is what Vizio, Inc., a Los Angeles-based TV manufacturer, has done and the firm has become very successful in competing against some of the larger brands.

Source: "U.S. Upstart Takes on TV Giants in Price War," *The Wall Street Journal*, April 15, 2008, p1.

2-28 SWOT analysis is a useful tool for:

a. Evaluating the performance of an organization
b. Identifying the organization's critical success factors
c. Developing the organization's strategy map
d. Developing the organization's value chain

Answer: b
Learning Objective: 02-01
Feedback: Answer b is correct. SWOT analysis is used to develop and implement an organization's strategy, and the key role played by the SWOT analysis is to help identify the organization's critical success factors that are then used in the BSC, strategy map, value chain analysis, and other cost management methods such as budgeting and performance evaluation..

2-29 The following strategy implementation technique can be particularly enhanced by using benchmarking, as for example, participating in the Malcolm Baldrige National Quality award program.

a. The value chain
b. The balanced scorecard (BSC)
c. The strategy map
d. Execution

Answer d
Learning Objective: 02-02
Feedback: While all the above listed implementation methods can benefit from benchmarking, execution of goals is the one that most relies on benchmarking in setting goals and evaluating progress to meeting these goals.

2-30 The balanced scorecard is related to the strategy map in a similar way as:

a. The value chain is related to product differentiation
b. SWOT analysis is related to execution
c. The organization's key activities are related to the value chain
d. Sustainability can be related to financial reporting

Answer c
Learning Objective: 02-04
Feedback: Answer c is correct because the strategy map links the critical success factors in the BSC, and the value chain links the activities the organization uses to execute its strategy

2-31 A company taking a strategic and customer-centered point of view can best address sustainability, a concern for environmental and social as well as economic performance, through:

a. Annual financial reporting to the Securities and Exchange Commission
b. The use of a sustainability perspective in the balanced scorecard
c. Reporting violations of company policy to the proper authorities
d. Lobbying in Congress for stronger environmental regulations

Answer: b
Learning Objective: 02-05
Feedback: Answer b is correct: most companies that report sustainability results have either a separate sustainability scorecard or include sustainability as a perspective of the BSC. (a) The SEC does not permit or require sustainability reporting as part of the annual financial report. (c) reporting violations of company policy may have no effect on sustainability, and (d) lobbying in Congress may have important long term effect on sustainability, but taking action within the company through the use of a sustainability scorecard can have immediate and significant effects within the company.

2-32 The implementation of the balanced scorecard (BSC) can involve all of the following except:

a. The strong support of top management
b. An effective value chain
c. A link to reward and compensation systems
d. An accurate reflection of the organization's strategy

Answer: b
Learning Objective: 02-04
Feedback: While an effective value chain is an important component of strategy implementation, it is not required in implementing the BSC

2-33 What does it mean for the balanced scorecard to “reflect strategy”?

a. One should be able to infer an organization’s strategy from the balanced scorecard
b. The management accountant develops the balanced scorecard prior to developing a strategy
c. The balanced scorecard is one of the key methods for implementing strategy
d. You cannot have an effective strategy without an effective balanced scorecard

Answer: a
Learning Objective: 02-04
Feedback: Answer a is correct. (b) the management accountant develops the BSC ***after having*** determined strategy; the BSC helps to align performance with the strategy, (c) this is a correct statement, but does not answer the question; (d) as in (b) above, this statement is backwards The effective BSC follows from a clear strategy.

2-34 Opportunities and threats in Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis can be identified most readily by:

a. Using value chain analysis
b. Analyzing the industry and the organization’s competitors
c. Analyzing the organization’s critical success factors
d. Using the strategy map

Answer: b
Learning Objective: 02-01
Feedback: Opportunities and threats are external to the organization, so the analysis to identify opportunities and threats is to target developments outside the company, that is, to the industry and the organization’s competitors.

2-35 Which of the following statements about the value-chain is correct?

a. The two phases of the activities of the value-chain are the upstream activities and the downstream activities
b. A company need not operate in all activities of the value-chain
c. There are usually 6-8 activities in the value-chain
d. The value-chain is intended primarily for manufacturers

Answer: b
Learning Objective: 02-03
Feedback: a) there are three phases of the activities: upstream, operations, and downstream, c) there may be dozens of activities or more, and d) the value chain is applicable for service firms as well as manufacturers; this is why the second phase is entitled "operations"

2-36 Identifying a company's strengths and weaknesses requires a:

a. Careful analysis of the company's value-chain
b. Analysis of the company's balanced scorecard
c. Evaluation of the company's operations, strategy, and management competence
d. Review of the company's industry and competitive environment

Answer: c
Learning Objective: 02-01
Feedback: a) and b) the identification of strengths and weaknesses is done as part of developing the value chain and the balanced scorecard, not an analysis of the completed value-chain or balanced scorecard, and d) the review of the industry and competitive environment is part of developing opportunities and threats.

2-37 The required resources for implementing a cost leadership strategy include which of the following?

a. Strong marketing capability
b. Substantial capital investment and access to capital
c. Effective product engineering and process planning
d. Reputation for quality and innovation

Answer: b
Learning Objective: 02-01
Feedback: See Exhibit 2.2. a), c), and d) are resources for a differentiation strategy

2-38 The World Resources Institute is an organization that:

a. Provides resources for developing and benchmarking an organization's value chain
b. Provides resources for organizations that intend to expand globally
c. Provides resources for organizations that want to develop credible scorecards that include sustainability
d. Assists companies in understanding the changing environment of financial and material resources world-wide

Answer: c
Learning Objective: 02-05
Feedback: c) is correct because the mission of the World Resources Institute is to assist companies in reporting sustainability within acceptable world-wide standards. a),b) and d) are incorrect because the World Resource Institute is not directly concerned with the value-chain, the balanced scorecard, or global financial/material resources

2-39 Which of the following is an important method for implementing strategy?
a. Sustainability
b. Value chain analysis
c. Cost leadership
d. Differentiation

Answer: b
Learning Objective: 02-03
Feedback: a) sustainability is a strategic goal, and not a method to implement strategy; c) and d) (cost leadership and differentiation) are generic strategies, and not methods to implement strategy.

EXERCISES

2-40 Execution; Strategy (20 min)

1. The critical aspect of the analysis of this special order is how it will affect the brand image of Deaine's clothing. Deaine appears to compete on the basis of product differentiation, that is, its clothing is perceived to be of higher quality, attractiveness, etc. DEI is thus able to sell its clothing in upscale designer clothing retail stores, probably at a premium price. Sale of the same or similar clothing to department stores could dilute the brand image, and thus hurt the sales in the upscale retail stores. Customers who are willing to pay the premium to purchase the clothing in the designer stores may not be willing to do so if the same or similar clothing is available in department stores. Thus, while the special order might be very profitable in the short run, in the long run it is potentially very damaging for the company.

   The main point of this case, and a pervasive theme of strategic cost management, is that cost analysis from a strategic perspective can often provide a different answer from the cost analysis which has a short-term point of view. In practice, many cost systems have a short-term focus, and the strategic emphasis of strategic cost management is used to bring the firm's operations and decision making back to consistency with the firm's strategic objectives.

2. A SWOT analysis would be useful to Joel to help him more thoroughly understand the key critical success factors of his strategy and to therefore help him more effectively implement the strategy. Also, a value chain analysis would help him to understand his overall strategy and the linkages of the critical success factors in a more systematic and detailed manner. A balanced scorecard would provide Joel a means to organize these critical success factors and to regularly measure progress on each of them.

2-41 Value Chain; Currency Fluctuations (15 min)

Results for 2011- 2012:

The increase in the value of the Brazilian currency (the real) relative to that of one of its chief trading partners, China, will likely have a significant impact on Brazilian companies, particularly those that require parts for products or other materials that are commonly sourced from China. The increase in the value of the Brazilian currency (the real) will mean that these companies will find it increasingly cheaper to outsource production or purchase of these items from China, and the effect will be that local Brazilian producers of these items will not be able to compete with the lower (foreign exchange adjusted) products from China. Some Brazilian companies will benefit as the purchase of parts or materials at lower cost from China will bring the overall cost of their products down, and thus make the company more price competitive. On the other hand, the Brazilian companies that manufacture these parts will suffer the loss of the business. Thus those companies whose value chain requires the acquisition of the parts of materials will benefit, while those whose value chain involves the production of these parts and materials will suffer.

Source: “Brazil Opts for Deeper Rate Cut to Stoke Recovery,” Reuters, March 7, 2012; John Lyons and Tom Barkley, ”Brazil Leader Slams U.S. Money Policy,” *The Wall Street Journal*, April 10,2012, p.A8; Arnaldo Galvao and Iuri Dantas, “Brazil May Ask WTO About Possible Action on Weak Currencies, Official Says,” Bloomberg.com, January 18, 2011; Matthew Bristow, “Latin Currencies Keep Rising – Until They Don’t,” *Bloomberg Businessweek*, August 15, 2011, pp 12-13; Jeffrey T. Lewis, “Brazil’s Currency Unlikely to See Respite After Rate Cut,” *The Wall Street Journal*, September 1, 2011; Tom Lauricella, Alex Frangos and John Lyons, “Emerging Markets Tumble,” *The Wall Street Journal*, September 23, 2011, p. C1; John Lyons, “The Dark Side of Brazil’s Rise,” *The Wall Street Journal*, September 13, 2011.

2-41 (continued -1)

Results for January 2012 to January 2015

The value of the real fell 37% relative to the yuan and fell 36% relative to the U.S. dollar in the 2012 to 2015 period. One reason was that Brazil began to cut its interest rates in late 2011 in order to stimulate economic recovery. Now, the advantage would be to local producers to take advantage of the lower real to expand exports.

Source: "Brazil Opts for Deeper Rate Cut to Stoke Recovery," Thomson Reuters, March 7, 2012; John Lyons, "Brazil Flexes Strong Arm to Reverse Slowdown," *The Wall Street Journal*, May 31, 2012, p A12.

2-42 Value Chain; Strategy Map; Corporate Alliances (15 min)

Because it specializes only in conducting and analyzing clinical trials for new drugs, Quintiles can perform this activity more efficiently and more effectively than Solvay. This means the two corporations both benefit from the collaboration. Quintiles provides the same service for many other pharmaceutical companies, providing the same joint benefits. The joint benefits arise because the industry value chain for pharmaceutical firms has a step, the testing of new drugs, which can be efficiently and effectively outsourced. Quintiles, founded in Chapel Hill, NC in 1974, saw the need for testing and analysis services in pharmaceutical companies, and from a single contract in 1974 has grown to a company operating in 60 countries with 22,000 employees. The collaboration between Solvay and Quintiles was a natural fit.

To recognize the importance of this collaboration and to enhance the joint benefits, the two companies developed a joint balanced scorecard and strategy map in 2006. The scorecard and strategy map enabled the companies to set jointly-beneficial goals, set targets, and monitor progress toward these targets. The two companies were already using the balanced scorecard, so the concept of extending the scorecard approach to their alliance made sense.

Source: Robert S. Kaplan, David P. Norton, and BjarneRugelsjoen, “Managing Alliances with the Balanced Scorecard,” *Harvard Business Review*, January 2010, pp 114-120.

2-43 Value Chain; Sustainability (15 min)

The example of a hypothetical company, CleanTech, is based on an actual example reported by Julie Lockhart, Audrey Taylor, Karl Thomas, Brenda Levetsovitis, and Jason Wise, “When Higher Price Pays Off,” *Strategic Finance*, January 2011, pp 29-35.

1. The role of the value chain is to assist the company in identifying opportunities for adding value and reducing cost. In this case there is an opportunity for both adding value and reducing cost for both CleanTech and its customers. The complete value chain analysis for the new system illustrated in the article shows that the new system would save the cleaning company several thousand dollars per year. Moreover, it would avoid the disposal of harmful waste products, because the system is designed to simultaneously clean the tank and the waste fuel in the tank. Thus, there is no need to dispose of the waste fuel. This saves the cost of replacing the fuel, but perhaps more importantly, it avoids the environmental damage of having to dispose of the waste fuel, as would be required in CleanTech’s current cleaning system.
2. The sustainability issues associated with the disposal of the environmentally harmful waste fuel could be included both financially and non-financially. It could be included financially in cost measures (cost of replacing the waste fuel for example) and in non-financial measure (for example, gallons of fuel that were saved from disposal). The consequences of preventing waste fuel from being disposed of could be measured by environmental engineers, and these measures could also be included. Some consequences might be difficult to quantify, such as the long-term effect on plants and wildlife, but these consequences should also be included in the decision analysis.
3. Whether or not CleanTech purchases the new system, since it handles environmentally harmful materials, it would be a benefit to the company and its community for CleanTech to adopt the sustainability scorecard. In this way, the company can keep track of the environmental effects of different choices the company must make, including the potential purchase of the new cleaning system. Some examples of scorecard measures include gallons of fuel recycled, gallons of fuel disposed of in a waste facility, and carbon emissions.

2-44 Strategy; Sustainability (15 min)

There are some good reasons to expect this strategy is a good one for both Walmart and for Seventh Generation (SGI). For Walmart, which initiated a "green" strategy in 2005 under CEO Lee Scott, and in 2009 published its first Sustainability Report, working with Seventh Generation will enhance its emphasis on and reputation for sustainability. Offering Seventh Generation Products is consistent with the firm's overall strategy and should help in driving positive customer attitudes as well. Walmart is also likely to be aware that its shoppers are increasingly looking for "green" products, as more consumers are concerned about climate change, so the partnership should produce increased sales and perhaps new customers for Walmart.

Seventh Generation is the big winner here, as its products are now available in the giant retailer's stores, opening up a significant new access to shoppers for the company. Also, the growing awareness of the commitment of Walmart to sustainability should make the partnership look favorable to the Seventh Generation's customers.

Source: Ellen Byron, "Adversary's Clean Start with Walmart," *The Wall Street Journal,* July 26, 2010, p B9.

Consistent with Walmart's sustainability strategy, the firm announced in September 2013 that it would no longer accept suppliers' products that contained certain hazardous chemicals. Source: Wendy Koch, "Wal-Mart Announces Phase-out of Hazardous Chemicals," *USA Today*, September 12, 2013.

2-45 Ethics; Sustainability (15 min)

This exercise is intended primarily for class discussion, and since ethical issues are addressed, the students' answers must be treated with proper understanding of the student's ethical position and perhaps the student's looking for guidance. The answers for each case are based on actual responses from an academic study using 97 coffee drinkers (cases A and B), 84 different coffee drinkers (case C) and 218 participants (case D)

Case A: a)$9.71
b)$5.89
c)$8.31

Case B: a)$11.59
b)$6.92

Case C: a)$9.90
b)$8.44

Case D: a)$21.21
b)$20.44
c)$20.72
d)$17.33
e)$20.04

Taken together, the results suggest that the participants valued ethical standards and sustainable production methods. However, the premium paid for high ethical standards or for sustainability was not nearly as great as the penalty (lower price) for known unethical behavior or lack of sustainability. Note also the very small difference between the prices paid for the shirts with different levels of organic content, relative to the shirt with no organic content, suggesting that the consumers were rewarding an effort, even if a small one, to achieve sustainability.

Source: RemiTrudel and June Cotte, "Does Being Ethical Pay?" *The Wall Street Journal*, May 12, 2008, p R4.

PROBLEMS

2-46 Strategy; Health Care (25 min)

1. Medical University's strategy, a differentiation strategy, should encompass a focus on the quality of its clinical care, education, and research. The relative size of the healthcare system is important as a way to attract third party payers, providers, and patients. A large hospital system tends to offer a greater breadth of services, which often increases the clinician's level of expertise. A physician at a larger institution will most likely have performed more procedures, i.e. open-heart surgeries, which tends to increase the probability of a favorable patient outcome. The healthcare system's image to the public is very important. A renowned institution receives more walk-in patients and patient referrals because of its reputation. Thus, the University's marketing and public relations departments are very crucial to its success. It is also essential that the healthcare system stay within its budget in order to continue operations.

2. The balanced scorecard goes beyond simply monitoring financial performance. Because the four areas: financial performance, customer satisfaction, internal processes, and learning and growth have critical success factors which are monitored, management can thus determine how well the firm is attaining its strategic goals based on the measurements of these critical success factors.

The value chain has been applied to the hospital setting by Robert Kaplan and David Norton ("How to Solve the Cost Crisis in Health Care,: *Harvard Business Review*, September 2011, pp 47-64). The authors illustrate how the Care Delivery Value Chain (CDVC) can be used for process improvement and cost reduction at the MD Anderson Head and Neck Center of the MD Anderson Hospital in Houston, Texas. Kaplan and Norton also explain in this article how ABC costing can be used to identify opportunities for cost reduction and process improvement.

2-46 (continued -1)

3.

- Financial: operating margin, cost per patient-day, percentage of overdue patient accounts, sales growth
- Customer: patient satisfaction, speed of service, number of referring physicians, measures of patient health (re-admits for complications,…)
- Internal Processes: patient complaints, percentage of procedures completed on time, infection rate, mortality rate
- Learning & Growth: number of employee hours of training, number of employee suggestions, measures of absenteeism, employee satisfaction

2-47 Strategic Positioning (20 min)

Farming is basically a commodity operation, and this is true of Fowler's farm as well. The products are difficult to differentiate except by grade which can affect market prices to some degree. For this reason, the best description of the farm's strategy is cost leadership. This strategy is also consistent with the financial problems facing farms in the U.S. The Farm Aid concerts sponsored by Willie Nelson and others are an illustration of the broad concern of the diminishing profits of farming. Also, the case notes price pressures facing the Fowler farm. Good cost management is becoming more critical for successful farming, and this appears to be at the top of Kelly's agenda.

2-48 SWOT Analysis (20 min)

There are likely to be a wide variety of answers. Here are some representative items.

Strengths

Good sized farm in an established farming area
Automated milking equipment
Extensive experience
Significant capital investment

Weaknesses

Future of tobacco as a crop?
FDA regulations and compliance
Some unscientific farming methods used in the past
Varied terrain in the farm's fields

Opportunities

More efficient farming operations, through Kelly
More leisure time for Dad
Export subsidies, tariffs, etc. in the U.S. and abroad that make Fowler's farm products more competitive

Threats

New regulations, taxes,…etc. re: tobacco
Export subsidies, tariffs, etc in the U.S. and abroad that make Fowler's farm products less competitive

2-49 Value Chain Analysis (20 min)

The value chain should identify the elements or activities in the value chain in enough detail that Kelly can identify potential areas for cost reduction. One representative example (only one possible example) of a value chain for the farm is as follows.

Value Activity	**Timing**
Soil Preparation	February - March
Obtain seed, fertilizer and supplies	February-April
Planting	April
Weed control and irrigation	May – July
Harvesting	August – September
Sort, clean and package for sale	August – September

2-50 The Balanced Scorecard (20 min)

There are a number of possibilities for determining both the number and types of perspectives for the balanced scorecard, and for determining the critical success factors which belong under each perspective. The answer below is representative of a balanced scorecard that would be a good fit for the Fowler farm. This scorecard puts the operations and financial perspectives first, to emphasize their importance to the farm. Note that each of the factors must have a quantitative measure; a concept is appropriate for strategic analysis, but the scorecard is intended to measure progress and performance – it requires a quantitative measure.

Operations

crop rotation; number of fields in rotation
inventory of supplies and parts, by type of equipment, cost and date purchased
weather forecast, days missed, important weather changes
irrigation schedule; % days on schedule
fuel used, by type of equipment
equipment breakdowns, by type of equipment; cost of repair, length of time needed for repair

Financial

sales; trend
monthly earnings trend
return on investment; compared to industry average for region
cost of materials; fertilizer, fuel, etc.
cost of labor; by type of employee
prices received for each major product
interest cost

Employees

turnover (number and percent)
accidents (number)
experience; years in farming
efficiency; hours required for each well-defined task

2-50 (continued -1)

Regulatory Compliance and Environmental

compliance with local, state and federal laws on tobacco farming
compliance with FDA regulations regarding handling raw milk
usage of restricted chemicals known to have negative environmental effects (amount, percent)

Customer

orders shipped on time (number and percent)
quality complaints (number, percent)

2-51 Strategic Positioning (20 min)

Because of the emphasis in the case information on product quality and craftsmanship, the strategy for Tartan (the reason it has been successful) is best described as differentiation on the basis of quality. While there are some cost concerns for the company, particularly with the Classic line, these are not critical to the company's success. In contrast, the company is most likely to succeed if it can continue to appeal to those customers looking for up-scale, higher quality lamps and lighting fixtures. The Classic line is critical to this strategy since it is the original product line for the company, and the most identified with quality and craftsmanship.

When using differentiation as the Company's strategy, it becomes clear that maintaining the Classic line is critical to the company's success. Thus, elimination of the line could damage the firm's quality and craftsmanship image, and thus hurt the company's strategic competitive advantage. Even if the Classic line is losing money for the company, it is important to both retain it and to publicize it, because it is the product line which most supports the company's quality image.

Since sales of the Classic line seem to be focused on the northeast states, it might be appropriate to obtain efficiencies by focusing manufacturing and distribution efforts in these states. However, the marketing of the Classic line should continue to be throughout all sales regions because of the strategic importance of the Classic line.

The Classic line can be considered an example of what is sometimes called a "loss leader," a product or service that draws attention to the company, but which in itself is not profitable.

2-52 SWOT Analysis (20 min)

There are likely to be a wide variety of answers. Here are some representative items.

Strengths

90+ years of reputation for quality and innovation
Highly trained craftsmen (Classic Line)
Loyal work force

Weaknesses

Drop in demand for the Classic Line (except in Northeast), the Modern line, and Contemporary line
Capacity problems in the plant

Opportunities

Growth in demand in the Western and Stewart lines

Threats

Ability to replace skilled workers in the Classic line?
Order backlog – effect on customer satisfaction?

2-53 Value Chain Analysis (30 min)

There are a large number of possible value chains for a company such as Tartan. The value chain provided below is a representative example. A solution such as this should include upstream, manufacturing, and downstream activities – all the way from product planning and research to customer service.

Value Activity (in sequence)	**The Role of this Activity**
Market research	To benchmark and maintain our overall strategy
Product planning	Importance of developing new products
Advertising and Promotion	Stress the firm's quality
Product design	Focus on innovation, quality
Develop bill of materials	May need long lead times to acquire the best quality materials
Source parts and skilled labor	Very important because of Tartan's reputation for quality and craftsmanship
Scheduling production	A critical step because of long lead times and tight labor resources
Cutting and trimming materials	Importance of quality
Assembly	Importance of quality
Finish and painting	Importance of quality
Preparation for Shipment	Importance of quality
Invoice customer	Accuracy, customer service
Customer service	A key step in the differentiation strategy
Warranty returns and allowances	Treat these as opportunities for product redesign and improvement, i.e., on-going redesign
Customer satisfaction follow-up	Important to Tartan's differentiation strategy

2-53 (continued -1)

Here are some points that address why the value chain is important to profitability and overall competitiveness. Many of these point to questions about Tartan's operations that go beyond the data available in the case; for these points, the role of the value chain is to help to identify the important questions.

1. The value chain provides a basis for identifying those activities for which the firm is very competitive and those for which it is not competitive. In this case, the upstream activities of design and manufacturing are probably at the heart of Tartan's past success, as the firm has developed a reputation for products of high quality. Customer service is also a key to maintaining the firm's differentiation strategy. The use of the value chain should highlight this important activity and draw the firm's attention to its performance in that activity.

2. Since manufacturing capacity is overall pretty tight, the value chain can be used to help identify those activities where the capacity is especially tight and those where there is some slack, to draw appropriate attention where it is needed. Is the capacity problem primarily in cutting and trimming, assembly, shipping…?

3. The value chain can be used to benchmark specific activities, perhaps against industry figures for manufacturing productivity, and so on. Most industries, including the lighting manufacturer's industry, collect and publish summarized information about operating performance of firms in the industry. As a member of the industry association, Tartan would have access to this type of information. Areas to benchmark would include manufacturing performance (productivity, rejects for production defects, sales order lead times, customer service response time, etc.).

2-54 The Balanced Scorecard (20 min)

An example of a balanced scorecard for Tartan Corp follows:

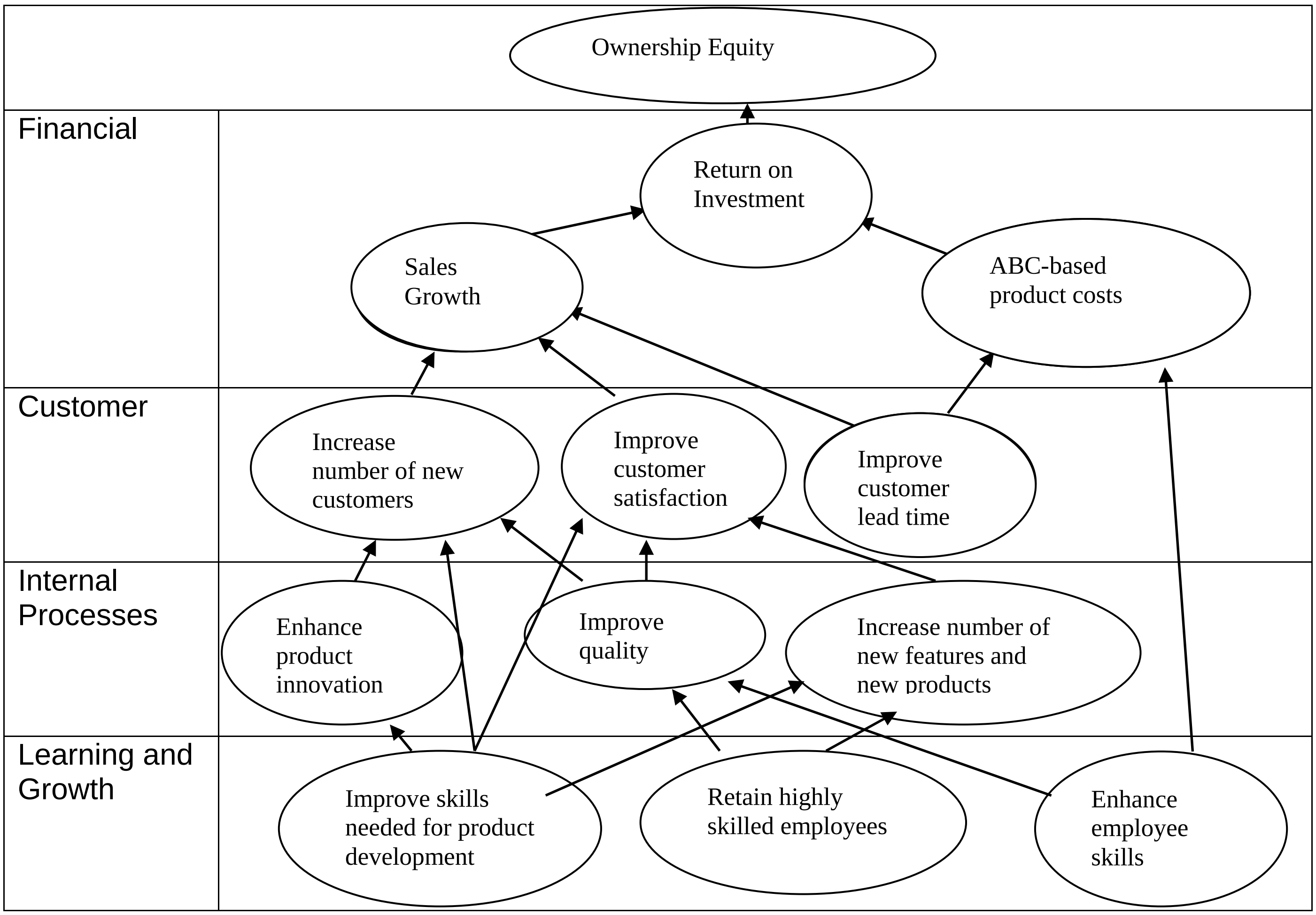
Financial
Sales, sales growth, by product and region
Earnings, as above
Activity-based product costs
Return on investment, by product line
New investment, by product line

Internal
Cycle time
Waste of materials
Rework
Productivity measures; hours per product, materials per product
Inventory levels

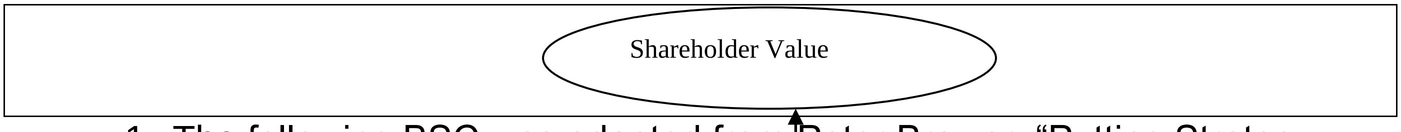
Customer
Lead time
Retention
Satisfaction, in specific categories: quality, etc
Number of new customers

Employee
Training hours
Retention
Satisfaction
New product development
Employee suggestions

2-55 Strategy Map (20 min)
There are a variety of possible answers to this question. Here is an example.



2-56 Strategy Map, Balanced Scorecard; Dell Inc. (25 min)



1. The following BSC was adapted from Peter Brewer, "Putting Strategy into the Balanced Scorecard," *Strategic Finance,* January 2002, pp44-52.

Learning and Growth

- Training dollars per employee
- Number of emerging technologies evaluated
- Number of new manufacturing processes developed
- Number of new manufacturing processes under development

Internal Processes

- Product manufacturing time
- Raw materials inventory
- Order processing time
- Manufacturing defects

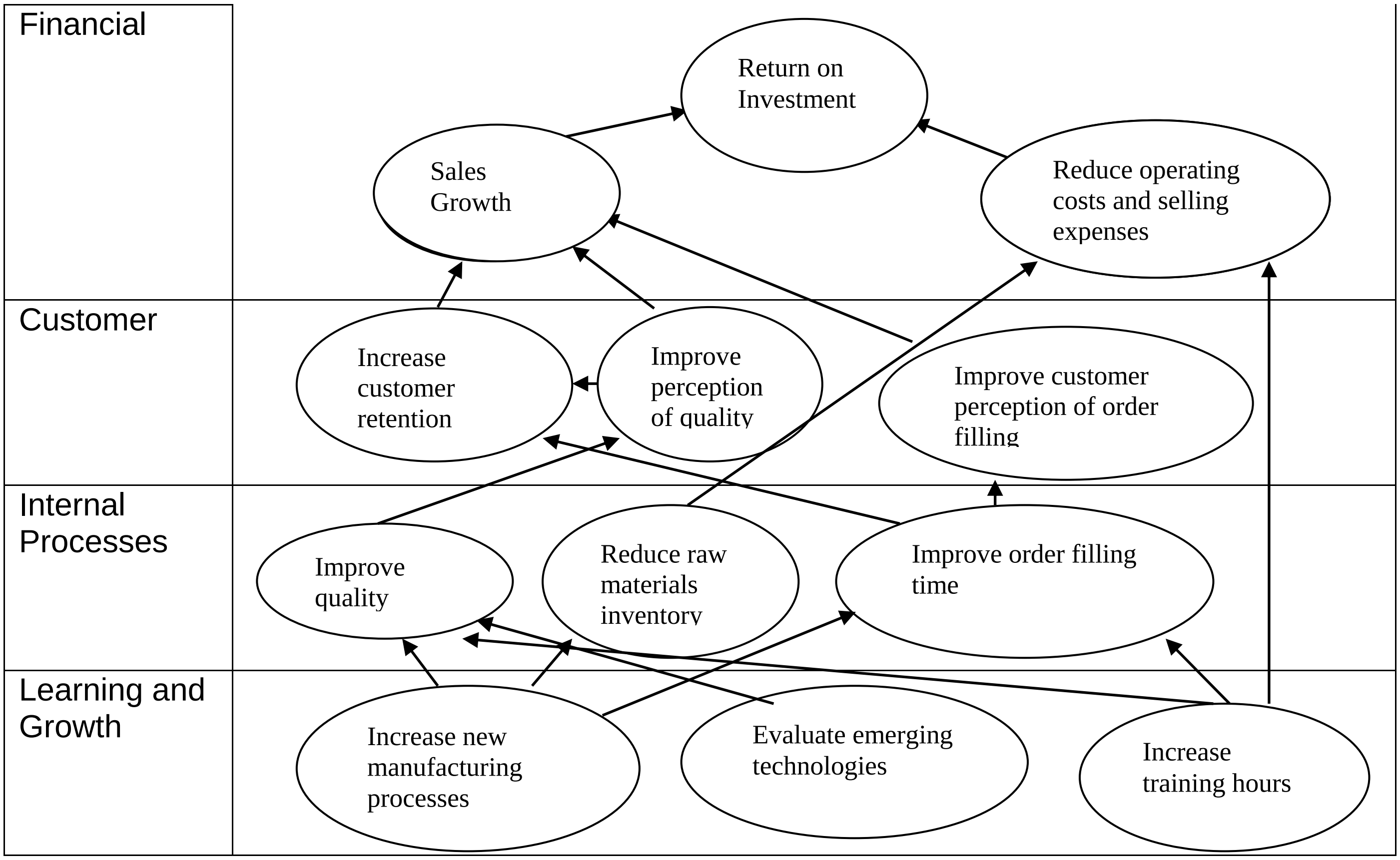
Customer

- customer perception of order taking convenience and accuracy
- customer perception of product quality
- customer retention
- customer satisfaction with speed of service

Financial Perspective

- revenue growth
- gross margin
- operating cost ratio
- selling expense to sales ratio

2. Strategy Map for Dell Inc.
   This is one example of a possible strategy map, that can be inferred from the BSC in part 1 above.



2-56 (continued -1)

2-57 Strategic Analysis (30-40 min)

1. Performance Bicycles: The on-line retail industry is very competitive, so the competitive strategy is likely to be both cost leadership (since catalog shoppers can readily find the lowest price) and differentiation (the mail order customers will differentiate on speed of delivery, quality of service such as flexible returns policy, and uniqueness of product offerings). The critical success factors are likely to be quality of service, credit terms, quality and uniqueness of products, speed of delivery, and cost.

2. Oxford Omni: Because the customers are primarily business and convention visitors, the Omni is likely to compete on differentiation, given a market-set price and therefore cost. The business traveler is not likely to look for the low-cost hotel, but is likely to be more interested in the features of the hotel, such as data and fax services and other conveniences. Critical success factors are likely to be quality of service and special features.

3. Orange County Public Health Clinic: A strategic goal for a public agency is compliance with the charter of the organization, including spending in approved ways. Thus, a critical success factor for the Clinic is accurate accounting of expenditures, and budget and management systems which ensure that expenditures are properly authorized. Also, cost management information is needed to assess the funding needs for increases in services or for offering any new services. The cost management information can be used as the basis for requests for increased funding from governmental agencies, or for donations from foundations and other donors.

4. Harley-Davidson Motorcycle Co.: With the introduction of Japanese motorcycles in the U.S. in the late 1960s and 1970s, Harley-Davidson found itself competing in a much more competitive market. The Japanese motorcycles were cheaper and of higher quality and performance. Harley-Davidson chose to meet this competition by staying with the style of cycle for which it had become famous, but to also work hard to increase quality and reduce costs. Harley-Davidson's strategy thus became one of differentiation (its

2-57 (continued -1)

unique style of cycle) plus increased emphasis on cost reduction and quality, to retain the market share it had enjoyed into the 1960s. Critical success factors are likely to be innovation, manufacturing efficiency, customer satisfaction, and market share. **See also problem 2-64.**

5. Merck Pharmaceutical Company: A manufacturer of pharmaceuticals such as Merck Company competes primarily on the basis of differentiation. Cost management is used to assist the company in managing the costs of developing new drugs. The process of researching, developing, testing, and introducing new drugs is a very long and costly one. The life cycle of a drug will depend on the nature of patent protection, if any, and the availability of competing products. Life cycle costing can be used to manage the costs of the drug over its entire life cycle. Critical success factors are likely to be research and development accomplishment (innovation), effective advertising, excellent results in clinical trials and reports, and recognition by key medical staff and institutions.

6. St. Sebastian's College: A small liberal arts college is likely to compete primarily on the basis of differentiation. The differentiation might be the nature of the programs offered, religious affiliation, location, or some other attractive feature of the college. Cost leadership is not likely to be important, since colleges do not tend to compete directly on price (tuition and fees), though there is a certain range of prices within which all colleges must compete. Thus cost management is important primarily to facilitate the strategic objective of differentiation, by providing a basis for analyzing the best methods to attain and retain the differentiation. Also, cost management is used to control expenses, so that the college can be profitable at the prices given in the marketplace. Critical success factors are likely to be measures of recruiting effectiveness (number of applicants, quality of applicants…), student/faculty ratio, achievement in sports, facilities management, etc.

2-58 Strategic Analysis; The Balanced Scorecard, and Value-Chain Analysis; The Packaging Industry (40-50 min)

1. Dana's strategy had previously been primarily a cost-leadership strategy, but with the new focus on high-end markets, the strategy has changed to differentiation. Can Dana compete as effectively as a differentiator as it can as a cost-leader? The change has required a change in operations, to accommodate the smaller batches and greater number of features added to the product, as noted in the case. The likelihood of success for the strategy depends on the firm's ability to make the changes effectively. Can the plant be re-oriented to small batch production quickly and efficiently, so that Dana can compete effectively on cost and quality in the new markets? Has Dana done a careful strategic analysis of the new competitors in the new markets? How is competition in these new markets likely to change over the coming months?

2-58 (continued -1)

2. A value chain for Dana Packaging follows:

STEPS IN THE VALUE CHAIN	ACTIVITIES AT EACH STEP OF THE VALUE CHAIN	EXPECTED OUTPUT OF EACH ACTIVITY
First Step: Acquire the raw materials, which is primarily pulp paper	Produced in Dana's mills; also purchased from recycling operators	High quality, low cost materials
Second Step: Conversion	Converts the pulp into paperboard	High quality paperboard
Third Step: Coating	When desired, to apply the required coating and color to the container	Increasing, Dana's products include specialized, colorful products with new coating developed by Dana
Fourth Step: Filling and Sealing	The customer's product is added to the container which is then sealed; done only in Dana's own plants to ensure safety and quality and low cost	Focus here on cleanliness, safety, and reducing waste
Fifth Step: Packing and Shipping	The filled containers are packed in cartons and shipped to customers	Focus here on speed and meeting targeted delivery dates
Sixth Step: Customer Service	Process returns and inquiries	

2-58 (continued -2)

There are a number of opportunities for cost reduction/value enhancement: The value-chain analysis should motivate and facilitate make-or-buy types of analysis for each of the firm's internal activities. Identify activities which might be more cheaply and efficiently done outside the company; for example, the coating process (which is now occasionally outsourced) might be effectively outsourced to a greater extent or entirely. The filling process is the most critical for Dana, as it is the step where the customer's product is handled. For strategic reasons, then, Dana should retain the filling process entirely within its direct control.

For each activity at each step of the value chain, determine the outside price for the activity, and use this as a benchmark for identifying activities which need improvement.

Develop similar value chains for all key competitors, and compare each of these to Dana's to identify how Dana fits in the competition in the industry. This should reveal competitive weaknesses and strengths, and perhaps opportunities for improvement.

Use the value chain to evaluate vendor relationships; are any suppliers causing internal processing problems because of quality problems or late delivery, etc.?

Use the value chain to identify the key cost drivers in the business; for example, it is likely that costs in the coating activity have increased significantly because of Dana's move into the more colorful and innovative types of packaging; has the manufacturing process been changed to facilitate the increase in setups and product variety? It is likely that the firm will have to consider adding new production equipment, which will enable it to better handle the increased product complexity and variety. Are products being properly costed; do the more complex products bear the appropriate cost of their complexity? For example, if adding multiple colors to packaging material is very costly to manufacture, then the pricing should be higher to recapture these costs.

2-58 (continued -3)

Identify those customers for which the cost of service and delivery is unusually high due to the care with which the material must be handled or to the weight, or distance, etc. Make sure that these costs are recaptured in the pricing of the products, or alternatively, the firm might seek more profitable customers.

3. Critical Success Factors for Dana might include:

Financial:

- profit by product line
- cost by product and production run
- cost by type; by month
- standard cost variances

Customer Satisfaction:

- ship dates met/ un-met
- survey of customer satisfaction
- log of complaints and compliments

Internal Business Processes:

- quality defects per million produced
- cycle time
- production run time

Innovation and Learning:

- training hours
- productivity (learning) changes
- number of new features/products developed

2-59 Strategy Requirements Under the Baldrige National Quality Award Program (30 min)

The Baldrige program should be a good process for a firm not only in developing and revising its strategy, but also in strategy implementation. In particular, the seven categories could be considered an expanded balanced scorecard. As for the BSC, the Program focuses on the perspectives of customer, process, financial results, and workforce; the Baldrige program includes the additional perspectives: measurement and analysis, leadership, and strategic planning. By examining its own performance in these areas, and by showing how it measures progress in these areas, the organization is doing something very much like a balanced scorecard.

The Baldrige Performance Excellence Program at NIST (unfunded as of 2012), is transitioning to one based on funding by the Baldrige Foundation, The new model is explained at
http://www.nist.gov/baldrige/transition/index.cfm.

2-60 Strategy; Value Chain (40-50 min)

1. The following data is for July 25, 2011 and August 11, 2014, for companies in the listed sectors of the industry.

		Size Measure	Profitability Measures	
Sector		**Market Cap**	**ROE**	**Profit margin**
Integrated Oil and Gas	2014	$129,382B	12.2%	5.1%
	2011	40,833B	15.0	6.5
Drilling and Exploration	2014	4,561B	5.1	7.6
	2011	3,856B	11.2	11.8
Equipment and Services	2014	4,274B	10.2	7.6
	2011	13,733B	8.7	7.4
Pipelines	2014	864B	11.5	5.7
	2011	432B	11.1	5.6
Refining and Marketing	2014	10,599	12.8	1.8
	2011	8,513B	12.7	2.9

For comparison, the airline industry:

Major Airlines	2014	3,448B	37%	5.6%
	2011	681.2	40.5%	2.2%

Some key observations regarding the above information: (1) market capitalization has increased substantially for both the Oil & Gas industry (all sectors except Equipment and Services) and the airline industry, as the stock market has continued to rebound since the steep plunge in the summer of 2008. Note that the price of gasoline has been relatively stable at about $3.70 (between $3.20 and $3.90) per gallon during the 2011-2014 period. The profitability measures for all the Oil & Gas industry sectors are mixed and little changed; likewise for the airline industry.

2. All of the sectors in the industry value chain are very capital intensive – it requires a lot of investment to enter and stay in the business. This is particularly true for the integrated firms, and for those in the pipeline and refining and marketing sectors. There is also a lot of risk involved in some of these sectors, particularly the drilling and exploration sector. Most of the sectors therefore must carefully manage capacity, as crude oil prices and consumer demand fluctuate.

2-60 (continued -1)

	Critical Success Factors
Integrated Oil and Gas	Customer: marketing expenditures; share of market, customer mix and profitability Internal Processes: distribution costs, processing costs, safety incidents, refinery reliability, inventory level, quality index Learning and growth: technology for oil and gas exploration, refining and distribution, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Drilling and Exploration	Customer: marketing expenditures; share of market Internal Processes: drilling costs per site, exploration yield index, safety incidents, quality index Learning and growth: technology for oil and gas exploration, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Equipment and Services	Customer: marketing expenditures; share of market, number of new customers, Internal Processes: distribution costs, processing costs, safety incidents, refinery reliability, inventory level, quality index Learning and growth: technology for new design in equipment, new products and types of services offered, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Pipelines	Customer: marketing expenditures; share of market, pipeline interruption incidents Internal Processes: distribution costs, maintenance costs, safety incidents, quality index Learning and growth: technology for oil and gas distribution, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Refining and Marketing	Customer: marketing expenditures; share of market, Internal Processes: distribution costs, processing costs, safety incidents, refinery reliability, inventory level, quality index Learning and growth: technology for oil and gas refining, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial return on investment, net profit margin, sales growth, cash flow
Transport of Refined Product	Customer: marketing expenditures; share of market Internal Processes: maintenance of equipment, equipment failures, distribution costs, on-time delivery index, safety incidents, inventory level, quality index Learning and growth: hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: net profit margin, sales growth, cash flow

2-60 (continued -2)

3. Most students will be familiar with the Deepwater Horizon oil spill and its consequences. The purpose of the question is to identify operating risks in the industry (all sectors) and to discuss the potential role of the value chain in the analysis of the tragedy. There is also an opportunity to have a class discussion of the sustainability issues involved in the case;

   Background: the oil spill of the Deepwater Horizon drilling rig in the Gulf of Mexico on April 20, 2010 caused an enormous financial and environmental catastrophe for the industry and for the Gulf Coast region – the largest oil spill in U.S. history.

   Role of the Value Chain: three companies in three different sectors of the industry were involved. One company from the integrated sector, BP, leased the drilling rig from its owner, Transocean, a company in the drilling and exploration sector. A third company, Cameron International, in the equipment and services sector, produced that blowout preventer that failed to prevent the spill. An understanding of the complex operations of the drilling rig, using the value chain approach, can help to understand the different roles and responsibilities of the companies involved.

   Investigating the Risks: further investigations since the oil spill have revealed a variety of risks that were involved in all three companies, including defects in design, failure to follow industry-approved maintenance practices, human error (in reading measurements), failure to monitor and follow up on critical warning signals

   Some helpful links:
   http://oscaction.org/about-osca/

   http://en.wikipedia.org/wiki/Deepwater_Horizon_oil_spill

   http://www.bp.com/sectiongenericarticle800.do?categoryId=3313&contentId=7067651

2-60 (continued -3)

In recent years, as the amount of oil transported by railroad cars has increased dramatically, the number and severity of oil rail car accidents has also increased. Railroad executives, oil company executives, and transportation officials are working to make these transports safer. The rapid growth in oil rail traffic has meant that the industry standards have not caught up with the current needs.

Clifford Krasuss and Jad Mouawad, "Accidents Surge as Oil Industry Takes the Train," *The New York Times*, January 25, 2014. See also: http://dot111.info/category/recent-derailments/

2-61 Strategy; Critical Success Factors; Martial Arts (20 min)

1. George's strategy seems to be a mix of differentiation (customer service, reputation for quality training) and cost leadership (keep prices low, lower than competitors, by locating in strip malls). What do his customers want? For this type of service (as for many types of personal services: personal trainers, hair stylist, etc) it is likely to be the quality of training as a priority, and the cost of the training has to be in line with competitors, but not the primary competitive advantage. This would suggest differentiation should be his strategy, and the pricing should not be a key issue. Rather the focus on selection locations should be the attractiveness and accessibility of the locations to his targeted customer groups.

2. The indicators seem to reflect pretty well what George is after, growth based on customer service. By watching his sales numbers, and the performance of his teachers, he is likely to build the priorities that are important to his business. Some refinement is possible. These indicators can be linked more closely to his strategy by gathering the sales numbers for each location so that the productivity of the different locations can be compared, to facilitate the choice of future locations and evaluate the closing of current locations. Also, the sales data might be gathered by type of course, for the same reason as above. Students are likely to have additional suggestions for measures that would be appropriate for a fast growing company.

As part of the class discussion, you might ask what the BSC for George's business might look like, and would a BSC be appropriate for the business. Clearly the customer and human resources perspectives would be important to George, as well as the financial perspective. The operations perspective might be useful as well, to track operating costs, traffic or other factors in the vicinity of each location that help or hurt enrollments or customer service, and the like.

2-62 Balanced Scorecard and Strategy: Food Ingredients Company (20 min)

Answers will vary. A key point to be made in the discussion is that a food ingredients company, of the type described (though with limited information) is likely to be a cost leader. The products are commodities for the most part. Some students will observe that certain types of food, or certain restaurants, etc., are for the gourmet and very expensive customers/markets. However, the BSC shown in this problem seems to best describe a cost leadership type of company. Note the emphasis on growth, an indication of a commodity company that must emphasize volume for profitability. Also, the financial perspective is shown first, a further indication of the importance of sales volume, cost reduction and profitability for the business

2-63 Value-Chain Analysis (30-40 min)

1. The value chain for Sheldon Radio follows:

Value Activity	Current Operation	Two Decision Alternatives
First: Raw Materials	Sheldon not involved at this step in the value chain	Sheldon not involved at this step in the value chain
Second: Manufacture of parts for the radio	Sheldon not involved at this step in the value chain; the cost is $120 to Sheldon	Sheldon not involved at this step in the value chain; the cost of these parts is $120 to Sheldon (Note: $120 is the $250 total less $130 for purchased parts that could be manufactured)
Third: Manufacture of components	Sheldon purchases $130 of these parts	Sheldon manufactures these parts for $80 each plus monthly costs of $35,000
Fourth: Assembly	Sheldon's costs are $110	Sheldon's costs are $110
Fifth: Marketing, distribution and service	Sheldon's costs are $125,000 per month	Sheldon contracts these services out to Brashear Enterprises for $105 each
Costs Summary**:** Costs which	Purchase of components: $130 x 500 = $65,000	Unit costs for manufacture of components ($80 x 500) + monthly cost of $35,000 for labor and equipment= $75,000 **The total cost of purchase is less than the cost of manufacture by $10,000.**
	Monthly cost for marketing, distribution and service: $125,000	Monthly cost of Brashear contract: $105 x 500 =$52,500 **The total cost of the Brashear contract is less than the cost of the inside service by $72,500**

2-63 (continued -1)

2. The value-chain analysis shows that Sheldon can save $10,000 by choosing to continue to purchase rather than to manufacture the parts, and Sheldon could save an additional $72,500 by outsourcing the marketing, distribution and service costs. Perhaps, on the basis of reducing costs, Sheldon should choose to continue to purchase the components and to outsource the marketing, service and distribution function. However, Sheldon also needs to consider its strategic competitive position. If its customers rely upon Sheldon primarily for its service and reliability, then the contracting-out of the marketing, distribution, and service functions could be unwise. Moreover, the decision to continue to purchase the parts should also consider the possibility that by manufacturing the parts, Sheldon could significantly improve the reliability and quality of the product. This would improve the competitiveness of the product and might be worth the lost savings of $10,000.

2-64 Value Chain; Harley-Davidson (15 min)

The Riding Academy program fits best near the end of Harley-Davidson's value chain, near to the customer. In this program the firm provides a customer service that is unique in the industry, and potentially an important way to attract new customers. Moreover, the program can be an important new source of income for Harley-Davidson. As new riders, and perhaps some of the veterans, find they can improve their cycling skills, the program could become a popular and a significant source of new income for the firm.

The women's program fits both the upstream and downstream ends of the HD value chain. The program involves both a design approach to develop a product for women, and also a customer service effort involving the magazine and other programs directed to increase the interest of women in the product.

Both programs fit the HD strategy of broadening its customer base beyond the loyal but dwindling HD customer base.

Another aspect of value chain for HD is its financing unit. As for many manufacturers, including the auto companies, General Electric, and the large software firms such as Oracle, Harley-Davidson has a finance unit that finances the sale of its motorcycles for many of its customers.

Note: HD once owned a 98% share of Buell Motorcyle, a company known for its high-end and successful racing cycles. HD divested the Buell brand in 2009 to focus on its main brand after the recession of 2007-2008 caused motorcycle sales to drop by more than 50%. In the summer of 2014 Buell partnered with the Indian company, Hero MotorCorp, to design low-cost bikes for the Indian market where price and durability are key. Some of these new Hero bikes will be sold in the U.S. by Buell in the next year or so. Buell should then be able to sell its high-end brand and also a less expensive bike in the same store.

2-64 (continued -1)

Source: James R. Hagerty, "Harley, With Macho Intact, Tries to Court More Women," *The Wall Street Journal*, October 31, 2011, p B1' "Harley Shows Its Feminine Side," *Bloomberg Businessweek*, October 4, 2010, p 25; James R. Hagerty, "Harley Roars On U.S. Rebound," *The Wall Street Journal,* July 20, 2011, p B4; Kyle Stock, "Can Harley-Davidson Finally Woo Women?" Businessweek.com, June 2, 2014. Patrick Clark and Lee Wilson, "High-End Motorcycles Meet India's Mopeds," *Bloomberg Businessweek*, August 25, 2014, pp 52-4.

2- 65 The Balanced Scorecard; Strategy Map (20 min)

1. Most students will argue that McDonald’s is a cost leader based on its low cost menus. In a class discussion of the question, I would carefully distinguish the fast-food restaurant (which may or may not be a cost leader) from a cost leader type of restaurant. Fast-food restaurants can offer more than low prices, and convenience and comfort are important to many of them, especially the more high-end restaurants such as Chipotle Mexican Grill (“gourmet burritos and tacos”). McDonald’s current emphasis on the dollar menu indicates that the company does succeed as a cost leader.
   Taco Bell and Wendy’s may be best described as cost leaders as well, especially since each of the firms has followed McDonald’s in emphasizing a low cost menu. A recent *Wall Street Journal* article on these three companies notes that consumers have come to expect the $1 offerings in the current tough economic times, even though the recession ended in 2009. This is particularly true for consumers who have been hardest hit by the recession. On this basis, it is fair to argue that Wendy’s and Taco Bell are also cost leaders. It may have been true that sometime ago Wendy’s or Taco Bell were differentiated in some way in the fast food market, but the current economic circumstances have changed that. As a Wendy’s executive stated, “We are refining our promotional calendar for the rest of this year…with modestly more emphasis on price-value.”
2. Ray Kroc, the founder of McDonald’s chose as his founding strategy to produce a restaurant that would focus on high quality and consistency in all of its locations. He developed the concept into a widely-known pledge: “Quality, Service, Cleanliness, and Value.” By reinforcing this pledge in training and evaluations throughout the company, he was able to achieve the success that McDonald’s enjoys today.
   QSVC was probably one of the first applications of the concept of the balanced scorecard – to identify critical success factors by customer, operations, financial, and human resources, and to plan, measure and reward on the achievement of these critical success factors.
   “If I had a brick for every time I’ve repeated the phrase *Quality, Service, Cleanliness and Value*, I think I’d probably be able to bridge the Atlantic Ocean with them.” —Ray Kroc

2-65 (continued -1)

3. Currency fluctuation is a significant matter for McDonald's which operates in more than 100 countries worldwide. Currency fluctuation can affect the company's profitability when the currencies of the foreign locations fall relative to the U.S. dollar. In that case, there is a foreign currency translation loss for McDonald's. The reverse is true when the foreign currency gains versus the dollar. McDonald's 2013 annual report states that the company works to mitigate the risk of foreign exchange exposure by "…purchasing goods and services in local currencies, financing in local currencies, and hedging certain foreign currency-denominated cash flows." Nevertheless, there was a $ 52m loss in 2013 due to the weakening of Australian dollar and Japanese yen (McDonald's 2013 annual report).

Source: Annie Gasparro, "McDonald's, Wendy's in Price Fight," *The Wall Street Journal*, May 9, 2013, p B3.

2-66 Value Chain; Choosing Which Activity (10 min)

The value chain for the Asda jeans, as described, is a three step process, beginning with manufacturing in Bangladesh and then shipping from Bangladesh to the UK, and then presentation and sale in the Asda store. A manager would consider how to improve quality and reduce cost throughout the value chain, perhaps by resourcing the manufacturing to reduce shipping costs or reducing in-store selling costs. Another approach might be to add cost and add value through a redesign of the jean. For example, Levi Strauss has developed a jean that requires much less water to produce. Called the Waste-Less jean, this product has a much reduced environmental impact relative to other jeans.

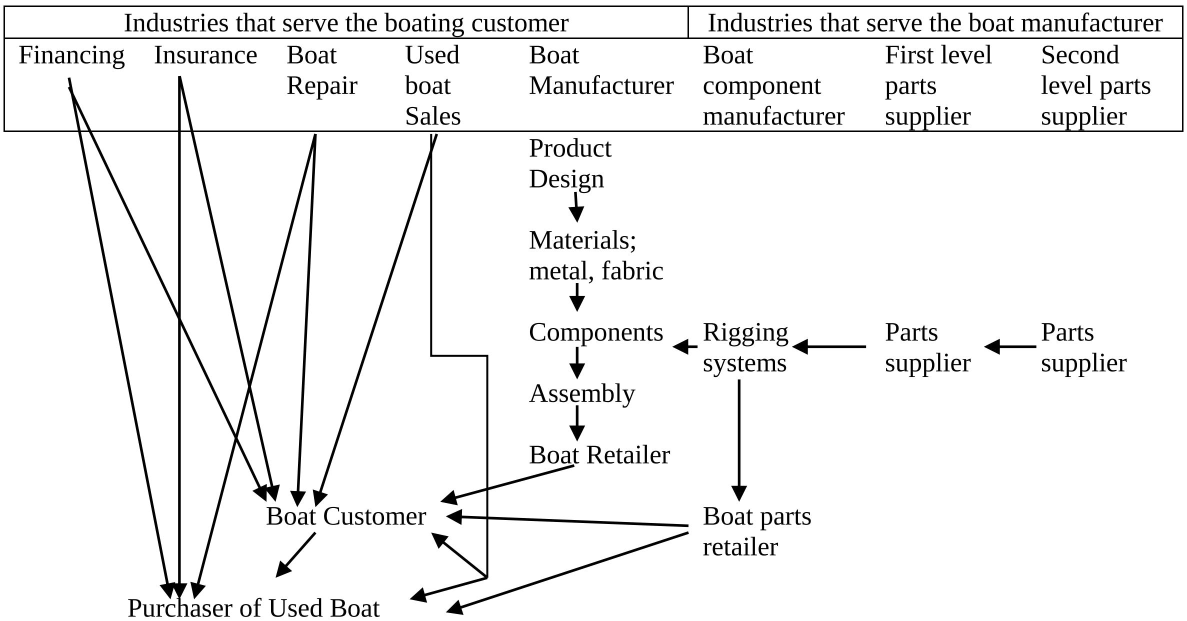
Note the ***Real World Focus*** item regarding sustainability at Patagona in the text of the chapter.

The role of the value chain is to provide a basis for identifying where in the life cycle of the product it might be possible to reduce cost, increase value, or become more competitive. It is pretty clear from the example that the downstream activities of shipping and sales together generate the greatest cost. Do they also generate the greatest value?

Source: "Correlations: Perilous Arithmetic," *Bloomberg Businessweek*, June 10, 2013, p 25; Susan Berfield, "Levi's Has a New Color for Blue Jeans: Green," *Bloomberg Businessweek,* October 22, 2012, pp 26-28.

2-67 Value Chain: Multiple Industries (20 min)

An example for the boating industry is shown below, and is based upon the illustration in the text of this problem. The example in the text refers to the auto industry, while the example here refers to the boating industry.



2-68 Follow up to Problem 2-67: Value Chain for Financing Auto Purchases (30 min)

Steps in the value chain for obtaining a loan for a car purchase. This is a short example, and other variations would be acceptable. Emphasize the importance of both speed and comprehensive analysis in this process. Speed is necessary to compete effectively for the loan with other financial institutions, and is desirable for the auto dealer, a related party in the transaction. Also, the comprehensive analysis is necessary to avoid the risk of loan default and therefore loan losses in the coming months and years; make sure the applicant is credit worthy.

Step	Description of the step
Receive application	Log in the application and file it appropriately into the loan application database
Research credit	Research the credit worthiness of the applicant by using the FICO® score produced by Fair Issac Corp or by using one of the credit reporting systems - Experian, Equifax or TransUnion -- the three national credit bureaus that maintain and sell credit reports and profiles.
Evaluate credit	Determine whether the credit score determined in the above step meets the criteria for granting a loan of the type and terms (number of years, amount of down payment,…) requested by the borrower
Respond to the applicant	If credit is OK, inform the applicant and begin the process of disbursing the loan amount and creating the loan documents; If credit is not OK, inform the applicant and indicate what is lacking; encourage the applicant to reapply when conditions are changed, if appropriate. ***The following assumes the loan has been approved:***
Prepare loan documents	Usually from the software system used to log in and maintain the applicant's information
Prepare cashier's check made out to auto dealer	Use careful cash controls in this step to avoid employee fraud
Deliver loan documents and cashier check to auto dealer	Make sure loan documents are properly signed, dated, and returned promptly to the finance office.

Note (re: problem 2-67), the same value chain shown above for the auto industry would also be applicable to the finance function in the boating industry.

2-69 Foreign Exchange Rates (20 min)

1. For 2008 through February 2015, many Asian currencies have been generally stable relative to the U.S.$, particularly the South Korean won and Taiwanese dollar. The Chinese yuan was slowly appreciating relative to the dollar during the period, but has been stable since 2012. India's rupee and Japan's yen were gradually falling against the dollar until 2012 but have been rising since. The New Zealand and Australian currencies were also increasing in value relative to the dollar in 2008-2011 but decreasing relative to the dollar in 2012-2015.

Stable exchange rates are favorable for manufacturers such as General Motors, making it simpler to manage its global sales and product sourcing operations. It also removes the uncertainty about exchange rate fluctuations that might have a damaging effect on consumer confidence in these countries. For countries where the dollar is falling, General Motors' products become more competitive abroad, while the products of foreign competitors become less price competitive in the U.S. U.S. manufacturers benefit when the dollar falls as the U.S. products are in effect cheaper in the foreign country, and vice-versa when the dollar rises.

2. Since falling against the dollar in late 2008, the Euro rose against the dollar in mid-2009 and since then has fluctuated less than 5% up and down versus the U.S. dollar into mid-2014. However, the euro began to fall against the dollar since August 2014; in March 2015 the euro is at the lowest level versus the dollar for many years,

A fall in the dollar against the Euro helps U.S. exporters as the effective cost of U.S. products and services fall in the Euro countries. A retailer such as Walmart benefits potentially in two ways: (1) sales in Euro countries are converted to U.S. dollars at a higher rate, resulting in exchange rate gains, (2) to the extent that Walmart products are made in the U.S., these products become more price –competitive and thus more attractive to the Euro-country consumer. The changing exchange rates would affect Walmart's value chain analysis. For Walmart there is the trade-off between the low-cost U.S. supplier versus the cost of transporting the product to its global markets. The overall effect on Walmart might be a shift in sources of supply and an increase in transportation costs. The reverse is true of course when the euro falls relative to the dollar as it did in late 2014 and early 2015.

2-69 (continued -1)

3. In the 2011-2014 period Mexico's peso has been stable relative to the U.S. dollar; The Canadian dollar also has been relatively stable to the U.S. dollar.

These relatively stable exchange rates support, in part, the strong trade relationships among these three countries. Ford Motor Company benefits through its ability to purchase parts and components for its vehicle from low-cost suppliers in Mexico, and to sell its products throughout the region under the terms of the NAFTA agreement. The down-side for U.S. job seekers is that the agreement has resulted in some jobs moving to these other countries. A debate about the benefits and costs of free trade is beyond the scope of this question, but the instructor can touch on some of the issues that are involved, and the role that currency fluctuations can play. For example, a falling dollar relative to these currencies would make the decision to outsource parts production to these countries less attractive for a U.S. firm, because the foreign product would be more expensive.

While not addressed in the question, the instructor might note that some key <u>South</u> American countries, including Brazil, Argentina, and Venezuela, have had a significant decline in the value of their currencies in the 2012-2014 period. These countries have had a decline of 40-50%. Venezuela had a devaluation in February 2013, Brazil has had a steady slide during this period, and Argentina's currency has fallen by 100% during this period. These currency problems lead to financial instability and to shrinking economies, as investors retreat.

See Also: Camila Russo, "Argentines Gird for a Financial Storm," *Bloomberg Businessweek*, August 11, 2014, pp 16-17; Maxwell Murphy and Kejal Vyas, "Currency Chaos Mars Venezuela," *The Wall Street Journal,* May 27, 2014, p B1; "Argentines Look Underground in a Hunt for Dollars," *The Wall Street Journal*, April 16, 2013, pp B1-B2; Chana R. Schoenberger, "Weak Dollar Boosting Quarterly Earnings," *The Wall Street Journal*, May 4, 2011, p B7; James R. Hagerty, "A Falling Dollar Pushes Exports, Draws Risks," *The Wall Street Journal*, July 11, 2011, p A2; William Kazer and Andrew Browne, "China Moves in to Calm Market's Nerves," *The Wall Street Journal*, August 12, 2011, p A10.

2-70 Research Assignment: Value Chain (30 min)

1. Disruptive innovation changes completely the nature of the market or business. Examples include the iPhone or iPad. Sustaining innovation involves significant improvements in existing products and services. Sustaining innovation could involve added features, improved quality, lower cost, etc.
2. The five value chain activities mentioned in the article are:
    a. Market analysis
    b. Product development and design
    c. Sales and marketing
    d. Procurement, production and distribution
    e. After-sale customer service

    The five activities are broadly representative of many organizations, especially manufacturers. It could be readily adapted to apply more specifically to a service organization, by for example replacing “Product Development and Design” with “Assess Current and Potential New Services,” and replace “Procurement, Production and Distribution,” with “Operations.”
3. While not mentioned in the article, strategy plays a key role in the review of the activities for opportunities for innovation. Depending on the firm’s strategy, cost leadership or differentiation, the management accountant will find that some of the activities will be more or less important in innovation. For example, a company that succeeds on differentiation will likely spend more effort on innovation in the market analysis and product development activities. In contrast, a firm that succeeds on cost leadership will likely spend more effort to innovate in the operations areas – procurement, production, and distribution.
4. Innovation in the market analysis activity can be attained by surveying customers to determine how they are using the product or service, what features or services they value or do not value, etc.A technique called Maximum Difference Scaling (MaxDiff) can be used to determine which product or service features are most important.
5. Innovation in the product development and design activity can be aided by encouraging everyone in the company to consider and provide their own ideas. Also, strategic alliances and joint ventures with other companies can help broaden the reach of the company’s own R&D efforts.

2-70 (continued -1)

6. Innovation in sales and marketing might use for example, integrated marketing efforts in which the firm partners with media firms or the firm uses social media to help the company market its products and services. The key is to think “out of the box” about how to get the message out about the firm’s products and services. This might include such ideas as iPhone apps, web sites, and the use of predictive analytics and business intelligence (see chapter 8).
7. Innovation in procurement, production, and distribution is an area wherein many firms can benefit significantly from innovation, particularly for manufacturing and retail firms for which much of the value-added activities occur in the production-distribution activity. The opportunities here are potentially very large, with lean manufacturing, use of technology, sustainability, and product and business process improvement some of the techniques commonly used.
8. Innovation in the after-sale customer service activity could also benefit from the application of web-based resources and business intelligence techniques. The idea is to extend the company’s ability to identify and react to customer needs quickly and cost effectively.

2-71 Measuring the Impact of Sustainability Efforts (20 min)

Advantages of the Comprehensive Sustainability Report

For Countries (GDP)

- The more comprehensive reporting would provide a basis for more informed decision making about the use of natural resources. For example, the government of Malaysia recently was considering a project to build a tourist resort; the construction would require the destruction of a mangrove forest. A consultant to the Malaysian government advised that the forest had a value of $30 million a year; the tourist hotel was not built.
- As a Puma executive explained, "Once you start measuring things you realize something and start managing for it."

For Companies (like Puma)

- The more comprehensive reporting would provide a basis for improved strategic analysis of the company's existing and planned products and services, to determine the current and likely future sustainability issues, compliance issues, and shareholder concerns
- The reporting framework helps the company move ahead with a sustainable strategy that is welcomed by customers and shareholders

Disadvantages of Comprehensive Sustainability Reporting

For Countries (GDP)

- The sustainability calculations can be costly to develop
- The sustainability measures may lack credibility because of the assumption that must be made in the calculations
- Since there is no legal framework, it is unlikely that the reporting will produce results; results will come when countries and companies act on their own self-interest

For Companies (like Puma)

- As above for countries, the cost and extent of assumptions needed for the sustainability reporting as well as the limitations of no legal framework.

2-71 (continued -1)

- For global companies with suppliers in different countries, under different laws and regulations, the comprehensive framework may be difficult to implement

Also, in an article in *Strategic Finance*, Marc Epstein and Kristi Yuthas present a practical approach for measuring the monetary value of sustainability efforts.

Source: Marc J. Epstein and Kristi Yuthas, “Sustainability Impacts,” *Strategic Finance*, January 2012, pp 27-33; Alex Morales, Eric Roston, and Chisaki Watanabe, “A Kinder, Gentler – and Greener - GDP Number,” *Bloomberg Businessweek*, June 25, 2012, pp 12-14; Jeb Blount, “Accounting for Pollution Likely Within a Decade,” Reuters, June 21, 2012; Jenny Barchfield, “Puma, How Big is a Sneaker’s Carbon Footprint?” Manufactring.net, July 2, 2012.

2-72 Research Assignment; Sustainability (30 min)

1. The three options are:
    a. Adding a fifth perspective to the BSC
    b. Developing a separate sustainability balanced scorecard
    c. Integrating the measures throughout the four perspectives: financial, customer, internal business processes, and learning and growth.

   As noted in the chapter, all of these are common. Nike and Ford Motor use a combination of (b) and (c), while Shell and Exxon-Mobil use (b), and many software vendors such as SAS and Oracle offer software that provides either (a), (b) or (c).

   The article notes that approach (a) might not provide the amount of visibility for sustainability efforts that firms such as Ford, Shell and Nike are looking for. So for these firms, a separate scorecard is more desirable. For other firms, that wish to show a comprehensive single BSC, approach (a) works well since it puts all of the firms goals in a single, comprehensive system.

2. The seven BSC measurement selection considerations for a sustainability scorecard are:
    a. There is an underlying objective for the measurement. That is, the measure reflects an important goal for the company.
    b. Measurement terminology is defined and used consistently throughout the organization. This step provides the needed comparability, so that measures from different units within the firm can be compared usefully.
    c. Information needed for the measurement is obtainable. This consideration makes it clear that the BSC requires a quantitative metric, not a qualitative statement. Moreover, the measures should be reliable and produced from a system that can be audited to insure the accuracy of the information.
    d. The measurement will create behavior that is in agreement with the organizational goals and objectives. This means that the measures are chosen based upon the strategy, goals, and objectives of the firm. As for other elements of the BSC, all of the sustainability measures can be linked to strategy and goals.

2-72 (continued -1)

e. While there will likely be a combination of lagging and leading indicators, leading indicators are more appropriate to help predict how the organization will perform in the future. Likely a firm will choose to use a combination of both leading and lagging indicators.
f. The measurements should be used to track performance trends. The comparisons can be both trends, and where appropriate, comparisons across units within the firm.
g. Appropriate benchmarks and targets are set.

CHAPTER 2: IMPLEMENTING STRATEGY: THE VALUE CHAIN, THE BALANCED SCORECARD, AND THE STRATEGY MAP

QUESTIONS

2-2 Many possible examples would be correct here. Examples offered in chapter one include Walmart, Texas Instruments, and HP (Hewlett-Packard).

2-4 The four strategic resources are used as follows. First the firm determines the critical success factors using SWOT analysis, and then uses execution to excel on these CSFs. The value chain is used to provide a more detailed understanding of the strategy and CSFs, by activity. Finally, the balanced scorecard is used to monitor and reward achievement of the CSFs and to provide a means for continual feedback to SWOT analysis, for desired changes in the overall strategy.

2-6 SWOT analysis is a systematic procedure for identifying a firm's critical success factors: its internal strengths and weaknesses, and its external opportunities and threats. It is used in the first of the three steps of identifying a competitive strategy.

2-8 Critical success factors are strategic financial and non-financial measures of success. Critical success factors are used to define and measure the means by which a firm achieves a competitive advantage. Strategic cost management involves the development, understanding, and use of critical success factors to manage business firms and other organizations. Examples of CSFs are shown in Exhibits 2.1 and 2.5.

2-10 Several potential critical success factors for a large savings and loan institution might include:

1. Spread between the cost of funds and the earnings on investments and loans
2. Amount of total deposits, number of depositors, number of new offices, number of loans
3. Decrease in loan losses, number of bad loans, losses due to theft and fraud
4. Training hours per employee and employee turnover
5. Customer satisfaction as measured by phone survey or other means

2-12 Several potential critical success factors for a large retail discount store might include:

1. Growth in sales, number of new branch stores
2. Operating costs, by category
3. Customer satisfaction, as measured by phone survey or mail survey
4. Identification and introduction of new products
5. Effective promotion and advertising using a variety of media
6. Competitive service policies
7. Identification of attractive store locations
8. Effective inventory management, both to reduce employee theft and also to reduce waste, overstocking and excessive out-of-stock conditions
9. Choice of merchandise mix, to attract customers

2-14 The balanced scorecard is an accounting report that includes the firm's critical success factors in four groups or "perspectives": customer satisfaction, financial performance, internal business processes, and learning & growth (human resources). The primary objective of the balanced scorecard is to serve as an action plan, a basis for implementing the strategy expressed in the CSFs, by aligning performance of managers and employees with the firm's strategy.

2-16 Sustainability means the balancing of short- and long-term goals in all three dimensions of the company's performance – economic, social and environmental. The concept is used by firms to expand their strategy to include social and environmental as well as economic goals. Some firms that have included sustainability have found that it is also good economics.

BRIEF EXERCISES

2-18 There are a number of possible examples here. If you have trouble getting a discussion going refer the class to chapter 1 and some of the firms that were discussed there as cost leaders. For example, Walmart, which has the strengths of size, operating efficiency through innovative supply chain, and low cost operations; weaknesses would include the recent negative publicity the firm has had for its labor practices and for the negative economic consequences to competing business in communities where a Walmart is located.

2-20 Perhaps the easiest illustration of the application of the value chain is in the manufacturing industry because it is relatively easy for the students to see or imagine the processes and steps that take place in a typical manufacturing plant, from raw materials to assembly and finishing. This is why the examples in the chapter use manufacturers. The auto industry is a good additional example. example. Ask the class to consider Walmart or Target (as large retailers) and consider the supply chain at Walmart as an example of a very effective value chain.

2-22 This is a potentially great application for value chain analysis. By identifying the two firms' value chains and then comparing relative strengths and weaknesses across the two value chains, it would be possible to see how the combined firm might be more competitive than the two separate firms. For example, consider the merger of Disney and ABC; the combination brought together a great synergy - one firm (Disney) with great content, and the other (ABC) with the media network to distribute it most effectively.

2-24 To be implemented effectively, the balanced scorecard should:

Have the strong support of top management

Accurately reflect the organization's strategy

Communicate the organization's strategy clearly to all managers and employees, who understand and accept the scorecard

Have a process that reviews and modifies the scorecard as the organization's strategy and resources change

Be linked to reward and compensation systems; managers and employees have clear incentives linked to the scorecard

Include processes for assuring the accuracy and reliability of the information in the scorecard

Assure that the relevant portions of the scorecard are readily accessible to those responsible for the measures, but that the information is also secure, available only to those authorized to have the information

2-26 1. Commodity producers are likely to compete as cost-leaders because the product is difficult to differentiate.
2. Professional service firms are usually differentiators, as consumers are likely to choose their doctors, lawyers, and accountants, etc., on the basis of proven expertise, licensure, and experience.

2-28 SWOT analysis is a useful tool for:

a. Evaluating the performance of an organization
b. Identifying the organization's critical success factors
c. Developing the organization's strategy map
d. Developing the organization's value chain

Answer: b
Learning Objective: 02-01
Feedback: Answer b is correct. SWOT analysis is used to develop and implement an organization's strategy, and the key role played by the SWOT analysis is to help identify the organization's critical success factors that are then used in the BSC, strategy map, value chain analysis, and other cost management methods such as budgeting and performance evaluation..

2-30 The balanced scorecard is related to the strategy map in a similar way as:

a. The value chain is related to product differentiation
b. SWOT analysis is related to execution
c. The organization's key activities are related to the value chain
d. Sustainability can be related to financial reporting

Answer c
Learning Objective: 02-04
Feedback: Answer c is correct because the strategy map links the critical success factors in the BSC, and the value chain links the activities the organization uses to execute its strategy

2-32 The implementation of the balanced scorecard (BSC) can involve all of the following except:

a. The strong support of top management
b. An effective value chain
c. A link to reward and compensation systems
d. An accurate reflection of the organization's strategy

Answer: b
Learning Objective: 02-04
Feedback: While an effective value chain is an important component of strategy implementation, it is not required in implementing the BSC

2-34 Opportunities and threats in Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis can be identified most readily by:

a. Using value chain analysis
b. Analyzing the industry and the organization’s competitors
c. Analyzing the organization’s critical success factors
d. Using the strategy map

Answer: b
Learning Objective: 02-01
Feedback: Opportunities and threats are external to the organization, so the analysis to identify opportunities and threats is to target developments outside the company, that is, to the industry and the organization’s competitors.

2-36 Identifying a company's strengths and weaknesses requires a:

a. Careful analysis of the company's value-chain
b. Analysis of the company's balanced scorecard
c. Evaluation of the company's operations, strategy, and management competence
d. Review of the company's industry and competitive environment

Answer: c
Learning Objective: 02-01
Feedback: a) and b) the identification of strengths and weaknesses is done as part of developing the value chain and the balanced scorecard, not an analysis of the completed value-chain or balanced scorecard, and d) the review of the industry and competitive environment is part of developing opportunities and threats.

2-38 The World Resources Institute is an organization that:

a. Provides resources for developing and benchmarking an organization's value chain
b. Provides resources for organizations that intend to expand globally
c. Provides resources for organizations that want to develop credible scorecards that include sustainability
d. Assists companies in understanding the changing environment of financial and material resources world-wide

Answer: c
Learning Objective: 02-05
Feedback: c) is correct because the mission of the World Resources Institute is to assist companies in reporting sustainability within acceptable world-wide standards. a),b) and d) are incorrect because the World Resource Institute is not directly concerned with the value-chain, the balanced scorecard, or global financial/material resources

EXERCISES

2-40 Execution; Strategy (20 min)

1. The critical aspect of the analysis of this special order is how it will affect the brand image of Deaine's clothing. Deaine appears to compete on the basis of product differentiation, that is, its clothing

is perceived to be of higher quality, attractiveness, etc. DEI is thus able to sell its clothing in upscale designer clothing retail stores, probably at a premium price. Sale of the same or similar clothing to department stores could dilute the brand image, and thus hurt the sales in the upscale retail stores. Customers who are willing to pay the premium to purchase the clothing in the designer stores may not be willing to do so if the same or similar clothing is available in department stores. Thus, while the special order might be very profitable in the short run, in the long run it is potentially very damaging for the company.

The main point of this case, and a pervasive theme of strategic cost management, is that cost analysis from a strategic perspective can often provide a different answer from the cost analysis which has a short-term point of view. In practice, many cost systems have a short-term focus, and the strategic emphasis of strategic cost management is used to bring the firm's operations and decision making back to consistency with the firm's strategic objectives.

2. A SWOT analysis would be useful to Joel to help him more thoroughly understand the key critical success factors of his strategy and to therefore help him more effectively implement the strategy. Also, a value chain analysis would help him to understand his overall strategy and the linkages of the critical success factors in a more systematic and detailed manner. A balanced scorecard would provide Joel a means to organize these critical success factors and to regularly measure progress on each of them.

2-42 Value Chain; Strategy Map; Corporate Alliances (15 min)

Because it specializes only in conducting and analyzing clinical trials for new drugs, Quintiles can perform this activity more efficiently and more effectively than Solvay. This means the two corporations both benefit from the collaboration. Quintiles provides the same service for many other pharmaceutical companies, providing the same joint benefits. The joint benefits arise because the industry value chain for pharmaceutical firms has a step, the testing of new drugs, which can be efficiently and effectively outsourced. Quintiles, founded in Chapel Hill, NC in 1974, saw the need for testing and analysis services in pharmaceutical companies, and from a single contract in 1974 has grown to a company operating in 60 countries with 22,000 employees. The collaboration between Solvay and Quintiles was a natural fit.

To recognize the importance of this collaboration and to enhance the joint benefits, the two companies developed a joint balanced scorecard and strategy map in 2006. The scorecard and strategy map enabled the companies to set jointly-beneficial goals, set targets, and monitor progress toward these targets. The two companies were already using the balanced scorecard, so the concept of extending the scorecard approach to their alliance made sense.

Source: Robert S. Kaplan, David P. Norton, and BjarneRugelsjoen, “Managing Alliances with the Balanced Scorecard,” *Harvard Business Review*, January 2010, pp 114-120.

2-44 Strategy; Sustainability (15 min)

There are some good reasons to expect this strategy is a good one for both Walmart and for Seventh Generation (SGI). For Walmart, which initiated a “green” strategy in 2005 under CEO Lee Scott, and in 2009 published its first Sustainability Report, working with Seventh Generation will enhance its emphasis on and reputation for sustainability. Offering Seventh Generation Products is consistent with the firm’s overall strategy and should help in driving positive customer attitudes as well. Walmart is also likely to be aware that its shoppers are increasingly looking for “green” products, as more consumers are concerned about climate change, so the partnership should produce increased sales and perhaps new customers for Walmart.

Seventh Generation is the big winner here, as its products are now available in the giant retailer’s stores, opening up a significant new access to shoppers for the company. Also, the growing awareness of the commitment of Walmart to sustainability should make the partnership look favorable to the Seventh Generation’s customers.

Source: Ellen Byron, “Adversary’s Clean Start with Walmart,” *The Wall Street Journal,* July 26, 2010, p B9.

Consistent with Walmart’s sustainability strategy, the firm announced in September 2013 that it would no longer accept suppliers’ products that contained certain hazardous chemicals. Source: Wendy Koch, “Wal-Mart Announces Phase-out of Hazardous Chemicals,” *USA Today*, September 12, 2013.

PROBLEMS

2-46 Strategy; Health Care (25 min)

1. Medical University's strategy, a differentiation strategy, should encompass a focus on the quality of its clinical care, education, and research. The relative size of the healthcare system is important as a way to attract third party payers, providers, and patients. A large hospital system tends to offer a greater breadth of services, which often increases the clinician's level of expertise. A physician at a larger institution will most likely have performed more procedures, i.e. open-heart surgeries, which tends to increase the probability of a favorable patient outcome. The healthcare system's image to the public is very important. A renowned institution receives more walk-in patients and patient referrals because of its reputation. Thus, the University's marketing and public relations departments are very crucial to its success. It is also essential that the healthcare system stay within its budget in order to continue operations.

2. The balanced scorecard goes beyond simply monitoring financial performance. Because the four areas: financial performance, customer satisfaction, internal processes, and learning and growth have critical success factors which are monitored, management can thus determine how well the firm is attaining its strategic goals based on the measurements of these critical success factors.

The value chain has been applied to the hospital setting by Robert Kaplan and David Norton ("How to Solve the Cost Crisis in Health Care,: *Harvard Business Review*, September 2011, pp 47-64). The authors illustrate how the Care Delivery Value Chain (CDVC) can be used for process improvement and cost reduction at the MD Anderson Head and Neck Center of the MD Anderson Hospital in Houston, Texas. Kaplan and Norton also explain in this article how ABC costing can be used to identify opportunities for cost reduction and process improvement.

2-46 (continued -1)

3.

- Financial: operating margin, cost per patient-day, percentage of overdue patient accounts, sales growth
- Customer: patient satisfaction, speed of service, number of referring physicians, measures of patient health (re-admits for complications,…)
- Internal Processes: patient complaints, percentage of procedures completed on time, infection rate, mortality rate
- Learning & Growth: number of employee hours of training, number of employee suggestions, measures of absenteeism, employee satisfaction

2-48 SWOT Analysis (20 min)

There are likely to be a wide variety of answers. Here are some representative items.

Strengths

Good sized farm in an established farming area
Automated milking equipment
Extensive experience
Significant capital investment

Weaknesses

Future of tobacco as a crop?
FDA regulations and compliance
Some unscientific farming methods used in the past
Varied terrain in the farm's fields

Opportunities

More efficient farming operations, through Kelly
More leisure time for Dad
Export subsidies, tariffs, etc. in the U.S. and abroad that make Fowler's farm products more competitive

Threats

New regulations, taxes,…etc. re: tobacco
Export subsidies, tariffs, etc in the U.S. and abroad that make Fowler's farm products less competitive

2-50 The Balanced Scorecard (20 min)

There are a number of possibilities for determining both the number and types of perspectives for the balanced scorecard, and for determining the critical success factors which belong under each perspective. The answer below is representative of a balanced scorecard that would be a good fit for the Fowler farm. This scorecard puts the operations and financial perspectives first, to emphasize their importance to the farm. Note that each of the factors must have a quantitative measure; a concept is appropriate for strategic analysis, but the scorecard is intended to measure progress and performance – it requires a quantitative measure.

Operations

crop rotation; number of fields in rotation
inventory of supplies and parts, by type of equipment, cost and date purchased
weather forecast, days missed, important weather changes
irrigation schedule; % days on schedule
fuel used, by type of equipment
equipment breakdowns, by type of equipment; cost of repair, length of time needed for repair

Financial

sales; trend
monthly earnings trend
return on investment; compared to industry average for region
cost of materials; fertilizer, fuel, etc.
cost of labor; by type of employee
prices received for each major product
interest cost

Employees

turnover (number and percent)
accidents (number)
experience; years in farming
efficiency; hours required for each well-defined task

2-50 (continued -1)

Regulatory Compliance and Environmental

compliance with local, state and federal laws on tobacco farming
compliance with FDA regulations regarding handling raw milk
usage of restricted chemicals known to have negative environmental effects (amount, percent)

Customer

orders shipped on time (number and percent)
quality complaints (number, percent)

2-52 SWOT Analysis (20 min)

There are likely to be a wide variety of answers. Here are some representative items.

Strengths

90+ years of reputation for quality and innovation
Highly trained craftsmen (Classic Line)
Loyal work force

Weaknesses

Drop in demand for the Classic Line (except in Northeast), the Modern line, and Contemporary line
Capacity problems in the plant

Opportunities

Growth in demand in the Western and Stewart lines

Threats

Ability to replace skilled workers in the Classic line?
Order backlog – effect on customer satisfaction?

2-54 The Balanced Scorecard (20 min)

An example of a balanced scorecard for Tartan Corp follows:

Financial
Sales, sales growth, by product and region
Earnings, as above
Activity-based product costs
Return on investment, by product line
New investment, by product line

Internal
Cycle time
Waste of materials
Rework
Productivity measures; hours per product, materials per product
Inventory levels

Customer
Lead time
Retention
Satisfaction, in specific categories: quality, etc
Number of new customers

Employee
Training hours
Retention
Satisfaction
New product development
Employee suggestions

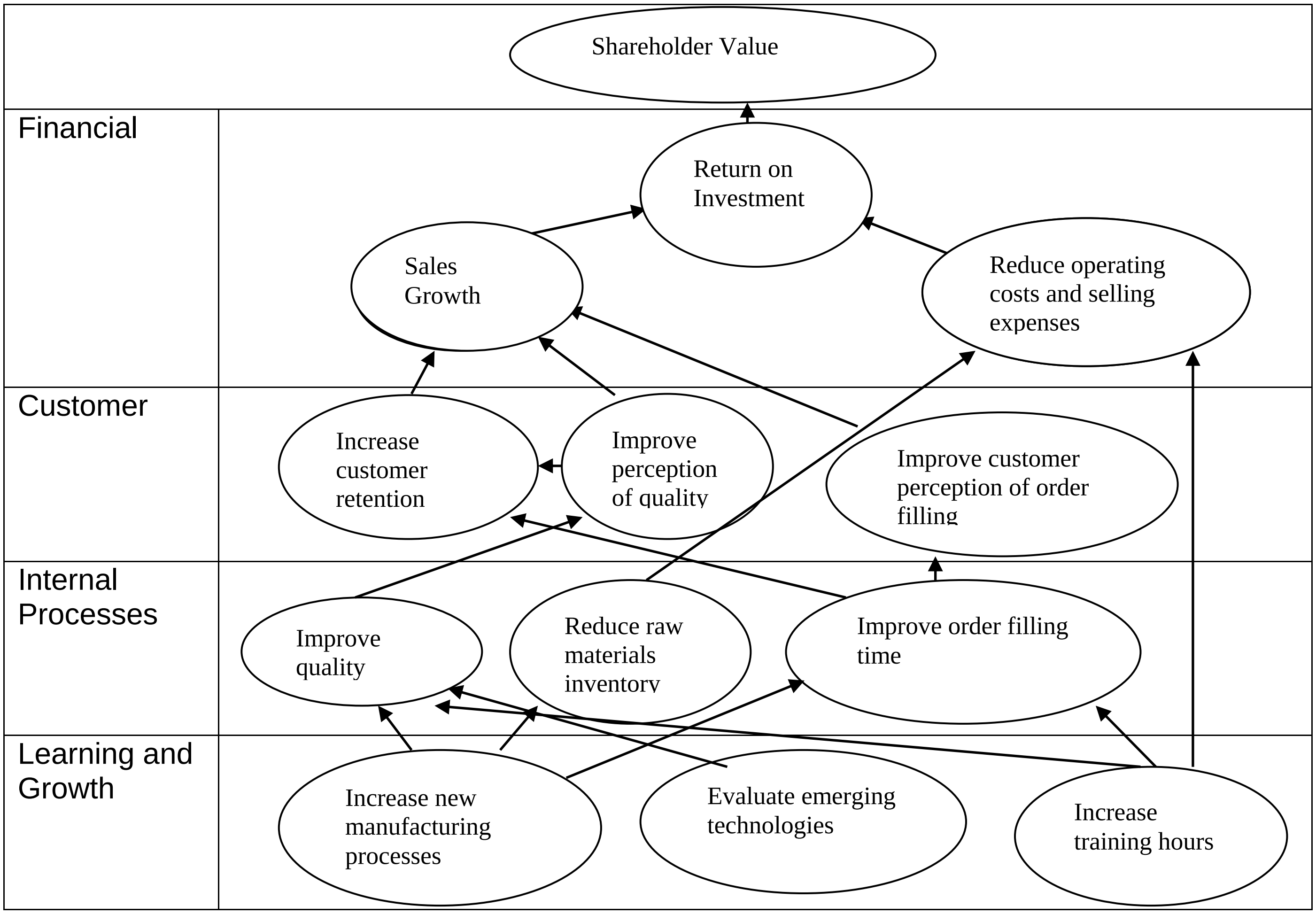
2-56 Strategy Map, Balanced Scorecard; Dell Inc. (25 min)

1. The following BSC was adapted from Peter Brewer, "Putting Strategy into the Balanced Scorecard," *Strategic Finance,* January 2002, pp44-52.

Learning and Growth • Training dollars per employee • Number of emerging technologies evaluated • Number of new manufacturing processes developed • Number of new manufacturing processes under development
Internal Processes • Product manufacturing time • Raw materials inventory • Order processing time • Manufacturing defects
Customer • customer perception of order taking convenience and accuracy • customer perception of product quality • customer retention • customer satisfaction with speed of service
Financial Perspective • revenue growth • gross margin • operating cost ratio • selling expense to sales ratio

2. Strategy Map for Dell Inc.
   This is one example of a possible strategy map, that can be inferred from the BSC in part 1 above.

2-56 (continued -1)



2-58 Strategic Analysis; The Balanced Scorecard, and Value-Chain Analysis; The Packaging Industry (40-50 min)

1. Dana's strategy had previously been primarily a cost-leadership strategy, but with the new focus on high-end markets, the strategy has changed to differentiation. Can Dana compete as effectively as a differentiator as it can as a cost-leader? The change has required a change in operations, to accommodate the smaller batches and greater number of features added to the product, as noted in the case. The likelihood of success for the strategy depends on the firm's ability to make the changes effectively. Can the plant be re-oriented to small batch production quickly and efficiently, so that Dana can compete effectively on cost and quality in the new markets? Has Dana done a careful strategic analysis of the new competitors in the new markets? How is competition in these new markets likely to change over the coming months?

2-58 (continued -1)

2. A value chain for Dana Packaging follows:

STEPS IN THE VALUE CHAIN	ACTIVITIES AT EACH STEP OF THE VALUE CHAIN	EXPECTED OUTPUT OF EACH ACTIVITY
First Step: Acquire the raw materials, which is primarily pulp paper	Produced in Dana’s mills; also purchased from recycling operators	High quality, low cost materials
Second Step: Conversion	Converts the pulp into paperboard	High quality paperboard
Third Step: Coating	When desired, to apply the required coating and color to the container	Increasing, Dana’s products include specialized, colorful products with new coating developed by Dana
Fourth Step: Filling and Sealing	The customer’s product is added to the container which is then sealed; done only in Dana’s own plants to ensure safety and quality and low cost	Focus here on cleanliness, safety, and reducing waste
Fifth Step: Packing and Shipping	The filled containers are packed in cartons and shipped to customers	Focus here on speed and meeting targeted delivery dates
Sixth Step: Customer Service	Process returns and inquiries	

2-58 (continued -2)

There are a number of opportunities for cost reduction/value enhancement: The value-chain analysis should motivate and facilitate make-or-buy types of analysis for each of the firm's internal activities. Identify activities which might be more cheaply and efficiently done outside the company; for example, the coating process (which is now occasionally outsourced) might be effectively outsourced to a greater extent or entirely. The filling process is the most critical for Dana, as it is the step where the customer's product is handled. For strategic reasons, then, Dana should retain the filling process entirely within its direct control.

For each activity at each step of the value chain, determine the outside price for the activity, and use this as a benchmark for identifying activities which need improvement.

Develop similar value chains for all key competitors, and compare each of these to Dana's to identify how Dana fits in the competition in the industry. This should reveal competitive weaknesses and strengths, and perhaps opportunities for improvement.

Use the value chain to evaluate vendor relationships; are any suppliers causing internal processing problems because of quality problems or late delivery, etc.?

Use the value chain to identify the key cost drivers in the business; for example, it is likely that costs in the coating activity have increased significantly because of Dana's move into the more colorful and innovative types of packaging; has the manufacturing process been changed to facilitate the increase in setups and product variety? It is likely that the firm will have to consider adding new production equipment, which will enable it to better handle the increased product complexity and variety. Are products being properly costed; do the more complex products bear the appropriate cost of their complexity? For example, if adding multiple colors to packaging material is very costly to manufacture, then the pricing should be higher to recapture these costs.

2-58 (continued -3)

Identify those customers for which the cost of service and delivery is unusually high due to the care with which the material must be handled or to the weight, or distance, etc. Make sure that these costs are recaptured in the pricing of the products, or alternatively, the firm might seek more profitable customers.

3. Critical Success Factors for Dana might include:

Financial:
- profit by product line
- cost by product and production run
- cost by type; by month
- standard cost variances

Customer Satisfaction:
- ship dates met/ un-met
- survey of customer satisfaction
- log of complaints and compliments

Internal Business Processes:
- quality defects per million produced
- cycle time
- production run time

Innovation and Learning:
- training hours
- productivity (learning) changes
- number of new features/products developed

2-60 Strategy; Value Chain (40-50 min)

1. The following data is for July 25, 2011 and August 11, 2014, for companies in the listed sectors of the industry.

		Size Measure	Profitability Measures	
Sector		**Market Cap**	**ROE**	**Profit margin**
Integrated Oil	2014	$129,382B	12.2%	5.1%
and Gas	2011	40,833B	15.0	6.5
Drilling and	2014	4,561B	5.1	7.6
Exploration	2011	3,856B	11.2	11.8
Equipment and	2014	4,274B	10.2	7.6
Services	2011	13,733B	8.7	7.4
Pipelines	2014	864B	11.5	5.7
	2011	432B	11.1	5.6
Refining and	2014	10,599	12.8	1.8
Marketing	2011	8,513B	12.7	2.9

For comparison, the airline industry:

Major Airlines	2014	3,448B	37%	5.6%
	2011	681.2	40.5%	2.2%

Some key observations regarding the above information: (1) market capitalization has increased substantially for both the Oil & Gas industry (all sectors except Equipment and Services) and the airline industry, as the stock market has continued to rebound since the steep plunge in the summer of 2008. Note that the price of gasoline has been relatively stable at about $3.70 (between $3.20 and $3.90) per gallon during the 2011-2014 period. The profitability measures for all the Oil & Gas industry sectors are mixed and little changed; likewise for the airline industry.

2. All of the sectors in the industry value chain are very capital intensive – it requires a lot of investment to enter and stay in the business. This is particularly true for the integrated firms, and for those in the pipeline and refining and marketing sectors. There is also a lot of risk involved in some of these sectors, particularly the drilling and exploration sector. Most of the sectors therefore must carefully manage capacity, as crude oil prices and consumer demand fluctuate.

2-60 (continued -1)

	Critical Success Factors
Integrated Oil and Gas	Customer: marketing expenditures; share of market, customer mix and profitability Internal Processes: distribution costs, processing costs, safety incidents, refinery reliability, inventory level, quality index Learning and growth: technology for oil and gas exploration, refining and distribution, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Drilling and Exploration	Customer: marketing expenditures; share of market Internal Processes: drilling costs per site, exploration yield index, safety incidents, quality index Learning and growth: technology for oil and gas exploration, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Equipment and Services	Customer: marketing expenditures; share of market, number of new customers, Internal Processes: distribution costs, processing costs, safety incidents, refinery reliability, inventory level, quality index Learning and growth: technology for new design in equipment, new products and types of services offered, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Pipelines	Customer: marketing expenditures; share of market, pipeline interruption incidents Internal Processes: distribution costs, maintenance costs, safety incidents, quality index Learning and growth: technology for oil and gas distribution, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: return on investment, net profit margin, sales growth, cash flow
Refining and Marketing	Customer: marketing expenditures; share of market, Internal Processes: distribution costs, processing costs, safety incidents, refinery reliability, inventory level, quality index Learning and growth: technology for oil and gas refining, hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial return on investment, net profit margin, sales growth, cash flow
Transport of Refined Product	Customer: marketing expenditures; share of market Internal Processes: maintenance of equipment, equipment failures, distribution costs, on-time delivery index, safety incidents, inventory level, quality index Learning and growth: hours trained in BSC and strategy map, community service projects, sustainability scorecard Financial: net profit margin, sales growth, cash flow

2-60 (continued -2)

3. Most students will be familiar with the Deepwater Horizon oil spill and its consequences. The purpose of the question is to identify operating risks in the industry (all sectors) and to discuss the potential role of the value chain in the analysis of the tragedy. There is also an opportunity to have a class discussion of the sustainability issues involved in the case;

   Background: the oil spill of the Deepwater Horizon drilling rig in the Gulf of Mexico on April 20, 2010 caused an enormous financial and environmental catastrophe for the industry and for the Gulf Coast region – the largest oil spill in U.S. history.

   Role of the Value Chain: three companies in three different sectors of the industry were involved. One company from the integrated sector, BP, leased the drilling rig from its owner, Transocean, a company in the drilling and exploration sector. A third company, Cameron International, in the equipment and services sector, produced that blowout preventer that failed to prevent the spill. An understanding of the complex operations of the drilling rig, using the value chain approach, can help to understand the different roles and responsibilities of the companies involved.

   Investigating the Risks: further investigations since the oil spill have revealed a variety of risks that were involved in all three companies, including defects in design, failure to follow industry-approved maintenance practices, human error (in reading measurements), failure to monitor and follow up on critical warning signals

   Some helpful links:
   http://oscaction.org/about-osca/

   http://en.wikipedia.org/wiki/Deepwater_Horizon_oil_spill

   http://www.bp.com/sectiongenericarticle800.do?categoryId=3313&contentId=7067651

2-60 (continued -3)

In recent years, as the amount of oil transported by railroad cars has increased dramatically, the number and severity of oil rail car accidents has also increased. Railroad executives, oil company executives, and transportation officials are working to make these transports safer. The rapid growth in oil rail traffic has meant that the industry standards have not caught up with the current needs.

Clifford Krasuss and Jad Mouawad, "Accidents Surge as Oil Industry Takes the Train," *The New York Times*, January 25, 2014. See also: http://dot111.info/category/recent-derailments/

2-62 Balanced Scorecard and Strategy: Food Ingredients Company (20 min)

Answers will vary. A key point to be made in the discussion is that a food ingredients company, of the type described (though with limited information) is likely to be a cost leader. The products are commodities for the most part. Some students will observe that certain types of food, or certain restaurants, etc., are for the gourmet and very expensive customers/markets. However, the BSC shown in this problem seems to best describe a cost leadership type of company. Note the emphasis on growth, an indication of a commodity company that must emphasize volume for profitability. Also, the financial perspective is shown first, a further indication of the importance of sales volume, cost reduction and profitability for the business

2-64 Value Chain; Harley-Davidson (15 min)

The Riding Academy program fits best near the end of Harley-Davidson's value chain, near to the customer. In this program the firm provides a customer service that is unique in the industry, and potentially an important way to attract new customers. Moreover, the program can be an important new source of income for Harley-Davidson. As new riders, and perhaps some of the veterans, find they can improve their cycling skills, the program could become a popular and a significant source of new income for the firm.

The women's program fits both the upstream and downstream ends of the HD value chain. The program involves both a design approach to develop a product for women, and also a customer service effort involving the magazine and other programs directed to increase the interest of women in the product.

Both programs fit the HD strategy of broadening its customer base beyond the loyal but dwindling HD customer base.

Another aspect of value chain for HD is its financing unit. As for many manufacturers, including the auto companies, General Electric, and the large software firms such as Oracle, Harley-Davidson has a finance unit that finances the sale of its motorcycles for many of its customers.

Note: HD once owned a 98% share of Buell Motorcyle, a company known for its high-end and successful racing cycles. HD divested the Buell brand in 2009 to focus on its main brand after the recession of 2007-2008 caused motorcycle sales to drop by more than 50%. In the summer of 2014 Buell partnered with the Indian company, Hero MotorCorp, to design low-cost bikes for the Indian market where price and durability are key. Some of these new Hero bikes will be sold in the U.S. by Buell in the next year or so. Buell should then be able to sell its high-end brand and also a less expensive bike in the same store.

2-64 (continued -1)

Source: James R. Hagerty, "Harley, With Macho Intact, Tries to Court More Women," *The Wall Street Journal*, October 31, 2011, p B1' "Harley Shows Its Feminine Side," *Bloomberg Businessweek*, October 4, 2010, p 25; James R. Hagerty, "Harley Roars On U.S. Rebound," *The Wall Street Journal,* July 20, 2011, p B4; Kyle Stock, "Can Harley-Davidson Finally Woo Women?" Businessweek.com, June 2, 2014. Patrick Clark and Lee Wilson, "High-End Motorcycles Meet India's Mopeds," *Bloomberg Businessweek*, August 25, 2014, pp 52-4.

2-66 Value Chain; Choosing Which Activity (10 min)

The value chain for the Asda jeans, as described, is a three step process, beginning with manufacturing in Bangladesh and then shipping from Bangladesh to the UK, and then presentation and sale in the Asda store. A manager would consider how to improve quality and reduce cost throughout the value chain, perhaps by resourcing the manufacturing to reduce shipping costs or reducing in-store selling costs. Another approach might be to add cost and add value through a redesign of the jean. For example, Levi Strauss has developed a jean that requires much less water to produce. Called the Waste-Less jean, this product has a much reduced environmental impact relative to other jeans.

Note the ***Real World Focus*** item regarding sustainability at Patagona in the text of the chapter.

The role of the value chain is to provide a basis for identifying where in the life cycle of the product it might be possible to reduce cost, increase value, or become more competitive. It is pretty clear from the example that the downstream activities of shipping and sales together generate the greatest cost. Do they also generate the greatest value?

Source: "Correlations: Perilous Arithmetic," *Bloomberg Businessweek*, June 10, 2013, p 25; Susan Berfield, "Levi's Has a New Color for Blue Jeans: Green," *Bloomberg Businessweek,* October 22, 2012, pp 26-28.

2-68 Follow up to Problem 2-67: Value Chain for Financing Auto Purchases (30 min)

Steps in the value chain for obtaining a loan for a car purchase. This is a short example, and other variations would be acceptable. Emphasize the importance of both speed and comprehensive analysis in this process. Speed is necessary to compete effectively for the loan with other financial institutions, and is desirable for the auto dealer, a related party in the transaction. Also, the comprehensive analysis is necessary to avoid the risk of loan default and therefore loan losses in the coming months and years; make sure the applicant is credit worthy.

Step	Description of the step
Receive application	Log in the application and file it appropriately into the loan application database
Research credit	Research the credit worthiness of the applicant by using the FICO® score produced by Fair Issac Corp or by using one of the credit reporting systems - Experian, Equifax or TransUnion -- the three national credit bureaus that maintain and sell credit reports and profiles.
Evaluate credit	Determine whether the credit score determined in the above step meets the criteria for granting a loan of the type and terms (number of years, amount of down payment,…) requested by the borrower
Respond to the applicant	If credit is OK, inform the applicant and begin the process of disbursing the loan amount and creating the loan documents; If credit is not OK, inform the applicant and indicate what is lacking; encourage the applicant to reapply when conditions are changed, if appropriate. ***The following assumes the loan has been approved:***
Prepare loan documents	Usually from the software system used to log in and maintain the applicant's information
Prepare cashier's check made out to auto dealer	Use careful cash controls in this step to avoid employee fraud
Deliver loan documents and cashier check to auto dealer	Make sure loan documents are properly signed, dated, and returned promptly to the finance office.

Note (re: problem 2-67), the same value chain shown above for the auto industry would also be applicable to the finance function in the boating industry.

2-70 Research Assignment: Value Chain (30 min)

1. Disruptive innovation changes completely the nature of the market or business. Examples include the iPhone or iPad. Sustaining innovation involves significant improvements in existing products and services. Sustaining innovation could involve added features, improved quality, lower cost, etc.
2. The five value chain activities mentioned in the article are:
    a. Market analysis
    b. Product development and design
    c. Sales and marketing
    d. Procurement, production and distribution
    e. After-sale customer service

   The five activities are broadly representative of many organizations, especially manufacturers. It could be readily adapted to apply more specifically to a service organization, by for example replacing "Product Development and Design" with "Assess Current and Potential New Services," and replace "Procurement, Production and Distribution," with "Operations."
3. While not mentioned in the article, strategy plays a key role in the review of the activities for opportunities for innovation. Depending on the firm's strategy, cost leadership or differentiation, the management accountant will find that some of the activities will be more or less important in innovation. For example, a company that succeeds on differentiation will likely spend more effort on innovation in the market analysis and product development activities. In contrast, a firm that succeeds on cost leadership will likely spend more effort to innovate in the operations areas – procurement, production, and distribution.
4. Innovation in the market analysis activity can be attained by surveying customers to determine how they are using the product or service, what features or services they value or do not value, etc.A technique called Maximum Difference Scaling (MaxDiff) can be used to determine which product or service features are most important.
5. Innovation in the product development and design activity can be aided by encouraging everyone in the company to consider and provide their own ideas. Also, strategic alliances and joint ventures with other companies can help broaden the reach of the company's own R&D efforts.

2-70 (continued -1)

6. Innovation in sales and marketing might use for example, integrated marketing efforts in which the firm partners with media firms or the firm uses social media to help the company market its products and services. The key is to think "out of the box" about how to get the message out about the firm's products and services. This might include such ideas as iPhone apps, web sites, and the use of predictive analytics and business intelligence (see chapter 8).
7. Innovation in procurement, production, and distribution is an area wherein many firms can benefit significantly from innovation, particularly for manufacturing and retail firms for which much of the value-added activities occur in the production-distribution activity. The opportunities here are potentially very large, with lean manufacturing, use of technology, sustainability, and product and business process improvement some of the techniques commonly used.
8. Innovation in the after-sale customer service activity could also benefit from the application of web-based resources and business intelligence techniques. The idea is to extend the company's ability to identify and react to customer needs quickly and cost effectively.

2-72 Research Assignment; Sustainability (30 min)

1. The three options are:
    a. Adding a fifth perspective to the BSC
    b. Developing a separate sustainability balanced scorecard
    c. Integrating the measures throughout the four perspectives: financial, customer, internal business processes, and learning and growth.

   As noted in the chapter, all of these are common. Nike and Ford Motor use a combination of (b) and (c), while Shell and Exxon-Mobil use (b), and many software vendors such as SAS and Oracle offer software that provides either (a), (b) or (c).

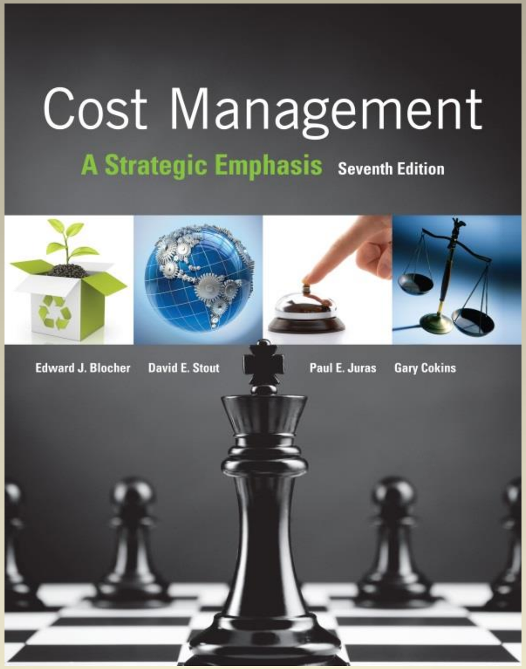
   The article notes that approach (a) might not provide the amount of visibility for sustainability efforts that firms such as Ford, Shell and Nike are looking for. So for these firms, a separate scorecard is more desirable. For other firms, that wish to show a comprehensive single BSC, approach (a) works well since it puts all of the firms goals in a single, comprehensive system.

2. The seven BSC measurement selection considerations for a sustainability scorecard are:
    a. There is an underlying objective for the measurement. That is, the measure reflects an important goal for the company.
    b. Measurement terminology is defined and used consistently throughout the organization. This step provides the needed comparability, so that measures from different units within the firm can be compared usefully.
    c. Information needed for the measurement is obtainable. This consideration makes it clear that the BSC requires a quantitative metric, not a qualitative statement. Moreover, the measures should be reliable and produced from a system that can be audited to insure the accuracy of the information.
    d. The measurement will create behavior that is in agreement with the organizational goals and objectives. This means that the measures are chosen based upon the strategy, goals, and objectives of the firm. As for other elements of the BSC, all of the sustainability measures can be linked to strategy and goals.

2-72 (continued -1)

e. While there will likely be a combination of lagging and leading indicators, leading indicators are more appropriate to help predict how the organization will perform in the future. Likely a firm will choose to use a combination of both leading and lagging indicators.
f. The measurements should be used to track performance trends. The comparisons can be both trends, and where appropriate, comparisons across units within the firm.
g. Appropriate benchmarks and targets are set.

Chapter Two



Implementing Strategy: The Value Chain, the Balanced Scorecard, and the Strategy Map

Learning Objectives

- Explain how to implement a competitive strategy by using **S**trengths-**W**eaknesses-**O**pportunities-**T**hreats (SWOT) Analysis
- Explain how to implement a competitive strategy by focusing on the execution of goals
- Explain how to implement a competitive strategy using value-chain analysis

Learning Objectives (continued)

- Explain how to implement a competitive strategy using the *Balanced Scorecard* (BSC) and strategy map
- Explain how to expand the Balanced Scorecard (BSC) by integrating sustainability

Implementing a Strategy

- **There are two main competitive strategies:**
  - cost leadership
  - differentiation
- **Once a firm chooses which strategy to follow, there are various means of implementation:**
  - SWOT Analysis
  - Focus on execution
  - Value-chain analysis
  - Balanced scorecard (BSC)

SWOT Analysis

- **Identification of critical success factors (CSFs) tied to strategy—for example:**
  - Product innovation
  - Quality
  - Skill development
- **Core competencies**
  - Areas of significant competitive advantage
  - Building blocks for the organization's overall strategy
- **Quantitative measures**
  - Are required for each critical success factor

SWOT Analysis (continued)

- **SWOT analysis has four elements (two are internal to the firm and two are external):**
  - **S** – strengths/internal
  - **W** – weaknesses/internal
  - **O** – opportunities/external
  - **T** – threats/external

Look at product lines, management, R&D, manufacturing, marketing, and strategy

Look at barriers to entry, intensity of rivalry among competitors, substitute goods, and customer/supplier bargaining power

Execution

- **The CSFs a manager executes depend on the chosen strategy**
  - Cost leadership: operational performance and quality
  - Differentiation: customer satisfaction and innovation
- **Differentiated firms must pay close attention to marketing and product development**
  - Management accountants assist by gathering, analyzing, and reporting on relevant information
- **Can be improved through benchmarking and total quality improvement (e.g., Malcolm Baldrige Quality Award program)**

Value-Chain Analysis

- **An analysis for better understanding the details of the organization's competitive strategy**
  - CSFs must be implemented in each and every phase of operations
- **Helps a firm better understand its competitive advantage by analyzing what processes add value**
- **Three Phases:**
  - Upstream: product development, links with suppliers
  - Operations: manufacturing or service done
  - Downstream: links with customers, delivery, service

Value-Chain Analysis

- **Value-chain analysis has two steps:**
  - Identify the value-chain activities at the smallest level possible
  - Develop a competitive advantage by reducing cost or adding value
- **To develop a competitive advantage, a firm must consider the following:**
  - What is our competitive advantage (strategy)?
  - Where can we add value for the customer?
  - Where can we reduce costs?

Example: Value-Chain Analysis in Computer Manufacturing

- Computer Intelligence Company (CIC) manufactures computers for small businesses

- The company has an excellent reputation for service and reliability as well as a growing customer list: competes on differentiation

- Is there any way to add value for the customer while reducing costs?

Example: Value-Chain Analysis in Computer Manufacturing (continued)

- **The company is considering two decisions:**
  - **Decision One:** the purchase or to make certain parts
  - **Decision Two**: providing service internally or outsourcing it
- **It is important to consider company strategy in these decisions**

Value-Chain Analysis in Computer Manufacturing (continued)

Value Activity	Option One – Current	Option Two – Potential
Acquiring raw materials	CIC is not involved at this step	CIC is not involved at this step
Manufacturing computer chips and other parts	CIC is not involved at this step; cost is $200	CIC is not involved at this step; cost is $200
Manufacturing components, some of which CIC can make	CIC purchases $300 of parts for each unit	CIC manufactures these parts for $190 per unit plus $55,000 monthly
Assembling	CIC's costs are $250	CIC's costs are $250
Marketing, distributing, and servicing	CIC's costs are $175,000 per month	CIC contracts out these services for $130 per unit sold

Results of Value-Chain Analysis

	Decision One	**Decision Two**
Current cost	600 x $300 = **$180,000**	**$175,000** per month
Cost if change is made	600 x 190 + $55,000 = **$169,000**	600 x $130 = **$78,000** per month
Net benefit to make the change	**$11,000 per month** = $180,000 – $169,000	**$97,000** per month = $175,000 - $78,000

Results of Value-Chain Analysis (continued)

- **CIC can save $108,000 ($11,000 + $97,000) per month by manufacturing the parts and contracting out marketing, distributing, and servicing**

- **The main factor driving the decision is company strategy, which in this case is quality and service**
  - For a firm pursuing a differentiation strategy, the best decision is not always based on lowest cost
  - From a strategic viewpoint, the best decisions are to continue to make the parts and to continue the marketing function internally

The Five Steps of Strategic Decision Making for CIC

1. Determine the strategic issues surrounding the decisions: CIC competes on differentiation
2. Identify the alternative actions for the two decisions
3. Obtain information and conduct analyses of the alternatives: calculate the relevant costs
4. Based on strategy and analysis, choose and implement the desired alternative – support CIC's strategy, this is the key to the analysis
5. Provide an on-going evaluation of the effectiveness of implementation in Step 4.

The Balanced Scorecard (BSC)

- **A comprehensive performance report** that contains the organization's critical success factors; the BSC is used in implementing the organization's strategy

- **This BSC groups a the organization's CSFs into four perspectives:**
  - Financial perspective (financial measures)
  - Customer perspective (customer satisfaction)
  - Internal process perspective (e.g., productivity and speed)
  - Learning and growth (e.g., training and number of new patents or products)

The Balanced Scorecard (continued)

- **Benefits**
  - Provides a means for tracking progress on implementing strategy
  - Provides a means to achieve a desired organizational change in strategy
  - Can be used to determine management's compensation and rewards
  - Aligns managers' efforts with strategy
  - Coordinates efforts within the firm to achieve CSFs

The Balanced Scorecard (continued)

- **A properly constructed BSC reflects a company's strategy**
  -- One should be able to infer a company's strategy from its balanced scorecard

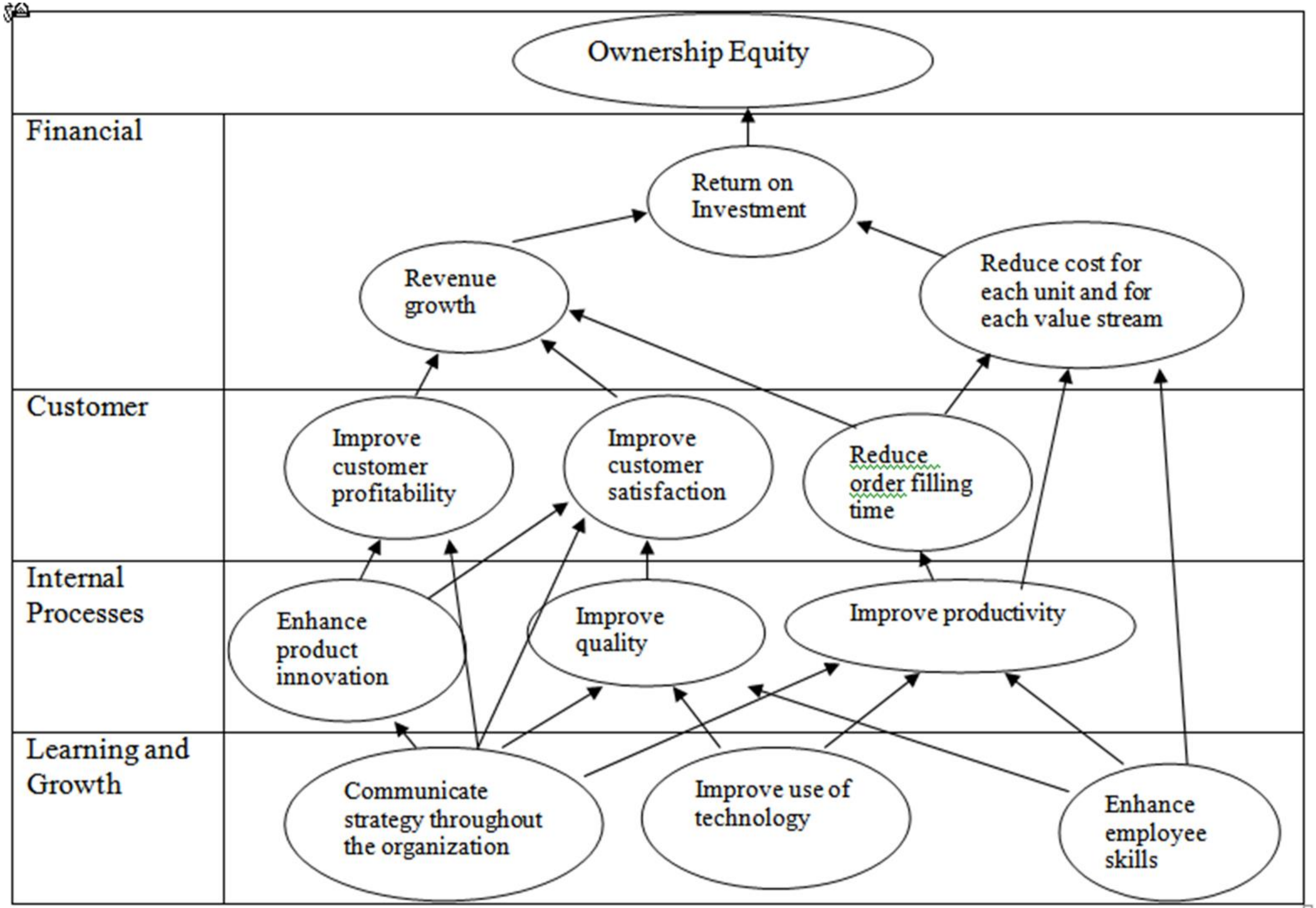
- **The emphasis placed on each performance perspective reflects the strategy of the firm**
  – For a cost leader, the operations perspective might be the most important; for a differentiator, the customer perspective…

Strategy Map

A strategy map is a cause-and-effect diagram of the relationships among the critical success factors in a BSC. The strategy map:

- Shows how the achievement of CSFs in one perspective should affect the achievement of goals in another perspective
- Focuses on the financial perspective because financial performance is the ultimate goal for most profit-seeking organizations
- Illustrates how success in the customer, internal processes, and learning & growth perspectives leads directly to improved financial performance

An Example Strategy Map



Sustainability

- Sustainability involves the balancing of all three dimensions of the company's performance–financial, social, and environmental. Sustainability reporting is often implemented as a perspective of the balanced scorecard

- Sustainability involves both environmental and social performance indicators

Sustainability (continued)

- Environmental Indicators (EPIs) include:
  - Operational measures (e.g., regulatory compliance issues)
  - Management measures
  - Environmental measures
- Social performance indicators (SPIs) include:
  - Working conditions (worker safety and training)
  - Community involvement
  - Philanthropy (direct contributions)

Chapter Summary

- **S**trengths-**W**eaknesses-**O**pportunities-**T**hreats (**SWOT**) Analysis provides a system and structure in which to identify a firm's critical success factors (CSFs)

- Execution is important in implementing a strategy . Execution depends on the competitive strategy a firm is pursuing

- Value-chain analysis builds on the CSFs identified in SWOT analysis by breaking them into detailed activities

Chapter Summary (continued)

- The balanced scorecard (BSC) is a comprehensive performance report that contains the organization's critical success factors
- The strategy map is a cause-and-effect diagram of the relationships among the critical success factors in a BSC.
- Sustainability, often included as a perspective of the BSC, builds on the conventional BSC by balancing financial, social, and environmental issues

Chapter 2
Implementing Strategy: The Value Chain, the Balanced Scorecard, and the Strategy Map

Learning Objectives

1. Explain how to implement a competitive strategy by using Strengths-Weaknesses-Opportunities-Threats (SWOT) Analysis
2. Explain how to implement a competitive strategy by focusing on the execution of goals.
3. Explain how to implement a competitive strategy using value-chain analysis.
4. Explain how to implement a competitive strategy using the balanced scorecard and strategy map.
5. Explain how to expand the balanced scorecard by integrating sustainability.

New in this Edition

- All Real World Focus items are revised and updated, particularly the item on the currency fluctuation; one new Real World Focus item on execution; real world information throughout the chapter is revised for current information
- New Cost Management in Action item on strategy in consumer electronics – Apple vs. Samsung
- The section on Execution is updated and enhanced
- Twelve new Brief Exercises, three new problems, and several revised exercises and problems

Teaching Suggestions

This chapter is unique, and is not included in most cost and management accounting textbooks. Because of the importance of the strategic theme of the book, this entire chapter is devoted to developing the three key areas of strategy implementation. The chapter follows the introduction to strategy in chapter 1, which we view as a foundational topic, as is ethics, and is thus included in the first chapter. Chapter two develops the strategic emphasis by explaining the methods in which it is implemented in organizations.

1) **strategy execution,** including the development of critical success factors and SWOT (strengths, weaknesses, opportunities, threats) analysis.
2) **the value chain**, this chapter takes the perspective of the industry-level value chain, as explained by John Shank in a number of his publications, in contrast to the firm-level concept as developed by Michael Porter. Shank's concept has greater generality and is more useful for cost management.
3) **the balanced scorecard**, a concept developed by Robert Kaplan and David Norton, which includes nonfinancial as well as financial data in providing a broad, balanced evaluation of the firm and its managers.
4) **Sustainability,** the adaptation of the balanced scorecard or the development of an independent scorecard to measure the organization's effectiveness in achieving social and environmental goals as well as financial goals.

For the value chain. I pick a simple example and show it on the board or transparency. Then I ask the class to help develop a value chain for a similar type of firm. Some students will at first find the concept of the value chain too vague, and they are concerned how they will do homework problems and/or exam questions. For this reason, I try to emphasize simple and familiar examples at first, for example, student organizations or the student book store. Also, I emphasize the ***use*** of value chains more so than the development of value chains. I do not require the students to complete a value chain on an exam, though I have presented a completed value chain and asked for their interpretation of it—what it suggests about how the firm can increase value for the customer or streamline operations and reduce cost.

The balanced scorecard is best presented by example, and is usually very quickly understood by the students. Occasionally, I have added to this discussion the use of a case, such as the Analog Devices case (Robert Kaplan, Harvard Business School). I also find useful the article by Chow, Haddad, and Williamson, “Applying the Balanced Scorecard to Small Companies” (*Management Accounting*, August 1997, pp 21-27). The article shows the balanced scorecards for four different firms. The article gives me a way to lead a class discussion on both (1) how the scorecard reflects the firm’s competitive strategy, and (2) how the scorecard differs among firms and industries.

An important point to convey in this chapter is that cost management must be based on a strategic competitive assessment of the firm. That is, in order to develop effective cost management methods, it is necessary to know how the firm competes, and how it is successful. The methods to be developed will depend on this. If the firm is a cost leadership competitor, the choice of cost management methods will be different than if the firm is a differentiator.

A related point is that the students must understand at this point that what they will see later in the course, whether it be the master budget, the flexible budget, or productivity analysis, etc, must be viewed within the context of how it helps the firm advance its strategy and become more successful. None of the topics are covered simply because this topic or method is used in practice. Rather, each topic is considered from the standpoint: how will this method help the firm succeed?

Assignment Matrix Chapter 2 Exercises and Problems					**Learning Objectives**					**Text Features**				
7e	6e	Transition 6e to 7e	Time	Connect	1. Using SWOT Analysis	2. Execution of Goals	3. Value chain analysis	4. Balanced scorecard amd strategy map	5. Integrating sustainability	Strategy	Service	International	Ethics	Sustainability
		Brief Exercises												
2-18	2-18		5 min.		X									
2-19	2-19		5 min.		X									
2-20	2-20		5 min.				X							
2-21	2-21		5 min.					X						
2-22	2-22		5 min.				X							
2-23	2-23		5 min.				X							
2-24	2-24		5 min.					X						
2-25	2-25		5 min.					X						
2-26	2-26		5 min.					X		X				
2-27	2-27		5 min.					X		X				
2-28		New in 7e	5 min.	X	X					X				
2-29		New in 7e	5 min.	X		X				X				
2-30		New in 7e	5 min.	X				X		X				
2-31		New in 7e	5 min.	X					X					X
2-32		New in 7e	5 min.	X				X						
2-33		New in 7e	5 min.	X				X		X				
2-34		New in 7e	5 min.	X	X									
2-35		New in 7e	5 min.	X			X							
2-36		New in 7e	5 min.	X	X									
2-37		New in 7e	5 min.	X	X									
2-38		New in 7e	5 min.	X					X					X
2-39		New in 7e	5 min.	X			X							
		Exercises												
2-40	2-28		20 min.		X	X	X	X		X				
	2-29	Deleted												
2-41	2-30	Revised	15 min.				X					X		
2-42	2-31		15 min.				X	X			X	X		
2-43	2-32		15 min.				X		X		X			X
2-44	2-33		15 min.						X	X				X
2-45	2-34		15 min.						X				X	X
		Problems												
2-46	2-35		25 min.			X		X		X	X			
2-47	2-36		20 min.			X				X				
2-48	2-37		20 min.		X									
2-49	2-38		20 min.				X							
2-50	2-39		20 min.					X						
2-51	2-40		20 min.			X				X				
2-52	2-41		20 min.		X									
2-53	2-42		30 min.				X							
2-54	2-43		20 min.					X						

Continued on next page…

Assignment Matrix Chapter 2 Exercises and Problems (continued)					**Learning Objectives**					**Text Features**				
7e	6e	Transition 6e to 7e	Time	Connect	1. Using SWOT Analysis	2. Execution of Goals	3. Value chain analysis	4. Balanced scorecard amd strategy map	5. Integrating sustainability	Strategy	Service	International	Ethics	Sustainability
		Problems (continued)												
2-55	2-44		20 min.			X		X		X				
2-56	2-45		25 min.			X		X		X				
	2-46	Deleted												
2-57	2-47		45 min.			X				X	X			
	2-48	Deleted												
2-58	2-49		40-50 min.			X	X	X		X				
2-59	2-50	Revised	30 min.			X		X		X				
2-60	2-51		40-50 min.			X		X	X				X	X
2-61	2-52		20 min.			X				X				
2-62	2-53		20 min.			X		X		X				
	2-54	Deleted												
2-63	2-55		30 min.			X	X							
2-64	2-56		15 min.			X	X							
	2-57	Deleted												
2-65		New in 7e	20 min.					X		X	X	X		
2-66		New in 7e	10 min.				X							
2-67	2-58		40 min.				X							
2-68	2-59		40 min.				X							
2-69	2-60	Revised	20 min.				X					X		
2-70	2-61		30 min.				X			X				
2-71		New in 7e	20 min.						X					X
2-72	2-62		So min.					X	X					X

Lecture Notes

A. How a Firm Succeeds: The Competitive Strategy. It is useful to reinforce in chapter two the basic concepts of strategy, using the Michael Porter framework introduced in chapter 1. A firm succeeds by finding a sustainable strategy, which is a set of policies, procedures, and approaches to business to produce long-term success. Finding a strategy begins with determining the purpose, long-range direction, and mission of the company. The mission statement is developed into specific performance objectives, which are then implemented by specific corporate actions. Firms are beginning to use cost management in a new management-facilitating role, in order to support their strategic goals. A modern cost accounting system must be more dynamic than before, to deal with the rapidly changing environment.

Strategic Measures of Success. The strategic cost management system develops both financial and non-financial strategic information. The financial measures (like earnings and cash flow) show the impact of the firm's policies on the firm's current financial position. Conversely, nonfinancial factors (such as market share and customer satisfaction) show the firm's current and potential competitive position. Strategic financial and nonfinancial measures of success are commonly called critical success factors (CSFs).

B. Critical Success Factors and SWOT Analysis.

SWOT analysis is a systematic procedure for identifying a firm's CSFs: its internal **S**trengths and **W**eaknesses and its external **O**pportunities and **T**hreats. Strengths are skills and resources that the firm has more abundantly than other firms. Skills or competencies that the firm employs especially well are called core competencies. Core competencies are important because they point to areas of significant competitive advantage for the firm; core competencies can be used as the building blocks of the firm's overall strategy. In contrast, weaknesses represent a lack of important skills or competencies relative to presence of those resources in competing firms. Strengths and weaknesses are most easily identified by looking inside the firm at its specific resources (product lines, marketing, management, strategy, R&D, and manufacturing).

Opportunities and threats are identified by looking outside the firm. Opportunities are important favorable situations in the firm's environment (demographic trends, technological changes). Conversely, threats are major unfavorable situations in the firm's environment (new competitors, government regulations). Opportunities and threats can be identified most easily by analyzing the industry and the firm's competitors (barriers to entry, rivalry intensity, substitute products, customers' bargaining power, and suppliers' bargaining power). The ultimate objectives of the SWOT analysis are to identify the overall strategy and the CSFs of the firm and to begin to develop a consensus among executives and managers regarding them.

C. **Execution**. No matter how carefully crafted the firm's strategy, success will not be achieved without disciplined efforts at execution. A number of CEOs indicate that a good strategy is worthless without effective execution.

D. Cost, Quality, and Time. Many firms find that a consideration of critical success factors yields a renewed focus on the three key factors: cost, quality, and speed of product development and product delivery. Increasingly, firms find that they must compete effectively on each of these three factors. Suppliers to these firms expect to meet very high standards of quality and to meet increasingly demanding delivery terms.

E. Value-Chain Analysis. Value-chain analysis is a strategic analysis tool used to better understand the firm's competitive advantage, to identify where value to customers can be increased or costs reduced, and to better understand the firm's linkages with suppliers, customers, and other firms. The activities of the value-chain include all steps necessary to provide a competitive product or service to the customer. Although the value-chains are sometimes difficult to describe for a service or not-for-profit organization because they might have no physical flow to visualize, the approach is applied to all types of firms. The term value-chain is used because each activity is intended to add value to the product or service. Management can better understand the firm's competitive advantage by separating its operations according to activity. The underlying concept of the analysis is that each firm occupies a selected part or parts of the entire value chain. The determination of which part or parts of the chain to occupy is a strategic analysis based on the consideration of comparative advantage for the firm. Value-chain analysis has three steps:

a. Identify the Value-Chain Activities. The firm identifies the specific value activities that the firm in the industry must perform in the process of designing, manufacturing, and providing customer service. Some firms are involved in a single activity or a subset of the total activities. The activities should be determined at a relatively detailed level of operations, that is, at the level of business unit or process just large enough to be managed as a separate business activity.

b. Identify the Cost Driver(s) at Each Value Activity. A cost driver is any factor that changes the level of total cost. The objective of this step is to identify activities for which the firm has a current or potential cost advantage.

c. Develop a Competitive Advantage by Reducing Cost or Adding Value. In this step, the firm determines the nature of its current and potential competitive advantages by studying the value activities and cost drivers identifies earlier. In doing so, the firm must consider the following:

<u>Identify competitive advantage (cost leadership or differentiation)</u>. The analysis of value activities can help better understand the firm's strategic competitive advantage and its proper positioning in the overall industry value chain.

<u>Identify opportunities for added value</u>. The analysis of value activities can help identify activities in which the firm can add significant value for the customer.

<u>Identify opportunities for reduced cost</u>. A study of its value activities and cost drivers can help a firm determine those parts of the value chain for which it is not competitive.

<u>Exploit linkages among activities in the value chain</u>. The decision to provide an activity internally or to outsource it is sometimes influenced by the way that activity is affected by another activity in the chain.

Value-chain analysis supports the firm's strategic competitive advantage by facilitating the discovery of opportunities for adding value for the customer and/or by reducing the cost to provide the product or service.

F. The Five Steps of Strategic Decision Making for CIC Manufacturing

The five steps of strategic decision making are illustrated in chapter two with an example of value chain analysis. The example is developed in the text, and the five steps are highlighted as follows. The context is a company (CIC) that manufactures computers and competes on a differentiation strategy.

1. Determine the Strategic Issues Surrounding the Problem.

CIC competes as a differentiator based on customer service, product innovation and reliability; customers pay more for the product as a result.

2. Identify the Alternative Actions:

CIC faces two decisions, the first of which is to make or buy certain parts, which CIC currently buys for $300 but CIC could manufacture these parts for $ 190 per unit plus an additional $55,000 monthly cost.

The second decision is choose whether to continue marketing, distributing, and serving its products, or to outsource that set of activities to JBM enterprises for $130 per unit sold and save $175,000 per month in materials and labor costs.

3. Obtain Information and Conduct Analyses of the Alternatives

First decision: CIC calculates that the monthly cost to buy is $180,000 (=600 x $300) while the monthly cost to manufacture the part is only $169,000 (=600 x $190 + $55,000), a saving of $11,000 to make.

Second decision: CIC calculates that the monthly cost of the contract with JBM enterprises would be $78,000 (=600 x $130) per month. This is a $97,000 saving over the in-house cost of $175,000 per month.

4. Based on Strategy and Analysis, Choose and Implement the Desired Alternative

First decision: As a differentiator based on product quality and innovation, CIC considers the importance of the quality of the part in question, and decides to manufacture the part. Note that while this would save CIC $11,000 per month, the key reason for the decision is to control the quality of the part and thereby improve overall quality, and support the firm's differentiation strategy. Note however, that if CIC believes that the supplier can provide the part at a higher level of quality than can CIC, the better strategy is reversed; it is now better to continue to buy, even if the costs are higher, in order to support quality, a critical success factor.

Second decision: As a differentiator based on customer service, CIC considers the continued high level of service from in-house personnel as critical to the company's success and continues to maintain these personnel, even if it means the loss of monthly savings of $97,000.

5. Provide an On-going Evaluation of the Effectiveness of implementation in Step 4.

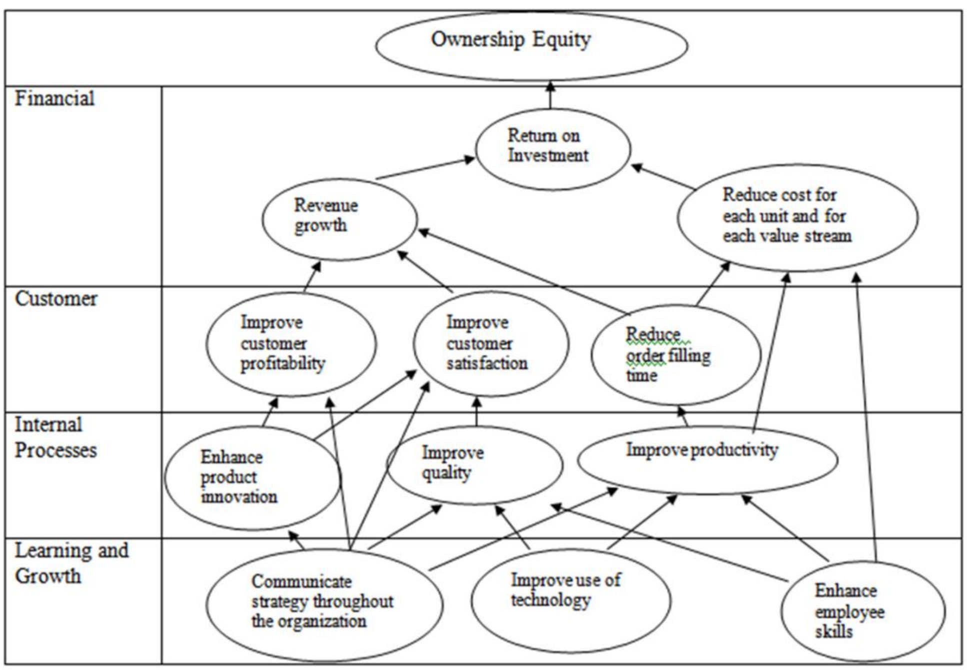
Management of CIC realize that the quality of the product and of customer service is critical to the company's success. So, CIC will continue to review the quality of product and service provided internally. If the quality of the part purchased outside, or the service provided internally is inferior to that provided by JBM, then a change to JBM would be desirable.

G. The balanced scorecard (BSC), a performance report based on a broad set of both financial and non-financial measures, is a crucial part of the firm's efforts to better understand and to implement its strategy. It consists of four "perspectives," or groupings of critical success factors: (1) the *financial perspective* which includes the financial performance measures such as operating income and cash flow, (2) *customer* *perspective*, including measures of customer satisfaction, (3) *internal process perspective*, which includes measures of productivity, speed, among others, and (4*) learning and innovation*, which includes such measures as employee training hours, number of new patents or new products. The BSC provides four key benefits:

- it provides a *means for implementing strategy*, by drawing managers attention to strategically-relevant critical success factors, and rewarding them for achievement on these factors
- it provides a framework for the firm to *achieve a desired organizational change in strategy*, by drawing attention to and rewarding achievement on factors that are part of a new strategy; the BSC makes the nature and direction of the desired change clear to all
- it provides a fair and objective basis for determining each manager's compensation and advancement
- it provides a framework for coordinating efforts within the firm for achieving critical success factors; each manager is able to see how their activity contributes to the success of others.

The BSC can be viewed as a two-way street. Since it is designed to help implement strategy, it also should reflect strategy. One should be able to infer a firm's strategy by a careful study of the firm's BSC.

A **strategy map** is a cause-and- effect diagram of the relationships among the BSC perspectives. It is used to show how the achievement of CSFs in each perspective affect the achievement of goals in other perspectives, and finally the overall financial performance of the firm. An illustration of a strategy map taken from the chapter follows:



H. Expanding The Balanced Scorecard: Sustainability

More and more large companies, especially those in the extractive industries, are concerned about the **sustainability** of their business, that is, the balancing of short and long term goals in all three dimensions of the company's performance – economic, social and environmental. Economic performance is measured in traditional ways, while social performance relates to health and safety of employees and other stakeholders, while the environmental dimension refers to the impact of the firm's operations on the environment.

The CSFs in a sustainability perspective are called environmental performance indicators (EPIs), which are defined in three categories by the World Resources Institute:

- operational indicators; measure potential stresses to the environment, for example, fossil fuel use
- management indicators; measure efforts to reduce environmental effects, for example, hours of environmental training,
- environmental condition indicators; measure environmental quality, for example, ambient air pollution concentrations