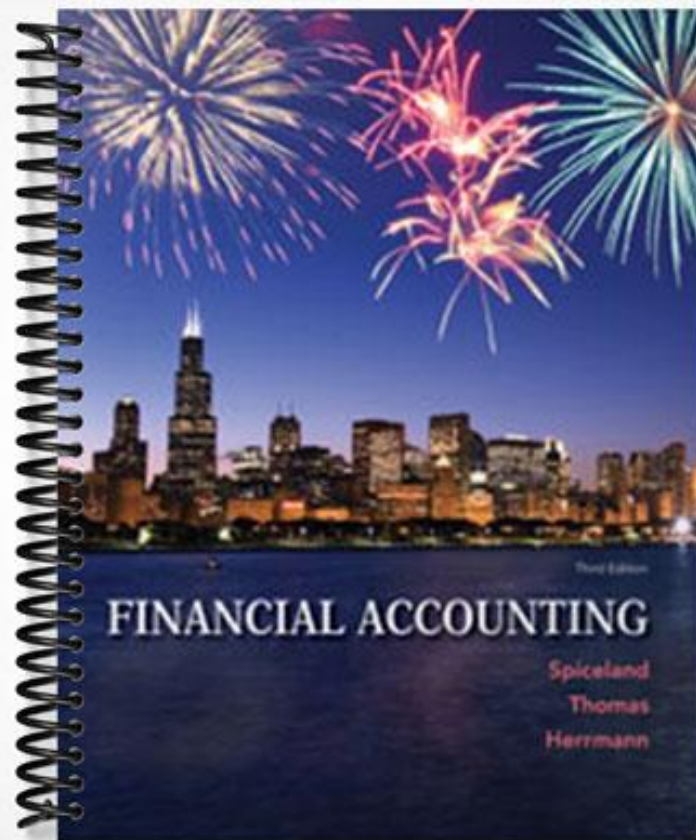


SOLUTIONS MANUAL



Third Edition
FINANCIAL ACCOUNTING

Spiceland
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Chapter 2

The Organization as a System of Activities

QUESTIONS

- 2-1** The target set of customers (or beneficiaries) is the central strategic planning element because it provides the organization's primary focus in meeting financial objectives (or other principal objectives for nonprofit organizations). The organization's decision makers choose the operating systems or sequence of activities that the organization will use to meet the customers' requirements. The organization's decision makers also choose performance measurement systems to monitor and assess how well the organization meets customers' requirements and the organization's broader objectives that led to choosing the target set of customers.
- 2-2** Stakeholders are the individuals, groups of individuals, and institutions that define an organization's success or affect the organization's ability to achieve its objectives. For most organizations the stakeholders include customers, employees, organization partners, owners or principals, and the community.
- 2-3** Stakeholder requirements matter because stakeholders help the organization achieve its objectives. If the organization fails to meet its stakeholders' requirements they will withdraw their contributions from the organization.
- 2-4** Objectives are the broad purposes of an organization.
- 2-5** *Organization level strategy* refers to choosing what business the organization is in. The organization usually must focus so it can learn to do the things it needs to do well to be successful. *Business level strategy* refers to choosing the organization's target customers and the broad approach to meet those customers' needs. The organization must identify the customers whose requirements it is best able to meet. The organization's *value*

proposition states in a clear and short statement how the organization will compete for, or satisfy, its target customers. An organization's **operational level (or tactical level) strategy** reflects the way the organization will pursue its business level strategy. The operational level strategy must deliver the organization's value proposition and must reflect the organization's strengths.

- 2-6** A value chain is a sequence of activities whose objective is to provide a product to a customer or provide an intermediate good or service in a larger value chain. An example of a value chain is the process of ordering, receiving, cataloging and placing a text in library stacks.
- 2-7** An activity is a unit of work or task with a specific goal. Examples of activities are: processing a customer's check in a bank, waiting on a customer in a restaurant, and sanding a table in a furniture factory.
- 2-8** Service includes the product's tangible and intangible features promised to the customer. Quality is the difference between the actual and the promised levels of service.
- 2-9** Price, defined as the lifetime cost of a product to the customer, includes purchase price, operating costs, maintenance costs, and disposition costs.
- 2-10** Organization control is the activity of ensuring the organization is on track toward achieving its objectives. Organization control includes (1) specifying objectives, (2) communicating objectives to organization members, (3) monitoring performance relating to objectives, and (4) acting on discrepancies between actual and target performance.
- 2-11** Process control, or operations control, is the activity of assessing the ability of each unit in the value chain to meet the requirements of the organization's target customers. Process control is short-term control and focuses on directing, evaluating and improving the processes which the organization uses to deliver goods and services to its customers.
- 2-12** *Effective* means meeting one's objectives.

- 2-13** *Efficient* means using the fewest possible resources to meet one's objectives.
- 2-14** Customer-validated performance measures reflect customer requirements and help employees manage the value chain's processes and activities by concentrating their attention on improving what matters to the customer. For example, if all employees at a fast-food restaurant know that customers require fast service, consistent quality of food and beverage products at low prices, and a clean environment, the employees can perform their activities according to customer requirements.
- 2-15** *Output* is a physical measure of production or activity. *Outcome* is the value attributed to output by the customer. Organizations often measure outputs because they are physical and therefore measured easily and objectively. Because outcomes are an assessment of customer value, they provide a better measure than outputs (or inputs) of what the relevant process is contributing to the organization.
- 2-16** Task control is an approach to control that specifies exactly how people are to do their jobs.
- 2-17** Results control is an approach to control that tells people to do whatever they think is best to achieve target results.
- 2-18** Benchmarking involves studying how an activity is done by the organization that does it best and then adapting that organization's approach to one's own organization.
- 2-19** When managing by the numbers, planners first decide the amount of cost reduction required and then reduce each facility's or department's budget accordingly. The following problems are associated with managing by the numbers: (1) It is ineffective because it focuses cost cutting activities on getting employees to work faster, longer, or harder (which may lead to poor quality, poor service, and disgruntled employees) rather than looking for better ways to do the job. (2) It assumes that cost is the only relevant measure of an activity's performance. (3) It does not recognize the reasons for costs in an organization.
- 2-20** Life-cycle costs include the producer's costs over the product's lifetime. These costs include development costs, introduction costs, production costs,

distribution costs, after-sales costs, product take back costs (the cost of recovering post consumer waste), and product abandonment costs.

- 2-27** *Continuous improvement* involves continuously making incremental changes to improve processes. Process reengineering, or simply *reengineering* involves larger-scale changes, such as eliminating activities to permanently reduce costs without affecting the value the customer assigns to the product.
- 2-22** An *efficient activity* consumes no excess resources. An *inefficient activity* requires more resources than necessary to produce the desired outcome. Organizations may continuously study their processes to discover better ways of doing them, or may benchmark with competitors and improve processes by adapting others' approaches.
- 2-23** *Activity analysis*, also known as *value analysis* or activity based management, includes the following: (1) identifying process objectives with a target-customer focus, (2) recording or specifying the activities to complete a process, (3) classifying activities by comparing their cost with the value they add to the product from the customer's perspective, (4) continuously improving the efficiency of all activities, and (5) eliminating or redesigning activities whose costs exceed their value. The analysis can bring about both improved processes and lower costs.

EXERCISES

- 2-24** This question is designed to generate discussion of who a company's stakeholders are, and ethical considerations when a company is not required by another country's laws to disclose potential health hazards. The discussion can include issues raised in Chapter 1 on an organization's basic values and purpose (recall the Johnson & Johnson example), and on using beliefs systems to communicate the organization's basic values. The question is motivated by a situation reported in an article by Andrew W. Singer, "Can a Company Be Too Ethical?", *Across the Board* (April 1993), 17-22, © The Conference Board. Singer describes a company that disputed carcinogenic effects of fiberglass, but nevertheless placed warning labels on its domestic fiberglass products after the International Agency for Research

declared fiberglass a possible carcinogen. Moreover, the company put the warning labels, in Japanese, on fiberglass products it shipped to Japan, even though the labels were not required by law. In fact, the Japanese government advised the company not to alarm people by mentioning cancer on the warning label. The government officials preferred to communicate the risks to product users through means other than a warning label. Singer reports the company lost 40 percent of sales to Japan in one year, but the company, over time, was able to rebuild all of its Japanese business.

- 2-25** Owners identify the organization's primary objectives, which can be wealth and nonwealth related. These primary objectives are important because they provide the foundation values or objectives in the organization and help define how the organization will interact with the external environment. Customers identify the nature of the products required and the cost, quality, and service requirements associated with the products. These requirements are important because they provide the focus and criteria for the design of the organization's processes. The community identifies the laws and the social conventions that it expects the organization to observe or meet. These are important because they affect the nature of the contracts that the organization negotiates with its other stakeholders.
- 2-26** The process of identifying the relationship between community satisfaction and increases in owner's wealth begins with measuring changes in community satisfaction and changes in owner's wealth. The second step is to identify or develop the perceived link between the two. For example, decision makers may believe that community satisfaction is correlated with increased purchases of the organization's products or ability to attract employees. The organization would then proceed to measure the variables in the identified model in order to test it. For example, if the organization believed that increased community satisfaction translated into a higher predisposition for customers to purchase its products, the organization would gather sales and community satisfaction measures over time in order to test the model. Clearly, such a test would have to be conditioned by other variables, such as product price and quality, and competitors' actions that might affect changes in sales levels. Another alternative would be to poll customers to identify if the organization's image in the community was a factor in their purchase decision.
- 2-27** This discussion exercise helps explore the attributes of service by allowing students to identify how they think of service. Service is any tangible or intangible feature that affects a product's value to the customer. Recall that

service reflects all the customer's expectations about the product's attributes and performance. The following examples are intended to be *illustrative rather than comprehensive*.

Item	Elements of Service
Television set	Warranty, sales help during purchase, courtesy, responsiveness in ordering or repairing, television features, television performance
University course	Course content, form of instructional material, classroom comfort, instructor's instructional style, instructor's responsiveness in answering questions and handling problems
Meal in an exclusive restaurant	Menu selection, location of table, behavior of restaurant staff, responsiveness in ordering and serving meal (not too fast or too slow), restaurant ambiance
Meal that is taken away from a restaurant	Menu selection, restaurant location, speed of service, courtesy of counter staff
Container of milk	Taste, additives, store location
Visit to the doctor	Physician style, physician efficacy, waiting time, due care taken in diagnosis, office surroundings
Trip on an airplane	Aircraft comfort, flight time, courtesy of cabin crew, in-flight meals, in-flight entertainment, on-time departure and arrival
Pair of jeans	Style, color, durability, name
Novel	Entertainment value, author name, production design
University text	Informativeness, production design, understandability

2-28 Quality reflects how well the product's operating characteristics live up to promised performance or to customer service expectations. The following examples are intended to be *illustrative rather than comprehensive*.

Item	Elements of Quality
Television set	Number of warranty claims, cost of warranty repairs, customer satisfaction surveys, evaluation by independent testing laboratory

University course	Student evaluations, number of complaints, student performance on common examinations
Meal in an exclusive restaurant	Number of complaints, customer surveys, percentage of customers retained, restaurant reviews, average percent tip
Meal that is taken away from a restaurant	Number of complaints, customer surveys, percentage of customers retained
Container of milk	Customer complaints, percentage of customers retained, customer satisfaction surveys, purity analysis
Visit to the doctor	Customer recovery rates, number of visits to have same ailment treated, customer complaints
Trip on an airplane	Customer satisfaction surveys, percentage of customers retained, number of complaints, evaluation by travelers' association
Pair of jeans	Customer satisfaction surveys, percentage of customers retained, number of complaints
Novel	Book sales, number of sales to purchasers of author's past novels, book reviews
University text	Number of typographical errors, number of conceptual errors, durability

- 2-29** The required response will provide an example of an input, output, and outcome measure for the chosen job. The examples should illustrate that an input is something that goes into the job, an output is a physical measure of what the job produces, and an outcome is a measure of the output from the customer's perspective. The customer's perspective is important because it is the sole legitimate validation of the job. Using input or output measures to assess the job creates the potential for high job assessments when customer expectations are not being met. For example, an employee processing insurance claims could have a very high job rating when evaluated either on number of paid hours worked or number of claims

processed. However, if the clerk's work is sloppy or inaccurate, the number of good claims processed may give a very different impression of the quality of the work being done.

- 2-30** Results control focuses on the results, in terms of contribution to the organization's primary and secondary objectives, created by the sales staff. The simplest system would focus on sales. However, this is misleading since the sales staff also controls costs and might incur an inordinate level of costs to achieve its realized sales level. Therefore, a slightly more sophisticated results control would focus on sales revenue minus the incremental cost associated with generating the sale. However, this is a myopic and short-run measure of performance. A longer-run perspective can be obtained by focusing on customer satisfaction measures that might include direct polling of customers or indirect measures of customer satisfaction, such as customer turnover or customer retention measures. It is unlikely that the sales staff would impact seriously on supplier or employee related matters. However, the ethics and sales tactics employed by the sales staff might have an effect on the community's image of the organization. Therefore, a measure of the sales staff's effect on the organization's image, estimated by polling customers or by monitoring customer complaints might be included in the results control system.
- 2-31** The appropriate choice of task or results control depends on the individual's expected contribution to the organization, irrespective of the organization type. If the individual is hired to do a particular, and well-defined job, then task control is more appropriate for that individual. If the individual is hired to create results, then results control is more appropriate for that individual. However, it is true that, in general, when skill is involved, the emphasis shifts toward results control.
- 2-32** You might use competitive benchmarking to improve your study habits as follows.
1. Identify an area where you want to make improvements (for example, taking notes, reviewing and summarizing material, writing examinations, or handling class quizzes),
 2. Identify a high performer in the area where you want to make improvements,
 3. Study and document the high performer's methods,
 4. Apply or adapt the high performer's methods to reflect your skills, and

5. Document your subsequent performance to verify performance improvement.

2-33 This problem is open-ended. The response should provide an unequivocal example of an organization accomplishing an objective using a process that is far more costly than an alternative process that could provide the same service. Organizations use inefficient processes for two main reasons: (1) they are unaware of a lower cost alternative that is equally effective or (2) they have designed the process to provide a service to the customer that the customer really does not require—for example, picking someone up for a ride to an airport in a limousine when the customer would be equally satisfied with an ordinary car.

2-34 The idea here is to identify a process, diagram the steps in the process, and think about the notions of efficient and inefficient activities in the identified process. The remaining step, which the exercise did not ask for, is to redesign the process to improve it.

Some interesting processes with which most students will be familiar include: borrowing a book from a library, acquiring subject-related knowledge at a university, picking up food in a cafeteria, and registering for courses. In general, the service, quality, and cost of any process can be improved by eliminating the need for inspection, moving, and storing (waiting).

PROBLEMS

Fundamental Problems

2-35 (a) The stakeholder groups for this organization are likely customers, employees, suppliers, owners, and the community.

(b) Three common alternatives are: (1) to compete based on the lowest price for a standard group of products or services while meeting or exceeding existing quality standards; (2) to compete based on continuously offering new products that are unavailable elsewhere; and (3) to compete by offering a specialty service to a well-defined market niche—for example, birthday party catering only.

(c) The appropriate strategy is the one that provides the greatest potential to meet your objectives given your skills and resources, what each

competitive alternative demands of your organization and offers in exchange, and what competitors are doing. The response to this question should indicate that the appropriate choice is based on a matching between what customers want and the potential and capabilities of the process-defining stakeholders.

- 2-36** This is an open-ended question that provides the opportunity to discuss how community expectations affect organization behavior. The response should clearly indicate the nature of the expectation, how the expectation affects the organization, and the consequences to the organization of not meeting the expectation. Although the question does not ask this, a useful addition is to identify how the organization might monitor its ability to meet the identified expectation.
- 2-37** The key activities in a hospital are admission, diagnosis, testing, treatment (including surgery), recovery, housing (including accommodation and feeding), maintenance, discharging, billing, and other administrative tasks.

The critical success factors in a hospital are: quality of treatment (given the patient's condition, was the care provided acceptable), cost of treatment and service (did the hospital provide the services I needed, did I recover, how well was I treated, and did I like the food and accommodation).

The idea is to study each activity in the hospital and evaluate how it contributes to patient service, quality and cost. For example, in the admission department, can patients be preadmitted to cut down waiting time in the admissions area; are past records used to access past patient histories to reduce admission cost and time; is the admissions process accurate in recording patient information; and do customers believe that the admissions staff is polite, thorough, and thoughtful?

The diagnostic department might use measures like: cost per test; test accuracy; time to schedule a test; time to do a test and report the result to the physician; and patient evaluations of the diagnostic staff to evaluate its contribution to the quality, service, and cost of patient care provided by the hospital.

Many hospitals use performance measures that are broadly related to these critical success factors. These performance measures include: recovery rates by diagnosis and illness stage, recovery time by diagnosis, and treatment cost by diagnosis. Some hospitals balance the evaluation of the efficacy of

the care provided by the individual doctor with an evaluation of the amount and cost of diagnostic tests ordered by that doctor, relative to the amount and cost of diagnostic tests ordered by other doctors for patients with similar problems, to identify the physician's relative use of hospital resources. However, these performance measures are aggregate performance measures and do not reflect the contribution of individual activity groups.

- 2-38** The value chain consists of acquisition activities, stocking activities, customer service activities, and other administrative activities. Critical success factors in convenience food sales are location, product availability, product selection, cost, and service. Note that administrative decisions determine the first four of these five items. Only service activities, which include cycle time and employee behavior, are affected by the employee who serves the customer.

The company should develop performance measures for each activity to reflect the activity's contribution to customer service, product availability, product selection, and cost.

For example, acquisition activities might be evaluated using the number of times customers request products that are not carried, the number of stockouts, the estimated loss to the organization of stockouts, cost per unit of product acquired, and sales growth. Service activities might be evaluated by average time to serve the customer during peak periods, customer satisfaction surveys, and servicing cost per customer.

- 2-39** The critical success factor is cost. For example, IBM made a major recovery in the personal computer market during 1993 by pricing its personal computers very aggressively. Quality and service (including ordering ease, accessibility, product features and repair facilities) are taken as givens in the personal computer industry.

For this reason, personal computer manufacturers maintain some of the most sophisticated costing systems to be found in industry. These costing systems provide detailed estimates of costs of the manufacturing activities and components that go into computers. Other performance measures that a company making personal computers might use to evaluate its personal computer operations would include measures like: number of quality failures, cost of warranty repairs, time to take and fill a customer order, number of orders that could not be filled because a feature was unavailable,

customer surveys of sales staff performance, time to respond to and meet a customer request for service, cost per unit, price per unit relative to competitor's price, and proportion of sales provided by products less than two years old.

- 2-40** The competitive strategy focuses on high quality service. While cost remains important, it is not a critical competitive factor. Therefore, the key element relating to the shuttle service for clothing is how it contributes to customer service. Performance measurement relating to the shuttle service would focus on the timeliness of deliveries, the accuracy of the driver in delivering completed work to the proper outlet, the time taken by the system to do the customer's work, and, of course, the system cost. Quality of the work done and the customer treatment in the store are other important variables in this organization but not ones that would be affected by the shuttle system.
- 2-41** This question effectively requires the specification for a balanced set of performance measurements, such as a balanced scorecard, for the hotel operations. The response must deal with two specific details provided in the question—the timing issue, relating to what information needs to be provided more frequently, and the responsibility center issue, relating to the types of information required for each organization unit, reflecting its differential contribution to the organization's objectives.

It is most reasonable to assume that the hotel is being operated to provide a return to owners. Therefore, this becomes the basis to evaluate the interactions between the hotel and employees, customers, and the community. It is unlikely that suppliers will represent a major stakeholder group in a hotel. The question does not specify the nature of the hotel other than it is a large, full-service, hotel. However, it is not unreasonable to assume that cost, customer service, and quality are the key issues relating to customers. Within this framework, the relationships with employees will focus on meeting the customer success variables. Therefore, employees will have to be trained and motivated to provide a high level of customer service and exercise judgment in dealing with customers.

Community related issues are likely to be indirect and relatively unimportant for a hotel. Presumably if the hotel meets its obligations to customers and employees and treats them fairly it will deal with most

community concerns. Therefore, the balanced scorecard can focus on customer and employee issues with a view to providing the appropriate level of return on investment.

Within this context of providing customer satisfaction, the balanced scorecard should identify the nature of the elements that lead to customer and employee satisfaction and a commitment to helping the organization achieve its profit objectives.

The issue of timing reflects the cycle of the balanced scorecard information that management would use. Information relating to operations decisions, cost, customer satisfaction, and employee treatment would be monitored on a short cycle basis. Information relating to longer run decisions, such as facilities layout and employee training, would be provided on a longer cycle.

With regard to the various operating units, the balanced scorecard is likely to reflect customer and cost related issues, since employee related issues would be handled at a more senior level. Therefore, for each organization unit the performance measurement system would reflect customer and cost related issues. For example each organization unit would record its costs, adjusted for the level of work done, and would monitor customer satisfaction through exit polls and complaint cards.

- 2-42** The response must be evaluated based on whether the measure proposed is truly an outcome and not an output. Examples include: a university course (outcome is student learning, output is the grade, conducting the class, or instruction hours), making an automobile (outcome is number of defect-free vehicles, output is number of vehicles made), getting a car serviced (outcome is customer satisfaction, output is number of customers serviced) and a research laboratory (outcome is profits of inventions or ideas, output is number of inventions or ideas, or the number of hours worked in the laboratory.)

In each case, the importance of the outcome measure is that it focuses the organization's attention on meeting customer requirements. With outcome rather than output measures, employees focus on understanding and meeting customer requirements rather than some internally generated measure of performance. Output measures are usually internally developed activity

measures that do not reflect customer requirements, thereby providing little guidance to production personnel about what customers value and therefore, what activities need improvement.

- 2-43** The major reason is that materials costs are usually the most significant costs in these organizations. Therefore, controlling materials costs is one of the best ways to improve profitability or lower prices to the customer (or both). Occasionally, as in the case of fishing and forest products, a secondary reason is that the raw material is in short supply and is a key constraint on production and sales. In these settings, the major effect of controlling yield is not to reduce costs (by avoiding the need to buy more raw materials) but increasing sales (because the raw material is the constraining factor of production).
- 2-44** This question asks for a specific example of managing by the numbers which is where the organization states improvement objectives purely in financial terms. The response should provide a specific example and a comprehensive and lucid discussion of the limitations of managing by the numbers—the major limitation being that this approach to management focuses on results rather than the causes of results, and provides no insights about how to make improvements. Managing by the numbers is administratively easy because it articulates with the financial accounting system that is oriented to providing financial statements for external consumption. Another reason for the popularity of managing by the numbers is that it was promoted heavily by many business schools during the last half of this century. The idea is that managing by the numbers could replace detailed technical knowledge of a function. For example, one could manage a production system by focusing on costs rather than understanding the nature and potential of production personnel and equipment.
- 2-45** The response should chart the sequence of activities in a restaurant and be complete. That is, for an eat-in restaurant with table service, the chart will include items like: waiting to be seated, being seated, waiting for the menu, deciding what to order, waiting for service, ordering the meal, waiting for the meal, eating the meal, waiting to order other items, ordering other items, waiting for other items, eating the other items, waiting for the table to be cleared, requesting the bill, waiting for the bill, paying the bill, and exiting the restaurant.

The response should identify whether some of these activities are nonvalue-added. Waiting for the bill is always a nonvalue-added activity. If an

updated bill is left at the table or is available at the cashier's stand, customers could always leave whenever they wanted. Waiting for service in a fast food restaurant is a degradation of service. However, in a formal eat-in restaurant waiting might be considered a valued part of the ambiance.

Challenging Problems

- 2-46** This is an open-ended question designed to illustrate how the strategies that the organization has chosen to deal with suppliers, employees, and the community should reflect its chosen competitive strategy. In fact, the relationship is reciprocal since the competitive strategy should reflect the potential of the organization's suppliers and employees. The point of this question is to show that a well-designed strategy contains highly articulated relationships between all the organization's stakeholders. The second part of this question, relating to designing the secondary performance measures, provides an opportunity to discuss how a particular organization might measure the drivers of performance on the primary objectives. For example, if employee knowledge and innovation are critical in executing the organization's strategy, how does the organization monitor employee knowledge and innovation?
- 2-47** There are two lines to argue that there is no necessary inconsistency between observing organizations that pursue social objectives and the economic view. The first line argues that organizations that undertake activist social policies are firms in short-run monopolistic positions and are earning rents, or profits in excess of what they need to sustain themselves, and are financing their social activism through these rents. However, this is a short-run phenomenon that disappears as the market become more competitive and the organization no longer has the rents to finance its social activism. The second line of argument is that firms that pursue social goals are not comparable with firms that do not. Provided that customers understand their policies and objectives, firms that are pursuing activist social goals are selling different products than firms that are not pursuing a social agenda.

For example, suppose that a fishing products company competing in a highly competitive and price-sensitive market, invested a considerable amount of money to design fishing nets and incur additional costs for fishing practices that catch tuna but not dolphins. The company would differentiate its tuna from that of competitors by arguing that its product is different—that dolphins were not destroyed when this tuna was caught. If

customers are willing to pay a premium for tuna that is caught without killing dolphins, then they would recognize this tuna as a different product than tuna caught by nets that kill dolphins and they would support, through paying higher prices, the additional cost of different fishing practices. If customers are unwilling to pay a premium for specially caught tuna, then in a competitive market, either some other group, the owners, suppliers or employees, would have to accept lower economic returns to support this practice, or it would have to be discontinued.

- 2-48** (a) The university's stakeholders are likely to be students, student sponsors, student employers, student guidance counselors, faculty, staff, government (if the university is state supported), and the community. These groups should be compared with the groups that the university mission statement specifically identifies.
- (b) The key issue is who should drive the agenda in the university. Some people may argue that it is the faculty since they are best able to identify the students' academic needs. Other people may argue that the students should define their own needs. Other people will argue that the university's success is defined by the employability of its graduates, therefore prospective employers should define educational requirements. Finally, some people may argue that high school guidance counselors or students' sponsors such as their parents have the most important influence on university selection and their biases should be reflected in the university's agenda.
- (c) Both these choices are likely to be bad because neither is likely to have interests that are closely aligned with the students', who are the target of the curriculum. However, both have considerable influence (alumni through donations and faculty through their ability to affect curricula).
- (d) Measurement criteria should reflect the university's perceived mission. If the university mission is education, the performance measures should focus on measuring learning progress. If the university mission is preparing students for jobs, the performance measures should focus on the proportion of students who found jobs they deemed acceptable. In the longer term a performance measure might be the number of graduates that are deemed to have had a significant influence on events in their chosen professions. In any case, the performance measure should be consistent with the deemed mission of the university, which can vary legitimately across respondents.

- 2-49** (a) The commitment statement is comprehensive and specific both in terms of the stakeholder groups that it covers and in terms of the commitments that it makes to each group: customers, employees, suppliers, government (which is the owner), and communities.
- (b) **Customers**—service (selection, store attributes, employee help) and quality (note that product price is not mentioned which likely reflects the LCBO’s monopoly position in selling beverage alcohol); **employees**—empowerment, motivation, employee development, employee relations, work environment; **suppliers**—return on investment; **communities**—social responsibility in promoting the consumption of alcohol, environmental concerns, and community involvement.
- (c) **Retail**—customer satisfaction ratings, customer service time, number of process improvements made; **merchandising**—number of stockouts, number of complaints of products being unavailable, cycle time to acquire new products; **distribution**—on-time delivery, number of damaged items, cycle time between order and delivery; **finance and administrative**—on-time delivery of reports, customer satisfaction with focus and content of reports, ability to develop performance measures; **human resources**—number of people in training programs, employee satisfaction, ability to meet employment equity targets; **information technology**—number of process innovations provided by technology, cost improvements resulting from technology, service improvements resulting from technology.
- 2-50** (a) Many students will know that McDonald’s Corporation uses quality, cleanliness (an element of the text’s definition of service), service, and value (what the text calls cost) as its critical success factors. The response should also specify the important elements of service, such as cycle time, friendliness, and menu selections, that the respondent thinks are important.
- (b) The major activities in a fast food restaurant are receiving, food processing and preparing, serving customers, maintenance, and other administrative tasks.
- (c) The response should propose performance indicators for each identified activity. The performance indicators proposed for an activity should reflect that activity’s contribution to helping the organization meet the requirements of the organization’s target customers.

For example, receiving might be evaluated on the quality, cost, and timeliness of its acquisitions. Food processing might be evaluated on the processing or preparing cost per dollar of food sold, the yield loss for packaging and food, the quality of the food prepared, and the ability to meet production quotas during peak periods. The counter service staff could be evaluated based on measures like number of customers served per hour during the peak period, percent of orders served to customers that are error free, and customer surveys that evaluate the counter staff's performance. Maintenance could be evaluated based on number of cleanliness faults found, equipment reliability, and cost per unit of maintenance service provided.

- 2-51** (a) The airline industry is very competitive. Airline customers generally expect top-rate service (including multiple and convenient departure times, on-board amenities, baggage checking, cabin crew friendliness, aircraft comfort, reasonable flight times, and reasonable flight cancellation options), quality (that is, the airline living up to its promises), and low prices.
- (b) The major activities undertaken by an airline include: reservation services, airport services, maintenance services, flight services, special services (like baggage tracing), and administrative services. The airline industry is characterized by a need for few mistakes (since mistakes are prohibitively costly), a need to establish and maintain high service standards, and a need to control costs. Therefore, every activity undertaken by the airline should be evaluated relative to its contribution to minimizing mistakes (like maintenance failures and baggage losses), maintaining services (like on-time departure and arrivals), and keeping costs per passenger as low as possible (for example, by flying filled aircraft).
- (c) Reservation services might be evaluated by the number of reservations per reservation employee, the cost per reservation, the number of customer complaints about reservations staff, and the number of mistakes made by reservations personnel. Airport service personnel might be evaluated by customer satisfaction surveys, number of errors made in recording passenger information, number of flight delays, and total time delayed attributable to ground personnel. Maintenance personnel might be evaluated by number of maintenance failures per million miles flown and cost per unit of maintenance service provided.

Cabin crew might be evaluated by customer satisfaction surveys. (Note that the cabin crew does not control any other facet that affects customer satisfaction.)

CASES

2-52 Given the critical nature of the contact with telephone customers, it is important that the staff assigned to these telephones deal properly with customer requests. It would be useful to log each customer call and include all the information about the call, including the time the call was received, the name, address and telephone number of the person calling, the specific complaint, how the complaint was resolved and when the complaint was resolved. This provides a specific documentation of the person, the problem, how the problem was resolved and how long it took to resolve the problem. These items provide a database that could be used to develop information about the types of problems customers are experiencing and the average time it takes the system to deal with each type of problem. This database would also identify recurring problems and help the organization identify which problems are recurring and which problems to attack first.

The two relevant elements of service not measured by this system are the employee's attitude in dealing with the customer and whether the customer felt that the problem was properly resolved. These could be evaluated by letters to a randomly chosen group of customers asking them to evaluate the quality of the service that they received along the dimensions of speed, employee attitude, and efficacy of the solution.

2-53 (a) The vision statement signals an increased focus on understanding the needs and wants of consumers, and providing products and services to satisfy those needs and wants. The statement provides a focus on what is important and will provide priorities as people think about how to support the company's objectives. The consumer focus includes anticipating future needs, meeting what Ford's annual report calls *rational* (for example, price, quality, safety, and driving dynamics) and *emotional* requirements, and viewing life-cycle cost from the

consumer's perspective. The consumer focus encompasses more than just technical product quality and manufacturing efficiency.

- (b) Critical performance indicators in the automotive unit might include customer feedback on automobile price, quality, safety, value, driving dynamics, safety, environmental impact, and overall satisfaction with the car and the buying experience. Consumers can be asked to rate their purchase on price, quality, value, and driving dynamics; consumers can also be asked to rate their overall satisfaction and the buying experience. The company can also develop objective measures of safety (for example, through crash tests) and environmental impact (for example, emission levels and miles per gallon of gas). Some of the same features can be evaluated with Hertz, but the consumer's direct interaction will be with employees handling reservations and rentals. Additional performance indicators might include employee courtesy and prompt service. The company can obtain feedback on consumers' experiences through customer satisfaction surveys or "mystery shoppers" who act as customers.

Ford's focus on consumers includes anticipating consumers' wants. The company will also want indicators of how well it is anticipating consumers' wants through focus groups or other means. Furthermore, the company will want measures of life-cycle costs (including financing, servicing, repairing, operating, and recycling) from the consumer's perspective, estimates of residual value when the consumer desires to sell the car.

- (c) Ford's commitment to superior shareholder returns (through a consumer focus) requires both financial and nonfinancial performance indicators. Financial indicators include overall revenues and profitability, as well as business unit financial information. Ford's annual report indicates analysis for the following types of business units: product lines (for example, vehicle lines, components, financing products or rental packages), brands (for example, Ford Mercury, and Jaguar for Automotive, and PRIMUS for Ford Credit), customer segments (for example, retail, private fleet, or government), geographic regions (for example, Europe, South America, or Asia-Pacific), and dealers and marketing channels (for example, franchises or the Internet). Nonfinancial indicators might include time to develop new vehicles, production time per vehicle, and quality measures.

2-54 The responses to this case will reflect the unique facets of the registration process at each educational institution. However, this is a useful exercise because students can think, in detail, about how a process that they understand and have experienced might be improved.

- (a) The process flow chart presented in the response should be accurate and clearly identify all steps in the registration process.
- (b) The response should specify evaluative criteria such as: time to complete the process, process convenience, process accuracy, treatment by university staff, course availability, and the reasonableness of the resulting timetable.
- (c) Activities that involve moving (such as student travel from one location to another), waiting (such as standing in line waiting to be processed or waiting for approvals), and inspection (such as verification that the chosen program has no conflicts or meets graduation requirements) are potentially inefficient because they likely can be reduced or avoided if the process is redesigned (improved).
- (d) The proposed improvements should be feasible and should deal specifically with eliminating unnecessary activities to reduce cost and improve performance on the facets defined in part (b) to be relevant to students. Many students might propose an electronic registration system wherein students use a computer terminal to register, are preassigned to required courses, and fill in optional courses that are approved or rejected as selected.
- (e) In theory, the activity chosen to be improved first should be the one that provides the greatest expected benefit (in terms of improved service, quality, and cost) per dollar of improvement activity expenditure. However, behavioral considerations might influence the choice of which project to tackle first. Activity improvement groups will often pick a highly visible problem that they are confident they can correct, rather than the most critical problem. Success on an initial project establishes the group's credentials in the organization and increases the group's self-confidence, both of which promote a positive environment for subsequent projects. Similarly, if the performance of some activity is below a minimally acceptable level, such as employee safety or

environmental protection, that activity will be selected first for improvement.

2-55 The stated key objectives are cost control, maintaining quality, meeting production quotas, and developing new products.

Harvesting is evaluated based on tons of fish caught. There are four problems with using this measure: (1) there is no measure of the quality of the fish landed, (2) there is no evaluation of whether the catch was high or low given the conditions faced, (3) there is no evaluation of whether the catch meets requirements about the species of fish required, and (4) there is no measure of cost control.

Therefore, the current performance measurement system: (1) provides no motivation to preserve fish quality, (2) does not evaluate performance relative to conditions, (3) provides no motivation to catch what customers require, and (4) provides no motivation to control costs.

Harvesting should be evaluated based on: (1) quality of fish landed (this can be assessed by a random inspection of the fish as it is being landed), (2) performance relative to plan (this can be assessed by setting targets that reflect the current fishing conditions), (3) ability to meet harvesting targets by species of fish (this is important since some species may be undesirable or unwanted by customers), and (4) ability to meet cost standards (which could be set by benchmarking studies).

Processing is evaluated based on costs relative to plan adjusted for the volume of production (flexible budget standard). This is an important measure of cost performance. However, there is no incentive for processing to maintain quality or meet production deadlines. Production deadlines are important for two reasons—to meet customer delivery requirements and to preserve the quality of the fish. Processing should also be assessed relative to its ability to turn the fish into the highest quality product required. This can be assessed by grading outputs and identifying whether the mix or yield of outputs meets quality targets or whether there is evidence that too much fish has been downgraded in quality or destroyed because of processing problems.

Marketing is evaluated based on sales increases over the previous year. This performance measure is inappropriate since it does not reflect potential. Sales targets should be set relative to potential (in declining markets sales targets will fall and in expanding markets sales targets will increase). Moreover, marketing should also be evaluated based on its ability to identify and successfully bring new products to market. (New product development is an activity that is joint with processing and perhaps harvesting. However new product ideas will usually originate with marketing.) Marketing should be evaluated based on the proportion of sales that are generated by new products—for example, products less than two years old. Finally, marketing should be evaluated based on its ability to serve its customers. Customer satisfaction surveys could be conducted to identify whether the marketing group is meeting its customers' expectations. Note that the marketing group's customers are not the final consumers of this product.

- 2-56** (a) There are three steps in the process of answering this case: (1) to identify the organization's critical success factors (this does not mean that the critical success factors identified in the case have to be taken as given), (2) to assess whether the current performance system (the critical performance indicators) measures performance on the organization's critical success factors, and (3) to assess whether the reward system motivates the manager to focus on the critical success factors.

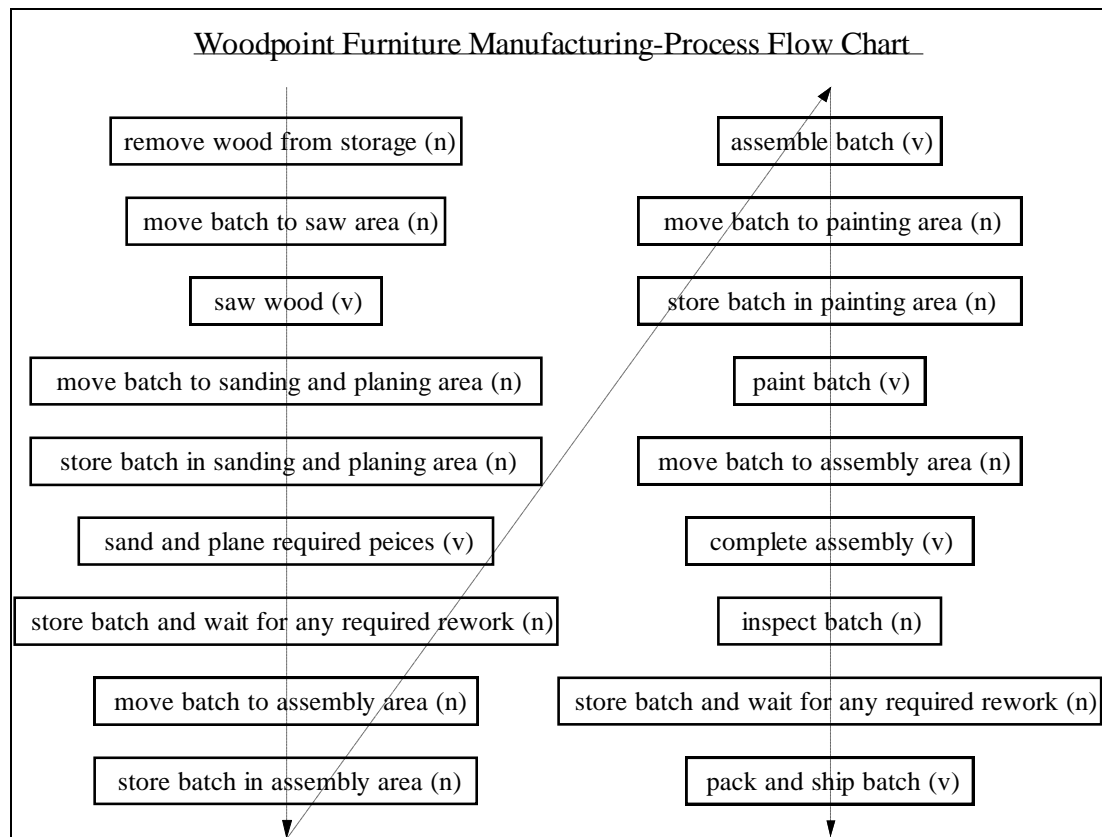
The organization's critical success factors include: service (in terms of response time to customer order, ability to secure copyright permissions, accuracy in duplication, visibility in duplication, and graphics design capabilities provided to commercial customers), quality (conformance to specification), cost and flexibility (ability to undertake requests for new products such as advertising posters and finding copyright holders previously not contacted). An important consideration is that the requirements of different customers will vary dramatically. Customers with basic word processing requirements are very different from customers with sophisticated graphics services requirements. Therefore, it is important to identify precisely the requirements and expectations of each customer group, something that the existing system does not do.

The existing system measures overall cost performance, quality performance and two facets of service (the time required to do a job and the satisfaction of the university customer group). The overall cost performance would not provide insights into where cost performance might be outstanding or unacceptable. The quality test is unspecified but should focus on both accuracy and the ability to meet customers' expectations concerning aesthetics. The service measures are a good start but the other facets of service mentioned above are unmeasured.

The performance score reflects an attempt to combine measures of performance in different areas into an overall index. Because the performance measurement ties directly into the manager's compensation, it has a strong potential to affect motivation. However, there is some question about whether all the scores should be given the same weight—are all performance indicators equally important? For example, the sales measure may reflect many facets beyond the individual manager's control. Also making the bonus proportional to the wage rate will under-reward managers who have low salaries but have done an excellent job.

- (b) Quality should be monitored from the customer's perspective. Without question, the best measure of quality is to ask customers if their expectations were met and, if not, why. Problems may reflect several issues: the pages were not copied clearly, pages were missing, the graphics design was poor or unimaginative, the work was not done on time, or the staff was rude. Open-ended customer surveys can identify problems for correction. Customers could be motivated to answer quality surveys by promising them a discount on the next job they have done.

- 2-57** (a) In the diagram below, “(v)” indicates activities that add value from the customer's perspective, and “(n)” indicates activities that do not.



(b) The response must specify what Woodpoint Furniture Manufacturing's customers are likely to require. Presumably quality, cost, and service (in terms of product features and cycle time to fill order) will be important. The current production system should be evaluated based on its ability to allow the organization to meet whatever customer requirements are specified. If the specified items are quality, cost, and cycle time then *each activity* should be measured in terms of the time that it adds to the cycle time, the quality problems that it creates, and its cost.

2-58 (a) Customers will specify precisely the quantity and grade of steel (service) that they want. Because steel is both bulky and can deteriorate, it is very expensive to store. Therefore most customers are likely to want the steel at the precise time that they intend to use it (service). Because steel is used to make other products, users expect the steel to have the properties that the steelmaker claims it has (quality). Fierce international competition has made cost a key competitive factor (cost).

(b) There are many steps in this process where steel is moved and stored. Activity involving moving or storing steel does not add value. Activity that reheats or reforms the steel does not add value unless the activity simultaneously changes the chemistry of the steel in a way that the customer values. Remember, the customer does not care what process

and intermediate forms that the steel took to reach its final form. The intermediate forms of the steel, like ingots, slabs, and blooms are required because of the process design, not because of customer requirements. Sometimes people make claims such as, “You cannot cast sheet steel, you have to cast slabs and roll the slabs into sheet steel.” Many steel companies believed this and built their facilities around this assumption. Some people always believed that the step of making slabs could be avoided and that steel sheet could be cast directly from the continuous slab caster. Today, it seems that we are very close to seeing that technology with its accompanying cost savings.

- (c) In the short-run, technology is fixed. Therefore key performance indicators will focus on what people can control. This includes the use of labor (labor productivity ratios like employee hours per ton of steel, are widely used to assess performance in the steel industry), the use of raw materials (material yield ratios, like the weight of finished product to the weight of raw materials used, are also widely used in the steel industry, particularly to monitor the material yield loss as the steel is continuously reshaped into the final product), and the use of equipment (measures of output per shift from each of the major facilities such as the blast furnace, the basic oxygen furnace, and the hot strip mill are widely used).

Quality, which means the ability of the process to produce the type of steel that it intended to make is also very closely monitored. Steel that does not meet standards and cannot be sold as a downgrade product must be scrapped and reprocessed. Therefore, percent of original (before reworking or regrading) production that meets standard would be an important measure. Administrative people also carefully track whether orders are delivered on time and if they are complete. Therefore, measures such as percentage of order delivered complete and on time would be useful. For most steel companies, the most important key performance measure has nothing to do with the customer. The issue is employee safety and a common measure is employee days lost due to injury.

- 2-59** The purpose of this case is to show how important advances in production methods come from defying conventional wisdom and refusing to accept the status quo. This is an excellent example of a major technological breakthrough which, if found to be commercially successful, will revolutionize the making of steel coil.

- (a) The responses will essentially say that, until recently, technology could not support thin strip direct casting. In fact, some people believe that it is still not commercially viable.
- (b) Inefficient activities or activities that do not add value from the customer's perspective may exist because no one has been ingenious enough to figure out how to get rid of the activities or because people simply accept the status quo. Therefore, an important message of this case is that persistence in questioning whether an activity is efficient or adds value is an important way to drive research activities in any organization. Frequently, when organizations eliminate inefficient activities or activities that do not add value, quality improves, service improves (because cycle time is reduced), and costs fall.

2-60 This is a case that was chosen to provide a vehicle for a discussion of the conflicting demands that customers and employees place on the organization. Customers want products that cost less. Employees want a job environment that is reasonable. If the UPS workers score in the 91st percentile for job stress, there is something wrong—too much of the employee's work environment has been sacrificed for the purpose of cost cutting.

There is no answer to this case. The student must set out a response that recognizes that there is a clear conflict in this case between the demands of customers and employees—the issue is how to decide when you have struck a reasonable balance between the two.

The discussion in this case can be used to set the foundation for the material on budgets and standards that comes later in the text.

2-61 The first step in answering this question is for the student to specify the apparent objectives of the bottling process. Most students, given the discussion in the chapter, will likely choose cost, quality, and service—which is reasonable in this setting.

With this in mind, *each step in the process*, would be evaluated in terms of its contribution to cost, quality, and service. A good solution will propose performance measures that reflect cost, quality, and service for each major step in the process.