CHAPTER 1

Cost Management and Strategic Decision Making Evaluating Opportunities and Leading Change

ANSWERS TO REVIEW QUESTIONS

1.1 Refer to the list of key terms at the end of Chapter 1 and the glossary.

1.2 The primary objective of cost management is to find opportunities for improvements in costs and customer value and to lead changes to achieve those opportunities.

1.3 The value chain is a way to describe relations among an organization's operations. The value chain describes how an organization assigns its resources to these operations and how one operation affects other operations. It is important for managers to understand the value chain because it can be the basis for competitive advantages and is the starting point for making improvements in the organization.

1.4 Strategic decision making involves obtaining and using resources to meet an organization's goals by exploiting its competitive advantages. Competitive advantages may be from lower cost operations, higher customer value, and ability to innovate. Examples of strategic decisions include a) outsourcing support services to gain a cost advantage, b) adding product features that customers value at low cost, and c) focusing resources on development or acquisition of new technology.

1.5 Cost management techniques include:

- Comparing performance over time and against competitors
- Benefit-cost analysis of plans and decision alternatives
- Value-chain analysis of alternative resource arrangements and processes
- Learning and educating others about the organization, its competitors, and its environment
- Measuring the expected efficiency of acquiring and using resources in alternative operations
- Identifying opportunities for improving the value and cost of new or existing products and services
- Leading organizational change
- Measuring actual outcomes of activities, products, and services

- **Developing measures and methods for motivating and evaluating personnel**
- **Communicating the results of cost management activities effectively**
- **Explaining and interpreting differences between actual outcomes and plans or expectations**

1.6 **Cross-functional teams are composed of individuals who bring diverse technical and personal attributes. Cross-functional teams provide wide representation of interests and diversity of perspective. Because of this diversity, cross-functional teams may generate more creative solutions to problems and identify more innovative opportunities than individuals or less diverse teams.**

1.7 **Benefit-cost analysis compares expected benefits and costs using both quantitative and qualitative information. Long-term and short-term impact on strategic goals should be considered.**

1.8 **Outsourcing portions of an organization's value chain means that payments are made to others for products or services and other resources that had been used to perform the outsourced operations have been freed up and may be saved or used for other operations. Contracts and other assurances (market forces, reputation) also have replaced internal control of the outsourced operations.**

1.9 **Ethical standards can guide individuals' behavior when circumstances or others create pressures to make questionable decisions. An organization benefits from ethical standards by attracting and retaining individuals who share those standards and by providing a framework and climate for responsible decision making. Society benefits from ethical standards that are followed because trust and ethical behavior is the least cost prescription for efficient business relations.**

1.10 **A code of ethics is a professional or organizational statement of values and prescribed behavior. An unethical person could perform adequately within an organization or profession by adhering to a code of ethics. However, a person with a strong set of ethical standards probably does not need a code of ethics to control his or her behavior. An ethical person can use a code of ethics to bolster his or her actions against those that might try to improperly influence behavior.**

1.11 **The strategic missions of build, hold, harvest, and divest can represent different stages of an organization's lifecycle. The build mission is apparent when new ideas and products capture the marketplace and growth is rapid (but perhaps variable and risky). The hold mission is appropriate when the firm's ideas and products have become mainstream and the main task is to fend off imitators. The harvest mission signals a time to control costs and manage cash flow, probably to fund the next generation of new ideas and products. The divest mission signals the end of the lifecycle, at least for current owners and managers, and it is time to liquidate assets and fund new operations.**

1.12 **Strategic advantages derive from unique capabilities, which are difficult to imitate, to create and deliver products. These unique capabilities can be the results of creating new knowledge (e.g., through R&D), imitation of others (e.g., reverse engineering and lower cost production), or by experimentation with new processes, products, or joint ventures with other firms. Maintaining competitive advantages is possible by staying ahead of competitors and by protecting proprietary knowledge and customer relations.**

1.13 **Quantitative information may be expressed in numerical quantities, such as number of units, dollars of cost, and so on. Qualitative information describes attributes, such as color, perceived quality, taste, and so on.**

1.14 **Kotter's eight elements of leading change are:**

1. **Identify a need for change**
2. **Create a team to lead and manage the change**
3. **Create a vision of the change and a strategy for achieving the vision**
4. **Communicate the vision and strategy for change and have the change team be a role model**
5. **Encourage innovation and remove obstacles to change**
6. **Ensure that short-term achievements are frequent and obvious**
7. **Use successes to create opportunities for improvement in the entire organization**
8. **Reinforce a culture of more improvement, better leadership, and more effective management**

ANSWERS TO CRITICAL ANALYSIS

1.15 Some people believe that cost management is just a new label for what cost accountants have been doing for decades. It is true that some cost accountants have been proactive and have recognized how they can best add value to their organizations. However, many cost accountants have been content to refine measurements of past costs and have not focused on other needs of their organizations. Cost management goes well beyond traditional cost accounting and provides information that is useful for formulating, implementing, and monitoring strategies and operations.

1.16 Our increasingly competitive world means that our great ideas and plans of only a few years ago already may be obsolete. Thus, as Drucker suggests, we should challenge those ideas and plans regularly to see if they still meet current market conditions. If they do, then we have established an enduring competitive edge. On the other hand, if they do not, we must seek to replace the outmoded ideas and plans with those that fit better with the world as it is, not as we wish it still would be. Cost management analysts can use benefit-cost analysis, value-chain analysis and other techniques to measure advantages or disadvantages.

1.17 The other 90% of department store customers may have good reasons why they shop elsewhere. If so, this means that you are not meeting their needs. Stores that meet or exceed customers' needs will attract more customers, eventually capturing a larger market share. If the store is to remain competitive and grow, it should find out what it could be doing to attract some of its non-customers. An ideal team to research this issue would include people from purchasing, sales, marketing, and accounting (or finance). These individuals should be capable and allowed to challenge existing store policies and practices. Sales and marketing personnel should understand (or learn) what the store and its competitors are doing to attract and retain customers. The accounting (or finance) person should seek to measure the costs and the benefits of attracting new customers. It is possible to "over-satisfy" customers by giving them so many incentives to shop that the store actually loses money.

1.18 Pursuit Data might have a competitive advantage in new product development if any or all of the expected benefits cannot be imitated by competitors. Can Pursuit deliver unique products more reliably than competitors to support expected sales growth? Can Pursuit complete the product development more quickly, with fewer defects than competitors? Can Pursuit control its development, production, and service costs so that benefits of increased sales are not eliminated by higher costs? Exhibit 1-5 demonstrates that failing any of these activities can eliminate competitive advantages.

1.19 The overriding concern is the tradeoff of the importance of tax reporting to the goals of the organization and the cost of providing this service. Deciding whether to outsource tax services requires careful benefit-cost analysis. The benefits of outsourcing must outweigh the costs. You should identify the types of costs and benefits of either retaining or outsourcing tax services. Note that you could alternatively classify costs of outsourcing as benefits of retaining, and vice-versa. For consistency, you just need to keep the same perspective (outsourcing or retaining) throughout the analysis. For example, possible costs of outsourcing include costs of retraining or terminating current tax employees. Avoiding these costs alternatively could be counted as benefits of retaining tax services internally. Possible benefits of outsourcing could be lower out-of-pocket costs and access to better tax expertise. To the extent possible, you should quantify these costs and benefits. Comparing quantified costs and benefits is part of the analysis, but a complete analysis also compares qualitative costs and benefits. If, for example, tax reporting involves sensitive information about the company's sources of competitive advantage, the company may decide to keep the service inside. However, if the information is not critically important and the cost of maintaining the tax reporting capability is high, the company may consider outsourcing tax reporting to an organization that specializes in tax work – as long as the quality of the service can be assured. Whether the qualitative information outweigh the quantified information is a judgment that you may have to make.

Persons interested in tax careers probably should anticipate that most outsourced tax work will be done by professional accounting or law firms. While both types of firms employ paraprofessionals, most career opportunities are available to persons with law degrees and/or who have earned a CPA. If outsourcing of tax services grows, there will be fewer career opportunities for non-degree or uncertified tax preparers.

1.20 An absurd outcome of the directive to minimize costs might be that no department does any work and avoids acquiring or using any resources. That, however, ignores the opportunity costs of lost outputs. Since opportunity costs almost never show up on accounting reports, it is easy for managers to ignore or be unaware of them. A less extreme but possibly damaging outcome could be for each department to minimize the costs of its assigned work, but ignore its impacts on other departments. If all the processes of an organization are balanced (that is, all can produce just the right amounts of output when needed), then minimizing the cost of each process will minimize overall costs. Most organizations are not perfectly balanced, however, and minimizing the costs of each process may impair the ability of another process to meet its objectives. Thus, one process may produce too much output, leading to waste. Another process may produce too little output, leading to missed opportunities for other processes that depend on the former process output. Unexpected or changed demands from internal and external customers may require changes in schedules and outputs in many parts of the company. To not meet those changes could result in significant opportunity costs for the company as a whole. Thus, encouraging managers to focus only on their process(es) may be a myopic management policy. Companies also need to encourage cooperation among departments.

1.21 This was an unfortunate outcome for General Motors' employees, stockholders, and customers. The hoped-for cost savings from automating some manufacturing processes did not materialize because the company apparently automated an inflexible, inefficient process. Thus, the company replaced humans with more expensive robots but did not take advantage of the flexibility that automated manufacturing offers. Though GM could make cars more quickly, there was insufficient demand for the kinds of cars GM was prepared to make to justify the increase in capacity and cost. As a result, GM's total costs increased, but sales did not increase sufficiently to cover the increased costs. To learn how to benefit from automated manufacturing, General Motors later formed a joint venture with Toyota and then started the separate Saturn Division.

1.22 **Internet shopping may be a serious threat to traditional shopping malls and department stores because of improved Internet security, convenience, and access to the widest possible range of products. In many developed economies, the majority of adults work outside of the home and (a) do not need a break from household routines and (b) do not have the time to shop leisurely at the mall. This change in shopping patterns has serious implications for traditional, physical stores. For example, Amazon.com has established a strong, virtual presence in the book and music markets. Barnes & Noble, which had based its retail strategy on large physical stores with large, on-site inventories, also has established a strong Internet outlet to compete with Amazon.com. Just as it is no longer necessary for some banks to have a physical presence (e.g., MBNA International, Inc.), some department stores may find it unnecessary to have a costly retail building and staff. Careful consideration of the costs and benefits of alternative retail outlets may indicate that a virtual, on-line catalog is cheaper and reaches more customers than shopping mall outlets (e.g., Dell Computing, www.dell.com). Since many customers may want to touch or feel the merchandise before buying, some combination of physical and virtual stores may be optimal. It seems safe to predict continuing and growing developments in electronic commerce.**

1.23 **Continually putting out daily fires is not conducive to strategic planning. This can be a sign of understaffing or a failure of the CEO to delegate tasks to others. Sometimes managers of small companies (large ones, too) micromanage all aspects of the business either because no one is available or competent to perform them or because the CEO is unwilling to share power and decision making with others. The cost of micromanaging can be an elimination of strategic planning, which guides the organization through the future. You might suggest that the CEO delegate many of the routine tasks he or she performs to a competent assistant. If none exists, then the CEO needs to train or hire someone. Then the CEO needs to block out time for strategic planning, either alone or with a small group of key employees. The CEO also might consider hiring a consultant to facilitate the planning effort, but cost might be a concern.**

1.24 **Many routine, number-crunching accounting tasks have been automated. Although understanding how the numbers are "crunched" is important (and we will crunch numbers in this text), it is important to understand why certain facts and figures are measured and reported and whether they are the right information to support important decisions. If one learns only how to crunch numbers and not why, one is limited in how much one can help an organization improve.**

SOLUTIONS TO EXERCISES

1.25 (15 min) Cost-management techniques

Matches of cost management techniques and management decisions are:

Cost management technique	Management decision
a. Learning about how operations work	__g_ The design of incentive bonuses of up to 12% of salary by Electricity Corporation (ECNZ) for middle managers based on meeting difficult profit goals
b. Organizing resources into efficient activities and operations	__f_ The use of seminars called "What if I owned the business?" by Television Corporation (TVNZ) to introduce staff to issues of competition
c. Measuring actual and expected costs of activities, products, and services	__b_ ECNZ's decision to restructure into four major operating divisions: Production, Marketing, Power Transmission, and Construction
d. Identifying profitable products, services, customers, and distribution	__a_ The decision by Coal Corporation (CoalCorp) to evaluate every job currently performed by employees to determine which jobs were essential to the goal of profitability
e. Identifying opportunities for improvements in the value of products and services	__c_ TVNZ's new focus on estimating the costs of television programming and production
f. Communicating effectively	__d_ The decision by Public Works Corporation's (WORKS) to sell its poorly performing Property and Computing Services divisions
g. Motivating and evaluating personnel	__e_ TVNZ's analysis of TV3's programming and advertising practices, its new commercial rival

1.26 (15 min) Teamwork

Matches of types of teams and operations or decisions are:

Type of team	Operation or decision
a. Individual (no team)	__d_ Word processing center of a large university where most of the work is preparation of exams, copying articles, and preparation of promotional materials
b. Small, "doubles tennis" team where members have special skills that complement each other' strengths and weaknesses	__b_ Development of a new business curriculum to meet specific educational needs
c. Large, "soccer" team where all team members have assignments but work closely together	__b_ Design of advertising campaign to counter a rival's new product announcement
d. Large, "swimming" team where team members have individual responsibilities, often do not interact, but share in team outcomes	__b_ Development of a new video game for Play Station
	__b or c_ Writing a new, cost management textbook
	_b or c_ Completion of a complex project with a short, rigid deadline
	__a_ Completion of an application to graduate school
	__c_ Competition in a collegiate, intramural volleyball league

1.27 (20 min) Strategic decision making

There are many solutions to this exercise, but here is one possibility:

Strategic Mission	Types of Decisions	Information Needed
1. Build	Compete on quality or price? Full or limited range of products?	Customers' needs and expectations for price, quality, and products Competitors' strategy
2. Hold	Capacity? Location(s)?	Costs and benefits of alternative capacities, beverages offered
3. Harvest	Replace or keep old equipment? Number and types of employees? Cash and or credit card sales?	Replacement and operating costs Sales per employee Competitors' sales practices
4. Divest	Timing? Other opportunities?	Willing buyers, highest sales price Timing, investment costs

1.28 (20 min) Internal controls

a. The separation of duties—sandwich making versus sale recording/cash receiving—provides an internal control. Without this control, the sandwich maker could sell sandwiches at a discount to friends or give them away or pocket some of the cash from the sale. As it stands, overriding this control would require collusion on the part of both people involved in the transaction.

b. Companies use a variety of control methods. Whether these are better is questionable. Some methods include a camera that records all production and sale activities, a pseudo-customer who is actually a spy for management to observe what goes on (this approach is used in bars, for example), and making sure that the number of sandwiches sold based on a count of the bread used is commensurate with the cash receipts and record of sales.

c. As noted in a, the two employees could collude (i.e., work together to override the control).

1.29 (30 min + document search) Strategic decisions

There are many ways to analyze these two companies, one way is to contrast Coca-Cola's and Pepsico's value chains (taken from Forms 10-K from the SEC's EDGAR database).

Value chain element	Coca-Cola	Pepsico
R&D	Numerous patents, copyrights, trade secrets, proprietary technology, and trademarks	Emphasis on trademarks, owns or licenses patents
Design	All in-house (?) Focus on beverages	Some outsourced (i.e., licensed from others) Focus on beverages and snack foods (Frito-Lay)
Supply	Uses materials specialists to secure commodities on open market. Also long-term supply relationships with Brazilian producer of orange juice concentrate	Uses materials specialists to secure commodities on open market
Production	Produce and sell beverage concentrates, syrups and finished beverages	Produce and sell finished beverages and beverage concentrates Manufactures snack foods in own plants
Marketing	Compete on pricing, advertising and sales promotion programs, product innovation, increased efficiency in production techniques, the introduction of new packaging, new vending and dispensing equipment and brand and trademark development and protection.	Compete on price, quality, variety, customer service
Distribution	Finished beverages, concentrates and syrups sold to authorized distributors and/or bottlers Selected investments and long-term relations with strong bottlers – strategic alliances on every continent	Finished beverages, concentrates and syrups sold to authorized distributors and/or bottlers Frito-Lay delivers directly from factories to store shelves
Customer service	Not disclosed	Not disclosed

1.30 (20 min) Benefit-cost analysis

This analysis contains both quantitative and qualitative information. Both are important to choosing among the alternatives.

a. Alternatives for Supply of Disk Drive Components	Cost per year (US $ thousands)	Other costs and benefits
Continue current supply and assembly operations – detect and replace faulty components.	$2,331	• Costs: Foregone cost savings; missed opportunities to use resources elsewhere; missed opportunities to improve processes; resources wasted on defective products • Benefits: Avoid costs of changes & disrupting current operations; costs are known but costs of other alternatives are estimates
Thoroughly inspect incoming components before they are assembled.	$1,708	• Costs: Changes in procedures, training & hiring inspectors; returning faulty components • Benefits: Early detection of faulty components prevents wasteful losses of other resources; less costly than current practice
Develop close relationships with a few, selected suppliers that will guarantee the performance of all components.	$1,387	• Costs: Establishing and monitoring contract performance, loss of control of incoming quality; possibly higher material costs and costs of change • Benefits: Eliminate faulty components before using them; least costly; refocus resources on other tasks

b. Analyzing current operations and adjusting for expected changes may be used to develop quantified internal cost estimates. Bids by possible outsourced suppliers might provide estimates of outsourced costs.

c. The recommendation depends on how much supplier behavior can be controlled by contracts. If guarantees of quality and on-time delivery can be enforced, then the lowest cost option may be to outsource quality inspections to selected suppliers.

1.31 (30 min + article search) Cost-management support

Possibilities abound. Here is a solution based on an article describing the scary but real possibility of outsourcing white-collar jobs (including accounting and finance) to foreign countries

Strategic decision making	**Search for ways to control growth of support service costs while maintaining quality** **Do competitors have a cost advantage by "offshoring" white collar jobs?**
Strategic problem	**Although most organizations would prefer to keep support services, such as customer care and financial services, domestic, competitive pressures are causing many to relocate support services in foreign countries at lower overall costs. But how does one assure quality and face possible political backlash?**
Areas of operations examined	**All areas of support services**
Sources of information	**Surveys of practice show growing off-shoring, significant cost savings, and no loss of service quality.**
Was strategic decision making a success?	**Apparently, yes, because more companies are off-shoring. For example, GE Capital has offshored all of its loan application processing to India. We should expect that all routine support activities can be off-shored. The article does not address possible political backlash inspired by angry white-collar workers.** **The article (and others) suggests that this is an unavoidable trend, which forces us to consider how we (educators and students) can add value to organizations that is not available offshore. We suggest that focusing on unique, inimitable support of strategic decision making is a key survival activity. This is the focus of most of this text.**

1-32 (15 min) Value chain analysis

Matching value-chain elements and operations follows:

Value chain element	Operation or decision
a. Research and development	__g_ Dell Computer's replies to customers' questions via email
b. Design	__c_ Electronic ordering link between Container Industries, Inc. and a division of DuPont Corp. that supplies the raw plastic pellets
c. Supply	__a_ Purchase of McData Corp. by 3-Squared, Inc. to acquire its data communications technology
d. Production	__f_ Pick up of StorageTek Corp.'s packaged disk drives by United Parcel Service for delivery to customers
e. Marketing	b or e Development of animation for Yahoo!'s home pages
f. Distribution	__d_ RCA's outsourcing of the assembly of its portable CD players to a company in Mexico
g. Customer service	__e_ Updating Canterbury New Zealand's electronic Internet catalogue of sport and casual clothing

SOLUTIONS TO PROBLEMS

1-33 (30 min) Benefit-cost analysis

a. Expected benefits of the decision total $271,000 (= $121,000 + 90,000 + 60,000) while expected costs total $192,000 (= $160,000 + 20,000 + 12,000), with a net benefit of $79,000. Qualitative factors to consider include service quality (timeliness, accuracy), impacts on existing customers, contacts with existing customers, and impacts on current and future employees.

b. EXCEL SOLUTIONS ARE FOUND IN EXCEL SOLUTIONS FILE

Benefits of outsourcing accounts receivable	Expected amount	Actual amount	Variance	Qualitative Information
1. Personnel cost savings……………………	$121,000	$82,000	($39,000)	
2. Facilities cost savings……………………	90,000	100,000	$10,000	
3. Support cost savings……………………..	60,000	70,000	$10,000	
4. Quality of service…………………………..	--	--	--	Fewer billing complaints
Total quantifiable benefits…………………..	$271,000	$252,000	($19,000)	
Costs of outsourcing	**Expected amount**	**Actual amount**	**Variance**	**Qualitative Information**
1. Contracted service………………………..	$160,000	$160,000	$0	
2. Training costs………………………………	20,000	30,000	$10,000	
2. Contract administration……………………	12,000	13,000	$1,000	
3. Loss of direct contact with customers…	--	--	--	Lower sales growth
4. Adverse effects of personnel reductions	--	--	--	Increased personnel turnover
Total quantifiable costs………………………	192,000	203,000	$11,000	
Net quantifiable annual benefits..................	$79,000	$49,000	($30,000)	

c. Although quantitative benefits were lower than expected, they are still positive. Unknown is whether the outsourcing contract is responsible for lower sales growth and increased personnel turnover. This looks like a close call, and deserving of more investigation.

1-34 (35 min) Benefit-cost analysis.

(Note: Costs in tables are rounded to two decimals, but solutions use exact decimals. Transactions in column D are rounded up.)

a. Number of transactions

A	B	C	D
a. Number of transactions, CAS Accounting Operation	CAS cost per year	CAS cost per transaction	CAS number of transactions per year (rounded up)
Accounting operation			(D = B/C)
Accounts receivable	$ 50,000	$ 12.00	4,167
General ledger	23,000	7.00	3,286
Accounts payable	35,000	9.00	3,889
Payroll	20,000	6.00	3,334
Credit & collections	9,000	11.00	819

b. Other companies in the same industry may have lower average costs for several reasons. One reason may be that other companies have more efficient accounting operations and personnel (e.g., require less data entry or manual processing) and, therefore, use fewer resources to accomplish the same level of work. This can happen if resources necessary to process transactions (e.g., personnel) are hired at fully-employed costs (e.g., salaries) but are not fully used. Another reason may be that CAS operates its accounting functions at a lower volume of transactions than other companies but has comparable spending (e.g., employee salaries) for the types of accounting transactions – the same level of cost divided by fewer transactions yields a higher average cost than the association average.

c. There are two types of cost savings possible – out-of-pocket savings of resources that are not needed and freed-up resources that can be used elsewhere – and they may not be the same amounts. Because we do not know how CAS obtains and pays for accounting resources, this solution assumes that computed savings are out-of-pocket savings.

A	B	C	D	E
Accounting Operation	CAS Number of Transactions	Association cost per transaction	Cost Saving per Transaction	CAS Cost Savings per Year (rounded) (E = BxD)
Accounting Operation				
Accounts receivable	4,167	$ 8.00	$ 4.00	$ 16,668
General ledger	3,286	4.00	3.00	9,858
Accounts payable	3,889	5.00	4.00	15,556
Payroll	3,334	2.50	3.50	11,669
Credit & collections	819	6.00	5.00	4,095

d. Competitor's cost advantage:

A	B	C	D
SDC Accounting Operation	SDC Number of Transactions (same as CAS)	SDC Cost Advantage per Transaction [CAS Cost – (0.80 x Association Cost)]	SDC Cost Advantage per Year (D = B x C) (rounded)
Accounts receivable	4,167	$5.60	$ 23,335
General ledger	3,286	3.80	12,487
Accounts payable	3,889	5.00	19,445
Payroll	3,334	4.00	13,336
Credit & collections	819	6.20	5,078
Total cost advantage			$ 73,681

It is important to know the amount of cost advantage because this represents resources that the competitor does not have to use on accounting procedures. This reduced resource use can be a cost saving or it can be applied to more productive uses. In either case, the competitor can be more profitable.

e. Companies in competitive industries seek to generate the most return from their resources. If a company has a cost disadvantage in any of its operations that is not offset by greater benefits, the company will steadily lose ground to competitors. Thus, companies compare (or benchmark) their operations against competitors'. It may be possible to gain an advantage over competitors if a company can achieve performance comparable to the best practices in the world, which may be practiced by companies not in the same industry.

1-35 (30 min) Benefit-cost analysis: Outsourcing.

a. If Dinosaur Oil outsources its tax planning and tax return preparation operations, it could save at least the following amounts:

Dinosaur Tax Operation	Cost per year
Tax planning	$1,200,000
Tax return preparation	2,000,000
Total savings	$3,200,000

Dinosaur could save more than this amount if some portion of the information systems cost (personnel, hardware, and software) also could be eliminated by outsourcing tax operations. Therefore, Dinosaur should be inclined to pay anything less than $3,200,000 for tax services, or more, depending on how much additional information systems cost could be saved by outsourcing.

b. Dinosaur must be concerned about the quality of the tax services as well as the price paid (now and in the future). The external service provider must be thoroughly familiar with the tax regulations in each of the areas where the company must report. Quality of service is especially important for tax planning since these services must be timely and in tune with company goals and competitive pressures.

c. The first-year cost of the package of outsourced services is $4. 5 million ($3 + $1.5 million), and thereafter is only $3 million. Additional expected annual savings of $300,000 would add to cost savings for five years, as shown below:

Year	Outsourced Service Costs	Cost Savings of Outsourcing Tax and Information System Improvements ($3,200,000 + $300,000)	Net Savings
1	$ (4,500,000)	$ 3,500,000	$ (1,000,000)
2	(3,000,000)	3,500,000	500,000
3	(3,000,000)	3,500,000	500,000
4	(3,000,000)	3,500,000	500,000
5	(3,000,000)	3,500,000	500,000
Total			$ 1,000,000

This appears to be a favorable outsourcing arrangement (given concerns in part b). (Note: the NPV at 10 percent = $531,757)

EXCEL SOLUTIONS ARE FOUND IN EXCEL SOLUTIONS FILE

1-36 (20 min) Ethical issue.

a. **Paul is aware of an illegal, possibly very serious violation of proper business practice. Arguably, he has many overlapping ethical responsibilities – as an employee, professional, citizen, and ethical being. As an employee of the corporation, he is paid by stockholders to safeguard their interests, and illegal dumping could have serious impacts on their wealth. Illegal dumping also could adversely affect the jobs of his fellow employees. If Paul is a member of a profession, such as the AICPA or IMA, he is responsible for protecting the corporation's legitimate objectives and his profession's reputation. As a citizen of the region, it is quite likely that he and his fellow citizens will have to pay the costs to remedy damage caused by the illegal dumping. As an ethical being, he may feel responsibility to safeguard the Earth, its creatures, and future generations.**

b. **Paul is in an awkward and potentially dangerous situation. Though he has ethical responsibilities, it is a fact that "whistle-blowers" often suffer serious repercussions for fulfilling those responsibilities. One possibility is to resign immediately and leave the area. This will strike most as an irresponsible, cowardly approach. He should seek advice from a trusted friend or counselor (possibly an attorney) in order to consider and document all of his options carefully and to protect himself and his family.**

Paul might get guidance from the IMA's Standards of Ethical Conduct, which describe professional obligations to organizations, the profession, and himself. He should then consult with the controller, his superior. If the controller does not take appropriate action, Paul should go to the next highest level of management, and continue until someone does take action. At this point, he should not release the information to the media or to the board of directors because this dumping may be the action of a few rogue employees. Unfairly and perhaps erroneously exposing the company to the media may cause harm to the company and to himself. He should contact the Board of Directors only after exhausting his access to internal management.

1.37 Ethical issue—fraud

This situation is based on an actual case where a manager and an accountant conspired to overstate sales and profits. Why would they do this? Perhaps the manager's compensation depended on sales or profits. Perhaps they wanted the company's financial performance to look better. In any case, these were criminal fraudulent activities.

In the actual case, the fraudulent activities were discovered by people who worked in the accounting department who discovered the invoices and shipping documents tucked away in the desk drawer of the accountant who colluded to commit the fraud. The "friend" was among those charged with the fraud because she knew about it and was suspected to be involved. She was eventually cleared of wrongdoing, but not until after several years of defending herself against the charges. She lost her job, and she lost a lot of time. If she were faced with similar circumstances again, she says she would immediately inform the head of the accounting department, and at least two other people in the organization who were higher than her boss. Her initial contact would not be to accuse the alleged perpetrators of committing fraud, but would inquire as to the propriety of their actions in view of the company's accounting and sales policies. In this way, she would avoid accusing someone of misbehavior before she had proof that what they did was wrong. If her inquiries were ignored, she would begin looking for a new job.

1-38 (20 min) Benefit-Cost Analysis: Internal Orders

a. Costs and benefits of internal sourcing include:

Possible Costs of Internal Sourcing	Quantifiable – Yes or No?
Setting internal pricing policies and refereeing disputes	Yes and No: can measure time spent on these activities, but may not be able to measure the opportunity cost of lost management time
Supporting inefficient operations with artificially high internal prices	Yes, if there are market prices to compare internal prices. If Andover's cost of $12.77 per unit is competitive, then this cost may be an appropriate basis for internal sales.
Possible Benefits of Internal Sourcing	**Quantifiable – Yes or No?**

Use of excess capacity	**Yes and No: can measure costs of unused capacity, but may not be able to measure opportunity costs of resources tied up in chronically excess capacity. Andover has unused capacity of 7,000 units. If this persists, the company may consider reducing capacity. If this is a short-term condition, using capacity for internal sales is a good use of capacity.**
Cost savings	**Yes, if internal operations are efficient, internal sourcing can save the profit that otherwise is given to suppliers. If Andover is committed to its level of labor and other manufacturing costs, the only cost to the company is for materials. Paying anything more than that to a supplier is a waste of resources. Internal sales in excess of material cost just redistributes profit between divisions.**
Protection of proprietary knowledge	**No, but losses of proprietary knowledge may devastate the company**

b. **Any policy stated as "cost plus 25 percent" is asking for trouble, because "cost" is undefined. If market prices are available, the company probably should use these for internal sales, with a policy of sourcing internally at the market price. Using cost-based internal prices may be necessary but creates complications of determining the price that best motivates managers to benefit themselves and the company as a whole.**

1-39 (25 min) Benefit-cost analysis—add a product line.

	Coffee Shop Only	Costs and Benefits of Adding Ice Cream	Combined Effects of Coffee and Ice Cream Operations
Sales revenue	$ 55,000	$ 30,000	$ 85,000
Costs			
Food	16,000	15,000	31,000
Labor	12,000	3,600	15,600
Utilities	3,000	900	3,900
Rent	6,000	1,500	7,500
Other costs	3,000	750	3,750
Manager's salary	20,000	-	20,000
Total costs	60,000	21,750	81,750
Operating profit (loss)	$ (5,000)	$ 8,250	$ 3,250

The addition of the ice cream shop has a $8,250 favorable impact on expected profits. If Aroma is comfortable about the estimated impacts, the company perhaps should expand. Adding ice cream may attract new customers who also buy coffee products; though some customers who would have bought a specialty coffee drink may now purchase ice cream instead. These effects may offset. At any rate, adding the ice cream shop appears to result in overall profitable operations.

EXCEL SOLUTIONS ARE FOUND IN EXCEL SOLUTIONS FILE

1-40 (30 min) Benefit-cost analysis—add a project

a. and b.

	Income Statement	New contract changes	Dollar impact of new contract	Income with new contract
Sales revenue	$ 1,500,000	$ 200,000	$ 200,000	$ 1,700,000
Costs				
Labor	700,000	175,000	175,000	875,000
Equipment lease	104,000	12%	12,480	116,480
Rent	120,000	-	-	120,000
Supplies	60,000	15%	9,000	69,000
Officers' salaries	400,000	-	-	400,000
Other costs	50,000	15%	7,500	57,500
Total costs	1,434,000		203,980	1,637,980
Operating profit (loss)	$ 66,000		$ (3,980)	$ 62,020

Technically, the new contract reduces profit of the company by $3,980. By itself, this one-year contract appears not to be worth the effort of hiring and training new, part-time consultants.

c. Other considerations include (1) whether this will enable the company to get into a new, profitable line of business, (2) what other opportunities the company has for expansion, (3) whether the contract will provide for more revenues in the future, and (4) what obligations the company makes to its employees. In short, the company should consider both short and long run costs and benefits of its decisions.

EXCEL SOLUTIONS ARE FOUND IN EXCEL SOLUTIONS FILE

SOLUTIONS TO CASES

1-41 (40 min) Analyze strategic decision

a. The following spreadsheet computes customer profitability. If the lower portion of the spreadsheet (rows 8 – 17) contains only formulas, you can test the sensitivity of the profit estimates to changes in the parameters (rows 2 – 7).

	A	B	C
1	Annual Average Data	Large Customer	Small customer
2	Number of orders per year	2000	200
3	Sales value of supplies per order in dollars	$1,000	$600
4	Cost of supplies to Corporate Express as a percent of sales	80%	75%
5	Processing cost per order	$25	$25
6	Delivery cost per order as a percent of sales	8%	8%
7	Cost to create and maintain Internet access per customer per year	$3,000	$3,000
8	Annual Customer profitability		
9	Revenues (B2*B3, C2*C3)	$2,000,000	$120,000
10	Cost of supplies (B4*B9, C4*C9)	1,600,000	90,000
11	Gross margin (B9-B10, C9-C10)	400,000	30,000
12	Operating costs		
13	Ordering costs (B2*B5, C2*C5)	50,000	5,000
14	Delivery costs (B6*B9, C6*C9)	160,000	9,600
15	Internet access costs (B7, C7)	3,000	3,000
16	Total operating costs (SUM(B13:B15), SUM(C13:C15)	213,000	17,600
17	Customer profit (B11-B16, C11-C16)	$187,000	$12,400

EXCEL SOLUTIONS ARE FOUND IN EXCEL SOLUTIONS FILE

Assuming that Corporate Express has constrained order processing capacity, simply displacing one large customer to serve ten small customers would have an adverse impact on profits because Corporate Express would lose $187,000 profit while gaining only 10 x $12,400 = $124,000 profit. Unless Corporate Express feels that these companies will grow to be more profitable than its current average customer, this can be an unwise tradeoff. In fact, Corporate Express has decided to restrict its services to larger companies because it believes smaller companies are unprofitable to serve.

b. **On average, each small customer would have to increase its profitability from $12,400 to $18,700 by increasing the value of its orders, by paying a premium for services, by demanding less costly service, or a combination of these actions. On the face of it, these might be likely, and if Corporate Express can identify promising new customers, it may be able to design an "introductory" level of service to attract customers that can "grow" into more profitable service.**

c. **It might be worthwhile for Corporate Express to consider a pilot program with a few, selected companies in order to design and test a new level of service. A limited pilot test will allow the company to investigate and experiment with the costs and benefits of serving small companies without the risk of a full-scale implementation that may be very difficult to change or reverse.**

1.42 **(30 min) Analyze support services in the value chain**

a.	**Possible Costs of Outsourcing:**	**Loss of sensitivity to company uniqueness, culture and values**
		Loss of trust, loyalty, and free flow of information between internal auditors and management
		Internal strife and tension during and after change
		Reduced scope and integration of financial audit activities that might run afoul of Sarbanes-Oxley
	Possible Benefits of Outsourcing:	**Reduced costs of services, travel, and training**
		Access to improved expertise on foreign operations and information technology

b. The CFO is responding to serious profit pressures and a concern that the company is not receiving full value for its internal auditing expenditures. In fact, the CFO might feel that the company has too much internal auditing activity and could do well with less. The CFO also might be concerned that the internal auditing department is so entrenched that it is controlled by no one – the last comment by the director of internal audit may signal IA's sense of invulnerability. This situation probably is affected by the Sarbanes-Oxley act, which places a strong emphasis on maintaining and documenting strong internal controls. The CFO must insure proper conformance with "SOX" requirements.

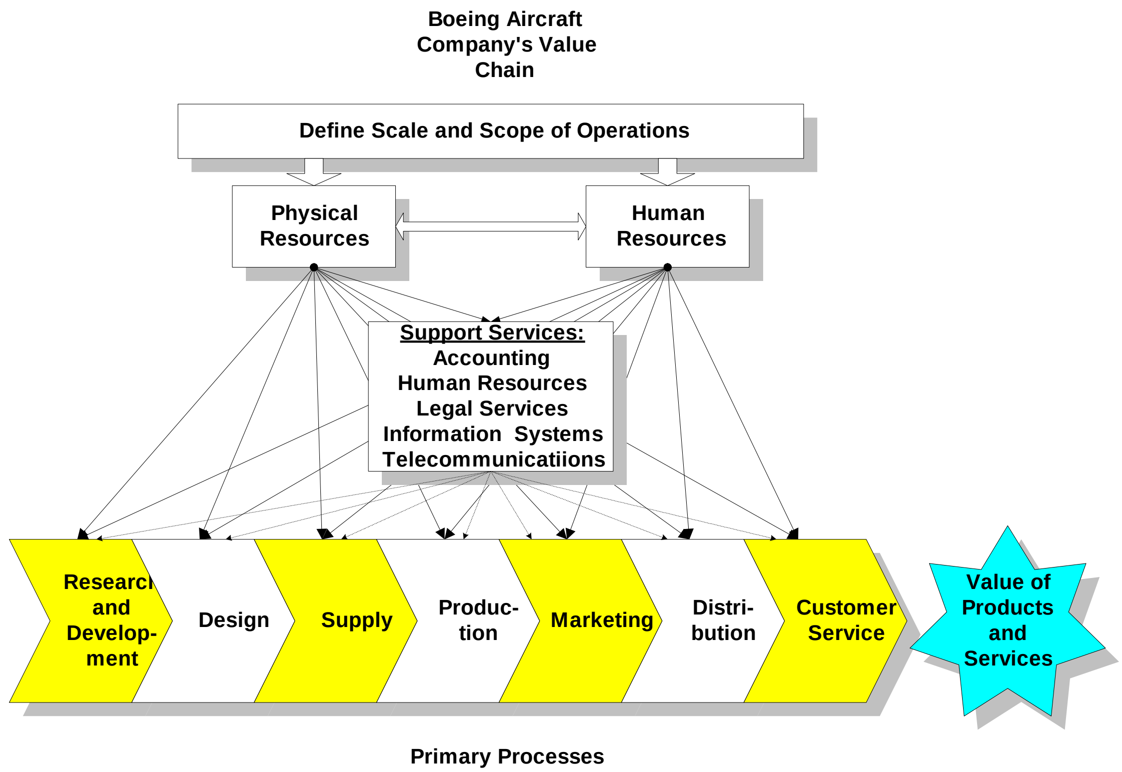
The DIA is concerned both about the level and quality of IA service the company needs and will get under the alternative sourcing methods. The DIA has only known internal sourcing and cannot imagine that an external provider could provide comparable services. It seems that the DIA is responsible for building a strong IA department and is proud of its contributions. The DIA probably also feels personally threatened and protective of the current IA staff.

c. The last comment of the DIA, who threatens to use IA's direct access to the board of directors to influence the outsourcing outcome and the CFO's standing with the board, is an obvious threat, which unfortunately will not improve the climate or the communication between IA and the CFO. It's a desperate, probably ill advised comment that could backfire if the board supports its top management team. The audit committee of the board of directors should be notified.

d. One possible compromise is to develop a co-sourcing arrangement with an external provider of IA services. This arrangement could use the internal department for most IA activities but use the external provider for specialized activities that the company feels are either too expensive to maintain internally or that the external provider can provide better. This may be a permanent solution or it could be an interim step between the current situation and complete outsourcing, depending on how the co-sourcing arrangement succeeds.

1.43 (45 min) Cost-management support of strategy

a. Boeing's value chain includes all the common elements, but it also outsources some of its production and distribution activities. Exhibit 1.2 in the text could be used as shown below to reflect Boeing's many activities (ignoring the small amount of outsourcing).



b. The most obviously affected elements would be supply, production, marketing, distribution, and customer service. It is also likely that support services, especially accounting, legal services, and information systems would be affected, too, as the company strives to reprogram its production and satisfy its customers. It is possible that the company would divert resources from research and development and design to meet the current crisis, but that might affect future profitability adversely.

c. It seems incredible, but Boeing apparently did not thoroughly investigate the impacts of doubling production on all of its value chain elements. If, for example, the company did not plan properly for increased supply of raw materials, parts, and assemblies, its normal suppliers could not meet Boeing's needs. Boeing would be forced to find other, perhaps more costly suppliers who might agree to expedite orders, but would charge premium prices. Likewise, if the company did not plan its production scheduling properly, it is likely that demands on some resources would exceed capacity, leading to congestion, expediting, and loss of smooth throughput. Every value-chain element could experience similar effects.

d. It is easy (and unfair) to use hindsight to solve Boeing's problem, but it does seem obvious that if management had placed a figure of their value chain before them and asked, "How will each element be affected by a doubling of production?" and "How can we prepare for this change in output?" many problems would have been anticipated and avoided. One classroom application might be to assign small groups to each element of the value chain and ask them to make a list of their activities that might be affected by doubling output in a short period of time. Then ask how impacts in one element may affect other elements.

1.44 (20 min) Cost-management support and ethics of strategic decisions

a.

Strategic decision-making element	Cost management support
Drop other products	Profitability/benefit-cost analysis
Focus resources	Identify future profitability/cost benefit
Understand strengths and weaknesses	Competitor analysis
Understand customers' needs	Benchmarking, communication
Understand partners' needs	Communication with partners
Predict future of feasible technology	Combine strengths, competitor analysis with needs and company's technical knowledge
Teamwork	Cross-functional teams
Leadership	Follow the 8 steps of implementing change
Identify alternative decisions and outcomes	Benefit-cost analysis

b.Clearly, future estimated revenue and cost streams from alternative products are important to strategic decisions. These estimates include costs of services and processes that are internal to Datacom and those that may be outsourced. Datacom will decide on its value chain in part based on these quantitative data. Datacom also will consider effects of these decisions on its market reputation, its sources of competitive advantage, and its ability to attract and retain the people necessary to meet its strategic goals. These qualitative data eventually will result in quantitative outcomes, but these effects are quite difficult to estimate.

d. Organizations like Datacom can use tools of value-chain analysis and benefit-cost analysis to estimate the profit impacts of outsourcing or retaining certain processes.

1.45 (30 min) Responsibility for unethical action

Charles impressed our MBA students because his career was similar to the one that they expected—up to the commission of the fraud. Charles' boss received a jail sentence of several years and a large fine. Charles did several months in jail, plus a year of home confinement plus a fine that wiped out his savings and retirement accounts. Even more, he has found it difficult to get work in any field. Employers shy away from prospective employees who answer 'yes' to the 'have you ever been convicted of a felony' question.

a. No. One can sympathize with him for being in a bad job, but that is no justification for what he did.
b. According to Charles, he should have talked to someone early in the game, such as his wife and the former CFO. Also, he should have had sufficient savings to quit his job when his boss began demanding that he find ways to manipulate the records. Charles thought he was trapped. He did not want to give up his high paying job, especially to look for work in another city. If he had saved enough resources, he could have walked from the job and taken a job in a different line of work or moved to another city. Either choice would have a better outcome than doing jail time, losing what savings and retirement funds that he did have and losing the prospects of employment because he was a convicted felon.
c. During a period in which Charles' boss was hospitalized for heart problems, Charles had to make a financial presentation to the board of directors. During the presentation, he confessed to the financial fraud. The board called in corporate counsel (who turned out to be of no help to Charles). The SEC was notified by somebody. (We could not tell who contacted the SEC based on our review of documents and interview with Charles.) Charles mistakenly believed that he would not get in trouble with the authorities because he was just following his boss's orders. Charles told us that the federal prosecutor assigned to the case said that he always liked to catch at least two fish, so the prosecutor went after both Charles and his boss. Both Charles and his boss went to jail and was fined enough to wipe out his pension. Charles is now out of jail and reports that he has a lot of trouble getting a job. It seems that potential employers shy away from people who answer "yes" to the question "Have you ever been convicted of a felony?"