

Introduction to Managerial Accounting

Quick Check

Answers:

- | | | | |
|------|------|------|------|
| 1. b | 3. d | 5. c | 7. c |
| 2. b | 4. d | 6. c | 8. b |

Short Exercises

(5–10 min.) S1-1

The four primary responsibilities of managers include planning, directing, controlling, and decision making. Managers plan by setting goals and objectives for the company and devising strategies for achieving those goals. Then they direct the day-to-day operations of the company in light of the goals and objectives. They control the company by comparing actual results to plans and then use that feedback to adjust plans and operations. Throughout all aspects of these duties, management is making critical business decisions.

Student responses may vary.

(5–10 min.) S1-2

- a. Managerial accounting
- b. Managerial accounting
- c. Financial accounting
- d. Financial accounting
- e. Managerial accounting
- f. Managerial accounting
- g. Financial accounting
- h. Managerial accounting
- i. Financial accounting
- j. Financial accounting
- k. Financial accounting
- l. Financial accounting
- m. Managerial accounting

(5–10 min.) S1-3

- a. Internal auditing department
- b. Controller
- c. Treasurer
- d. Internal auditing department
- e. Controller
- f. Controller
- g. Treasurer
- h. Internal auditing department
- i. Controller
- j. Controller
- k. Treasurer
- l. Internal auditing department
- m. Controller

(5–10 min.) S1-4

	Characteristic	Check (✓) if related to internal auditing
a.	Helps to ensure that the company's internal controls are functioning properly	✓
b.	Reports to the treasurer or controller	
c.	Required by the Toronto Stock Exchange if company stock is publicly traded on the TSX	✓
d.	Reports directly to the audit committee	✓
e.	Ensures that the company achieves its profit goals	
f.	Is part of the accounting department	
g.	Usually reports to a senior executive (CFO or CEO) for administrative matters	✓
h.	Performs the same function as independent certified public accountants	
i.	External audits can be performed by the internal auditing department	

(10 min.) S1-5

Each of the five ethical standards contributes to maintaining CPA Canada's expectation that management accountants will uphold the highest standards of ethical behaviour.

Without the necessary competence, management accountants will be unable to perform their responsibilities. Even if they do recognize an ethical dilemma, they could lack the competence required to determine all the alternative courses of action and the implications of each alternative. Having independence is important for minimizing or eliminating the impact of others' influences. Management accountants need to provide opinions based on their own interpretation of data rather than the interpretations of other stakeholders.

Management accountants have access to confidential information. If they do not maintain that confidentiality, their companies could suffer. Their companies would be reluctant to provide access to information, which would prevent management accountants from performing their responsibilities. Additionally, employers must have confidence that management accountants have the integrity to apply their skills appropriately and avoid being prejudiced by any conflicts of interest.

Management accountants should have the ability as well to effectively analyze situations so that they might communicate them faithfully to employers, regulators, or clients to ensure proper action is taken.

Finally, an important part of management accountants' responsibilities is communicating information and providing reports to senior management. To be able to rely on these reports, management must have confidence that the management accountant is not hiding inconvenient facts or presenting a biased view.

Student responses may vary.

(5 min.) S1-6

- a. Providing earnings information to your brother before it is publicly announced violates the concept of client confidentiality and fails to uphold trust.
- b. Stealing from your employer is a violation of the concept of integrity and is illegal.
- c. Skipping continuing education sessions could violate the requirement to maintain professional competence in enabling competencies. If your company paid for you to attend the conference, skipping the sessions also violates the notion of integrity.
- d. Failing to read the specifications of the software package before purchasing it violates professional competence in enabling competencies.
- e. Failing to provide job description information to management because you fear it may be used to cut a position in your department violates the notion of integrity and the required skills of a competent accountant.

(5 min.) S1-7

- a. ISO 9001:2008
- b. Enterprise resource planning (ERP) system
- c. The Sarbanes-Oxley Act (SOX)
- d. XBRL
- e. E-commerce

(5 min.) S1-8

- a. Prevention costs
- b. Lean production
- c. Appraisal costs
- d. Internal failure costs
- e. External failure costs

(5–10 min.) S1-9

- a. Lean
- b. Traditional
- c. Traditional
- d. Lean
- e. Traditional
- f. Lean
- g. Lean
- h. Traditional
- i. Lean
- j. Lean
- k. Lean
- l. Lean
- m. Traditional

(5 min.) S1-10

- 1. Reworking defective units—internal failure
- 2. Litigation costs from product liability claims—external failure
- 3. Inspecting incoming raw materials—appraisal
- 4. Training employees—prevention
- 5. Warranty repairs—external failure
- 6. Redesigning the production process—prevention
- 7. Lost productivity due to machine breakdown—internal failure
- 8. Inspecting products that are halfway through the production process—appraisal
- 9. Incremental cost of using a higher grade raw material—prevention
- 10. Cost incurred producing and disposing of defective units—internal failure

(10–15 min.) S1-11

Req. 1

Prevention costs:

- Negotiating with, and training, suppliers to obtain higher-quality materials and on-time delivery
- Redesigning the speakers to make them easier to manufacture

Appraisal costs:

- Additional 20 minutes of testing for each speaker
- Eliminate inspection of raw materials

Internal failure costs:

- Reduce rework (fewer defective units)
- Avoid lost production time due to rework

External failure costs:

- Reduce warranty repair costs
- Avoid lost sales due to disappointed customers

Req. 2

<u>Cost –<Benefit> Analysis</u>	<u>Costs</u> <u><Savings></u>
<u>Prevention costs:</u>	
Negotiating with, and training, suppliers to obtain higher-quality materials and on-time delivery.....	\$ 300,000
Redesigning the speakers to make them easier to manufacture.....	1,400,000
<u>Appraisal costs:</u>	
Additional 20 minutes of testing for each speaker.....	500,000
Savings on inspection of raw materials.....	\$<400,000>
<u>Internal failure costs:</u>	
Savings on rework.....	<650,000>
Savings on lost profits from lost production time due to rework.....	<300,000>
<u>External failure costs:</u>	
Savings on warranty repair costs.....	<200,000>
Savings on lost profits from lost sales due to disappointed customers.....	<u><850,000></u>
Net <Benefit> from implementing quality program.....	<u>\$<200,000></u>

Wharfedale should implement the new quality program. The company would save \$200,000 by implementing the new program and the change would likely improve longer-term relations with current as well as potential new customers.

(5–10 min.) S1-12

1. External failure cost
2. External failure cost
3. External failure cost
4. Appraisal cost
5. Prevention cost
6. Internal failure cost

Exercises (Group A)

(5–10 min.) E1-13A

- a. Controlling
- b. Decision making (also directing)
- c. Planning (also decision making)
- d. Decision making (also directing)
- e. Decision making (also controlling)

Student responses may vary since several of management's responsibilities overlap when performing these activities.

(5 min.) E1-14A

- a. Companies must follow IFRS or ASPE in their financial accounting systems.
- b. Financial accounting develops reports for external parties such as creditors and shareholders.
- c. When managers evaluate the company's performance compared to the plan, they are performing the controlling responsibility of management.
- d. Managers are decision makers inside a company.
- e. Financial accounting provides information on a company's past performance to external parties.
- f. Managerial accounting systems are not restricted by IFRS or ASPE but are chosen by comparing the costs versus the benefits of the system.
- g. Choosing goals and the means to achieve them is the planning function of management.
- h. Managerial accounting systems report on various segments or business units of the company.
- i. Financial accounting statements of public companies are audited annually by public accountants.

(5–10 min.) E1-15A

1. Financial accounting information
2. Financial accounting information
3. Managerial accounting information
4. Financial accounting information
5. Managerial accounting information
6. Financial accounting information
7. Financial accounting information
8. Financial accounting information
9. Financial accounting information
10. Both
11. Both
12. Financial accounting information
13. Financial accounting information
14. Both

(5–10 min.) E1-16A

- a. The CFO and the COO report to the CEO.
- b. The internal audit function reports to the CFO or CEO and the audit committee.
- c. The controller is directly responsible for financial accounting, managerial accounting, and tax reporting.
- d. The CEO is hired by the board of directors.
- e. The treasurer is directly responsible for raising capital and investing funds.
- f. The COO is directly responsible for the company's operations.
- g. Management accountants often work with cross-functional teams.
- h. A subcommittee of the board of directors is called the audit committee.

(5 min.) E1-17A

Major issues in management accounting include the following:

1. The role played in providing information
2. The behavioural implications of managerial accounting information (e.g., how does this impact performance reward systems in organizations?)
3. The management of organizational capacity
4. The development, deployment, and use of accounting and management information systems
5. The stewardship of sustainable activities in the organization

Student answers may vary.

(15 min.) E1-18A*Req. 1*

While the amount is not large now, the repeated nature of the thefts means that they add up over time. Also, the repeated nature of the thefts increases the severity of Anik Cousineau's unethical behaviour. A new employee who has engaged in repeated thefts is unlikely to become a valued and trusted employee.

As controller, Mary Gonzales hired Anik, and she is also responsible for the lack of controls that permitted a new employee to commit this theft. However, this is no excuse for Anik's unethical behaviour. The controller should think carefully whether it is in the company's interest to keep Anik or fire her immediately. This incident also reflects poorly on Mary's competence. She needs to learn from the experience and supervise the next bookkeeper more carefully.

Req. 2

The new information makes Mary's decision more complex. Being new, she may want to discuss the situation with the company president. Even if the bookkeeper believed she was just "borrowing" the money, her behaviour is still unethical. It will probably be difficult to confirm whether Anik did in fact repay money she had taken in the past. Unless Mary can obtain additional clarifying information, one alternative to firing her would be to indicate to Anik that this behaviour will not be tolerated in the future and to establish better controls and closer supervision.

Student responses may vary.

(10 min.) E1-19A

1. Maintains a client's confidentiality
2. Demonstrates competence
3. Demonstrates credible skills and reasonable independence
4. Demonstrates competence
5. Maintains professional and personal integrity
6. Demonstrates competence and credible skills
7. Maintains professional and personal integrity
8. Demonstrates credible skills
9. Maintains a client's confidentiality
10. Demonstrates competence and credible skills
11. Maintains professional and personal integrity
12. Maintains a client's confidentiality
13. Demonstrates credible skills

(10 min.) E1-20A

- a. XBRL
- b. Supply-chain management
- c. Sarbanes-Oxley Act of 2002
- d. Lean production
- e. Present, future
- f. ERP
- g. E-commerce
- h. ISO 9001:2008
- i. Lean production
- j. XBRL
- k. IFRS
- l. Just in time
- m. Total quality management

(10–15 min.) E1-21A

MEMO

DATE: Current

TO: Accounting Colleagues

FROM: Your Name

RE: SOX

The Sarbanes-Oxley Act of 2002, better known as SOX, was the direct result of corporate accounting scandals such as those at Enron and WorldCom. The goal of SOX is to restore public confidence in publicly traded companies in the United States, their management, their financial statements, and their auditors. Some of the major provisions of SOX include the following:

- The CEO and CFO assume responsibility for the financial statements and must certify that the financial statements fairly present the operations and financial condition of the company.
- The CEO and CFO assume responsibility for establishing and maintaining an adequate internal control structure and procedures for financial reporting.
- The effectiveness of the internal controls and financial reporting procedures must be assessed annually.
- The audit committee members must be independent of the company, which means they cannot receive consulting or advisory fees. At least one member should be a financial expert.

(continued) E1-21A

- The penalties for corporate fraud and other white-collar crimes are more severe than before, often including substantial monetary fines and imprisonment.
- CPA firms are no longer allowed to provide certain non-audit services (such as bookkeeping, consulting, and systems design) to clients at the same time they are providing the audit.
- CPA firms must undergo periodic quality reviews (every one to three years).
- Audit partners must rotate off the audit engagement every five years.

Even though these are rules in the United States, they are important for the Canadian company because the company is an international firm whose shares are also traded on the American stock exchanges. Therefore, the Canadian company would be subject to the same rules and regulations as the American companies.

Student responses may vary.

(10 min.) E1-22A*Req. 1*

Total costs of adopting lean production model:

Employee training.....	\$15,000
Streamline plant's production process.....	47,000
Supplier identification.....	<u>8,000</u>
Total costs.....	<u>\$70,000</u>

Req. 2

Benefits of adopting lean production:

Savings in warehouse expenses.....	\$ 97,000
Lower spoilage costs.....	<u>46,000</u>
Total benefits.....	<u>\$143,000</u>

Req. 3

Expected total benefits.....	\$143,000
Expected total costs.....	<u>(70,000)</u>
Excess of benefits over costs.....	<u>\$ 73,000</u>

Wild Rides should adopt the lean production model because the expected benefits exceed the costs.

(15–20 min) E1-23A

Traditional and lean systems vary greatly along several dimensions of production. Some of the differences are as follows:

1. *Inventory levels*—Lean production systems strive to maintain low inventory levels. Lean producers try to purchase raw materials “just in time” to meet the production schedule and have the finished inventory ready “just in time” to meet customer demand. Traditional production systems maintain greater quantities of raw materials, work in process, and finished goods inventory.
2. *Batch sizes*—Lean production systems produce units in much smaller batches than traditional production systems. These batches are “demand-pulled” through production, rather than “pushed through” production (like a traditional system), allowing the company to only produce what customers have ordered.
3. *Set-up times*—Lean production systems stress short set-up times so that they can produce and deliver the product to the end customer in a very short amount of time. By keeping set-up times short, lean producers don’t have to worry about keeping extra inventory on hand just to be able to quickly meet demand.
4. *Physical layout of plant*—Lean producers tend to physically organize their manufacturing plants by self-contained production cells. Each cell contains all of the machinery necessary to produce the product. By organizing the plant this way, lean producers are able to minimize interruptions and time spent moving materials and work in process inventory. This, in turn, reduces the time it takes to produce the product. In contrast, traditional producers tend to group like machinery together in different areas of the plant.
5. *Roles of plant employees*—At lean producers, plant employees tend to have broader roles. They are cross-trained to perform about every role that is needed in each production cell. They set up, operate, and repair the machines in the cell. They also perform the quality inspections. As a result, employees tend to have higher morale. Additionally, this decreases bottlenecks caused by having to wait for the “right person” to come do the job.
6. *Manufacturing cycle times*—Lean producers put great emphasis on shortening their manufacturing cycle times. Lean producers need to have short cycle times since they have very little, if any, safety stock ready to sell to customers. By having short cycle times, they are able to fill customer orders quickly, keeping customers satisfied.
7. *Quality*—Lean producers stress high quality in every aspect of production. Since lean producers do not carry much, if any stock, they need to be able to produce the product right the first time. Lean producers tend to “build-in” quality, rather than “inspect-in” quality as traditional firms do.

(15–20 min) E1-24A*Req. 1*

Cost of Quality Report for Salty Snackfoods		Total Costs of Quality	Percentage of total costs of quality (rounded)
<u>Prevention Costs:</u>			
Personnel training	\$ 26,000		
Preventative maintenance	<u>7,000</u>		
Total prevention costs		\$ 33,000	4%
<u>Appraisal Costs:</u>			
Inspecting products at halfway point	\$ 55,000		
Inspection of raw materials	<u>5,000</u>		
Total appraisal costs		\$ 60,000	8%
<u>Internal Failure Costs:</u>			
Production loss due to machine breakdowns	\$ 15,000		
Cost of defective products	94,000		
Cost of disposing of rejected products	<u>12,000</u>		
Total internal failure costs		\$121,000	15%
<u>External Failure Costs:</u>			
Recall of Batch #59374	\$175,000		
Warranty claims	<u>400,000</u>		
Total external failure costs		<u>\$575,000</u>	<u>73%</u>
Total Costs of Quality		<u>\$789,000</u>	<u>100%</u>

(continued) E1-24A*Req. 2*

Because the company has warranty returns and has had a product recall, the company may suffer from a reputation for poor-quality products. If so, they are probably losing profits from losing sales. Unsatisfied customers will be reluctant to buy from the company again. They may also tell their friends and family not to buy from the company. This report does not include an estimate of the lost profits arising from a reputation for poor-quality products.

Req. 3

The Cost of Quality Report shows that very little is being spent on prevention and appraisal, which is probably why the internal and external failure costs are so high. It appears that the company is only inspecting the product halfway through the production process, and not again at the end of the process. Perhaps that is the reason their external failure costs are so high. The CEO should use this information to develop quality initiatives in the areas of prevention and appraisal. Such initiatives should reduce future internal and external failure costs.

(15–20 min.) E1-25A*Req. 1**Prevention costs:*

- Training employees in TQM

- Training suppliers in TQM

- Identifying preferred suppliers who commit to on-time delivery of perfect-quality materials

Appraisal costs:

- Strength-testing one item from each batch of panels

- Avoid inspection of raw materials

Internal failure costs:

- Avoid rework and spoilage

External failure costs:

- Avoid lost profits from lost sales due to disappointed customers

- Avoid warranty costs

(continued) E1-25A*Req. 2*

<u>Cost-<Benefit> Analysis</u>	<u>Cost/<Savings></u>
<u>Prevention costs:</u>	
Training employees in TQM.....	\$ 30,000
Training suppliers in TQM.....	40,000
Identifying preferred suppliers who commit to on-time delivery of perfect quality materials.....	60,000
<u>Appraisal costs:</u>	
Strength-testing one item from each batch of panels.....	65,000
Savings on inspection of raw materials.....	\$ <50,000>
<u>Internal failure costs:</u>	
Savings on rework and spoilage.....	<55,000>
<u>External failure costs:</u>	
Savings on lost profits from lost sales due to disappointed customers.....	<90,000>
Savings on warranty costs.....	< 15,000>
Net <Benefit>	<u>\$<5,000></u>

Chihooli should adopt the new quality program. The program should save the company \$5,000.

Exercises (Group B)

(5–10 min.) E1-26B

- a. Directing
- b. Controlling
- c. Planning
- d. Decision Making
- e. Planning

(5 min.) E1-27B

- a. Managerial accounting systems are chosen by comparing the costs versus the benefits of the system and are not restricted by IFRS or ASPE.
- b. Public accountants audit the financial accounting statements of public companies.
- c. Financial accounting develops reports for external parties such as creditors and shareholders.
- d. Companies must follow IFRS or ASPE in their financial accounting systems.
- e. Decision makers inside a company are the managers.
- f. Choosing goals and the means to achieve them is the planning function of management.
- g. Managerial accounting systems report on various segments or business units of the company.
- h. When managers evaluate the company's performance compared to the plan, they are performing the controlling responsibility of management.
- i. Information on a company's past performance is provided to external parties by financial accounting.

(5–10 min.) E1-28B

1. Financial accounting information
2. Managerial accounting information
3. Financial accounting information
4. Financial accounting information
5. Both
6. Financial accounting information
7. Financial accounting information
8. Financial accounting information
9. Both
10. Managerial accounting information
11. Financial accounting information
12. Both
13. Financial accounting information
14. Financial accounting information

(5–10 min.) E1-29B

- a. Management accountants often work with cross-functional teams.
- b. The CFO and the COO report to the CEO.
- c. A subcommittee of the board of directors is called the audit committee.
- d. Raising capital and investing funds are the direct responsibilities of the treasurer.
- e. Financial accounting, managerial accounting, and tax reporting are the direct responsibilities of the controller.
- f. The internal audit function reports to the CFO or CEO and the audit committee.
- g. The CEO is hired by the board of directors.
- h. The company's operations are the direct responsibility of the COO.

(5 min.) E1-30B

- a. Chartered Professional Accountants - Canada is the professional association for accountants.
- b. The three professional accounting designations in Canada were: Certified Management Accountants, Certified General Accountants, and Chartered Accountants.

(15 min.) E1-31B

Req. 1

While the amount is not large now, the repeated nature of the thefts means that they add up over time. Also, the repeated nature of the thefts increases the severity of Helen Smith's unethical behaviour. A new employee who has engaged in repeated thefts is unlikely to become a valued and trusted employee.

As controller, Claudia Chan probably hired Helen, and she is also responsible for the lack of controls that permitted a new employee to commit this theft. However, this is no excuse for Helen's unethical behaviour. The controller should think carefully whether it is in the company's interest to keep Helen or fire her immediately. This incident also reflects poorly on Claudia's competence. She needs to learn from the experience and supervise the next bookkeeper more carefully.

Req. 2

The new information makes Claudia's decision more complex. Being new, she may want to discuss the situation with the company president. Even if the bookkeeper believed she was just "borrowing" the money, her behaviour is still unethical. It will probably be difficult to confirm whether Helen did in fact repay money she had taken in the past. Unless Claudia can obtain additional clarifying information, one alternative to firing her would be to indicate to Helen that this behaviour will not be tolerated in the future and to establish better controls and closer supervision.

Student responses may vary.

(10 min.) E1-32B

1. Maintains a client's confidentiality
2. Demonstrate credible skills and reasonable independence
3. Maintain a client's confidentiality
4. Maintains a client's confidentiality
5. Maintains professional and personal integrity
6. Demonstrates competence
7. Demonstrates competence
8. Demonstrates credible skills
9. Demonstrates credible skills
10. Demonstrates competence
11. Maintains professional and personal integrity
12. Maintains professional and personal integrity
13. Demonstrates competence

(10 min.) E1-33B

- a. XBRL
- b. Supply-chain management
- c. Just in time
- d. Sarbanes-Oxley Act of 2002
- e. Total quality management
- f. Lean production
- g. Present, future
- h. ERP
- i. E-commerce
- j. ISO 9001: 2008
- k. Lean production
- l. XBRL
- m. IFRS

(10–15 min.) E1-34B

The Sarbanes-Oxley Act of 2002, better known as SOX, was the direct result of corporate accounting scandals such as those at Enron and WorldCom. The goal of SOX is to restore public confidence in publicly traded companies in the United States, their management, their financial statements, and their auditors. Some of the major provisions of SOX include:

- The CEO and CFO assume responsibility for the financial statements and must certify that the financial statements fairly present the operations and financial condition of the company.
- The CEO and CFO assume responsibility for establishing and maintaining an adequate internal control structure and procedures for financial reporting.
- The effectiveness of the internal controls and financial reporting procedures must be assessed annually.
- The audit committee members must be independent of the company, which means they cannot receive consulting or advisory fees. At least one member should be a financial expert.
- The penalties for corporate fraud and other white-collar crimes are more severe than before, often including substantial monetary fines and imprisonment.
- Public accounting firms are no longer allowed to provide certain non-audit services (such as bookkeeping, consulting, and systems design) to clients at the same time they are providing the audit.
- Public accounting firms must undergo periodic quality reviews (every one to three years).
- Audit partners must rotate off the audit engagement every five years.

(continued) E1-34B

Although SOX is a set of guidelines for publicly traded companies in the United States, this is still important to Canadian companies for two main reasons. First, many Canadian firms are publicly traded on the American stock exchanges and, therefore, they would be subject to the same rules and regulations as American firms. Second, any Canadian organization that needs to compete with American companies should understand the environment in which they operate so that they understand the competitors and their actions

(10 min.) E1-35B*Req. 1*

Total costs of adopting lean production model:

Employee training.....	\$12,500
Streamline plant's production process.....	36,000
Supplier identification.....	<u>8,750</u>
Total costs.....	<u>\$57,250</u>

Req. 2

Benefits of adopting lean production:

Savings in warehouse expenses.....	\$ 95,000
Lower spoilage costs.....	<u>48,500</u>
Total benefits.....	<u>\$143,500</u>

Req. 3

Expected total benefits.....	\$143,500
Expected total costs.....	<u>(57,250)</u>
Excess of benefits over costs.....	<u>\$ 86,250</u>

Snow Wonderful should adopt the lean production model because the expected benefits exceed the costs.

(15–20 min) E1-36B

1. Quality tends to be “inspect-in” rather than “build-in” —*traditional*
2. Manufacturing plants tend to be organized with self-contained production cells—*lean production*
3. Maintain greater quantities of raw materials, work in process, and finished goods inventories—*traditional*
4. Set-up times are longer—*traditional*
5. High quality is stressed in every aspect of production—*lean production*
6. Produced in smaller batches—*lean production*
7. Emphasis is placed on shortening manufacturing cycle times—*lean production*
8. Manufacturing plants tend to group like machinery together in different parts of the plant—*traditional*
9. Set-up times are shorter—*lean production*
10. Produced in larger batches—*traditional*
11. Strives to maintain low inventory levels—*lean production*
12. Cycle time tends to be longer—*traditional*

(15–20 min) E1-37B*Req. 1*

Cost of Quality Report for Sweet Snackfoods		Total Costs of Quality	Percentage of total costs of quality (rounded)
<u>Prevention Costs:</u>			
Personnel training	\$ 25,000		
Preventative maintenance	<u>8,000</u>		
Total prevention costs		\$ 33,000	4%
<u>Appraisal Costs:</u>			
Inspecting products at halfway point	\$ 52,000		
Inspection of raw materials	<u>10,000</u>		
Total appraisal costs		\$ 62,000	8%
<u>Internal Failure Costs:</u>			
Production loss due to machine breakdowns	\$ 16,000		
Cost of defective products	91,000		
Cost of disposing of rejected products	<u>11,000</u>		
Total internal failure costs		\$118,000	14%

(continued) E1-37B

<u>External Failure Costs:</u>			
Recall of Batch #59374	\$175,000		
Warranty claims	<u>436,000</u>		
Total external failure costs		<u>\$611,000</u>	<u>74%</u>
Total Costs of Quality		<u>\$824,000</u>	<u>100%</u>

Req. 2

Because the company has warranty returns and has had a product recall, the company may suffer from a reputation for poor-quality products. If so, they are probably losing profits from losing sales. Unsatisfied customers will be reluctant to buy from the company again. They may also tell their friends and family not to buy from the company. This report does not include an estimate of the lost profits arising from a reputation for poor-quality products.

Req. 3

The Cost of Quality Report shows that very little is being spent on prevention and appraisal, which is probably why the internal and external failure costs are so high. It appears that the company is only inspecting the product halfway through the production process, and not again at the end of the process. Perhaps that is the reason their external failure costs are so high. The CEO should use this information to develop quality initiatives in the areas of prevention and appraisal. Such initiatives should reduce future internal and external failure costs.

(15–20 min.) E1-38B*Req. 1***Prevention costs:**

- Training employees in TQM
- Training suppliers in TQM
- Identifying preferred suppliers who commit to on-time delivery of perfect-quality materials

Appraisal costs:

- Strength-testing one item from each batch of panels.
- Avoid inspection of raw materials

Internal failure costs:

- Avoid rework and spoilage

External failure costs:

- Avoid lost profits from lost sales due to disappointed customers
- Avoid warranty costs

Req. 2

<u>Cost-<Benefit> Analysis</u>	<u>Cost/<Savings></u>
Prevention costs:	
Training employees in TQM.....	\$ 30,000
Training suppliers in TQM.....	32,000
Identifying preferred suppliers who commit to on-time delivery of perfect-quality materials.....	60,000
Appraisal costs:	
Strength-testing one item from each batch of panels.....	68,000
Savings on inspection of raw materials.....	\$ <57,000>
Internal failure costs:	
Savings on rework and spoilage.....	<67,000>
External failure costs:	
Savings on lost profits from lost sales due to disappointed customers.....	<95,000>
Savings on warranty costs.....	<u>< 16,000></u>
Net <Benefit>	<u><u>\$<45,000></u></u>

Clegg should adopt the new quality program. The program should save the company \$45,000.

Problems (Group A)

(45–60 min.) P1-39A

Req. 1

	Planning	Directing	Controlling	Decision Making
Sales	Increase sales.	Set competitive prices. Reward employees based on positive sales reports.	Monitor sales numbers and prices from different products and locations over time. Investigate variances.	Choose whether to increase advertising, open a new store, concentrate on certain products, or expand in to a new market segment.
Repairs	Increase volume of repairs.	Streamline process to save time. Set competitive prices; generate reports showing time used for each type of repair.	Track total number of repairs and see if more repairs are being made and if time is utilized efficiently.	Choose whether to buy better tools, hire more experienced workers, or cut out parts of the repair process deemed unnecessary.
Lessons	Increase number of lessons given.	Find out what customers want and need. Observe competitors for prices and lessons offered. Improve teacher qualifications.	Examine number of lessons given per instrument.	Decide which instruments to offer lessons for and how to allocate money for Marketing efforts, advertising, and staffing requirements.
Web Development	Increase web traffic.	Improve design of website. Offer more products online. Make shopping easier and more intuitive. Increase marketing efforts.	Monitor web traffic by having an online counting device. Look at sales numbers to see if people are just surfing or actually buying merchandise.	Determine amount and type of advertising on web. Emphasize web sales rather than store sales. Decide on best website design.
Accounting	Plan to implement ERP system to monitor department activities and record finances.	Train employees on new system. Find potential flaws in the system and fix before implementation.	Track employee work schedules to stay on time. Double check entries to ensure the system is working properly.	Decide whether to phase in the system or have all departments “go live” at the same time.

(continued) P1-39A

	Planning	Directing	Controlling	Decision Making
Human Resources	Decrease employee turnover.	Hire employees that are “a good fit” for the company. Raise employee morale; set clear job descriptions. Give feedback to employees.	Monitor both involuntary and voluntary turnover. Interview employees to determine potential problems with the workplace.	Decide who to hire and fire. Decide proper wages. Take note of any potential labour issues and take corrective action when necessary.

Student answers may vary.

Req. 2

	Planning	Directing	Controlling	Decision Making
Sales	Hopkins would need a sales budget for the entire company and each individual product at each location.	Analyze sales reports to monitor type and amount of sales made. Prices would be analyzed using these reports and market analysis of Hopkins' competitors.	Compare budgets with actual sales numbers. Investigate variances to take corrective actions if needed. Change prices if deemed appropriate.	Decision making will take place in each management function by each department manager. Management will use all available budgeted and actual information to make decisions. Essentially, the needs of the first three responsibilities are combined, and management makes decisions based on all information to reach the departmental goals. The managerial accounting system will be used to gather, summarize, and report data to each department's management.
Repairs	Labour budgets would be needed to determine the time taken to repair instruments and if hiring more repair staff would be feasible.	Employee training programs would be used. Monitor time taken per repair for each member of repair staff.	Compare budgets with actual results. Investigate variances and take corrective action if needed.	
Lessons	Budgets for types of lessons offered, time needed per lesson taught, and market analysis to determine which lessons potential customers want.	Ensure customer satisfaction by hiring qualified staff. Analyze market analysis to determine market needs and proper pricing schemes.	Compare budgets with actual results. Use customer feedback to improve lessons. Make changes if needed.	

(continued) P1-39A

Web Development	Hopkins would need an expense budget to ensure money is spent efficiently. A budget would also be needed to set web traffic goals.	Monitor department expenses and website visits using online counting program.	Compare budgeted expenses with actual and compare expected web traffic with actual. Investigate variances and make changes as needed.
Accounting	Hopkins would need time budgets as well as expense budgets.	Train employees on new system to keep within time budget. Monitor expenses closely.	Compare budget with actual numbers. Investigate variances and make changes if needed.
Human Resources	Employee satisfaction surveys and feedback reports.	Active relationship between management and employees. Management would record needs and suggestions made by employees in feedback system.	Consider employee suggestions and enact changes if needed.

Student answers may vary, and it should be noted that most of the information needed would be generated by the managerial accounting system with some contribution of actuals coming from the financial system.

(15–20 min.) P1-40A

- a. If the goods have been received, postponing recording of the purchases understates liabilities. This is unethical and inconsistent with professional standards even if the supplier agrees to delay billing.
- b. The software has not been sold. Therefore, it would be inconsistent with professional standards to record it as sales.
- c. Delaying year-end closing incorrectly records next year's sales as this year's sales. This is clearly wrong and unethical, and it is inconsistent with professional standards.
- d. The appropriate allowance for bad debts is a difficult judgment. The decision should not be driven by the desire to meet a profit goal. It should be based on the likelihood that the company will collect. We cannot determine this without more information. However, because the company emphasizes earnings growth, which can lead to sales to customers with weaker credit records, reducing the allowance seems questionable. This strategy is likely inconsistent with professional standards.
- e. If the maintenance is postponed, there is no transaction to record. This strategy is beyond the responsibility of the controller, so it does not violate CPA standards.

(continued) P1-40A

Strategies a, b, and c are clearly unethical and inconsistent with the CPA standards of integrity, credibility, and perhaps competence. Strategy d is likely unethical, but we cannot be certain without more information. The controller should resist attempts to implement strategies a, b, and c, and she should gather more information about strategy d. If the president ignores Royer's concerns and still insists that these strategies be implemented, then Royer should probably resign rather than continue to work for a company that engages in unethical behaviour.

(15–20 min.) P1-41A*Req. 1*

Benefits if the project is successful:

Savings from more efficient order processing.....	\$185,000
Savings from streamlining the manufacturing process.....	275,000
Savings from inventory reduction.....	220,000
Profits from increased sales.....	<u>150,000</u>
Total benefits if the project is successful.....	<u>\$830,000</u>

Req. 2

Costs of implementing the project:

Software costs.....	\$350,000
Customizing ERP and loading data.....	80,000
Employee training.....	<u>125,000</u>
Total costs.....	<u>\$555,000</u>

Now compare the value of benefits to the costs:

Expected value of benefits.....	\$830,000
Costs	<u>(555,000)</u>
Excess of benefits over costs.....	<u>\$275,000</u>

The value of the benefits exceeds the cost; therefore, SeaSpray Marine should undertake the project.

(continued) P1-41A*Req. 3*

Bianca Saikaley formed a team to evaluate the feasibility of installing an ERP system for two reasons. First, the project was probably too big for one person. Second, representatives of the different functional business areas have different knowledge and information to contribute.

The systems specialist would have contributed the software costs. The systems specialist and management accountant would have estimated the cost of loading SeaSpray Marine's data into the new ERP system. Both would have also been significantly involved with customizing the ERP software, but all team members would have contributed to the estimate of customization costs. The human resources director likely estimated employee training costs.

Savings from more efficient order processing were probably contributed by the systems specialist and management accountant. The plant engineer and possibly the plant manager estimated the savings from streamlining the manufacturing process. The plant manager would have evaluated the effects of integration on inventory reduction, and the marketing director would have estimated the increase in sales from higher customer satisfaction. The management accountant likely assisted team members in estimating each of the costs and benefits. The management accountant would also have compiled all this information into a cost-benefit analysis or verified the consulting firm's analysis.

Student responses may vary. The main point is that different team members contribute different knowledge.

(10–15 min.) P1-42A

Costs:

Financial assistance to dealers.....	\$ 750,000
Computer hardware upgrade.....	150,000
Software and consulting fees.....	<u>230,000</u>
Total costs.....	<u>\$1,130,000</u>
Value of benefits (lower labour costs).....	\$1,357,000
Total costs.....	<u>(1,130,000)</u>
Excess of benefits over costs.....	<u>\$ 227,000</u>

Because the benefits exceed the costs, a cost-benefit analysis suggests that Smith should proceed with the Web-based ordering system.

(continues P1-42A) (20–25 min.) P1-43A*Req. 1*

The expected value of the benefits is the labour cost savings of \$933,000. This is a downward revision from what was originally estimated in P1-42A.

Req. 2

Expected value of benefits.....	\$933,000
Total costs (from P1-42A).....	<u>(1,130,000)</u>
Net cost.....	<u>\$ (197,000)</u>

The revised estimates mean the expected costs are greater than the expected benefits. The quantitative analysis suggests Sun Gas should not undertake the project. Before making a decision, Smith should carefully consider other factors such as those listed in *Req. 3*.

Req. 3

Other factors Carrie Smith should consider before making a final decision include:

- The difficulty and costs of laying off employees may reduce the expected benefits.
- Employee layoffs may hurt morale and efficiency in other areas of the company, thus increasing costs.
- Electronic order processing should reduce human errors, thereby reducing costs.
- Providing dealers with current availability, price information, and timely order processing will help Sun Gas manage and reduce its inventories.

Student responses to *Req. 3* may vary.

Problems (Group B)

(45–60 min.) P1-44B

Req. 1

	Planning	Directing	Controlling	Decision Making
Sales	Increase sales.	Set competitive prices. Reward employees based on positive sales reports.	Monitor sales numbers and prices from different products and locations over time. Investigate variances.	Choose whether to increase advertising, open a new store, concentrate on certain products, or expand in to a new market segment.
Customization	Increase number of custom systems built.	Find out what customers want and need. Observe competitors for prices and options offered. Improve employee certification and offer higher-quality parts.	Examine number of computer systems built per type (multimedia, gaming, etc.).	Decide which type of computer system to build and how to allocate money for marketing efforts, advertising, and staffing requirements.
Repairs	Increase volume of repairs.	Streamline process to save time. Set competitive prices; generate reports showing time used for each type of repair.	Track total number of repairs and see if more repairs are being made and if time is utilized efficiently.	Choose whether to buy better tools, hire more experienced workers, or cut out parts of the repair process deemed unnecessary.
Web Development	Increase web traffic.	Improve design of website. Offer more products online. Make shopping easier and more intuitive. Increase marketing efforts.	Monitor web traffic by having an online counting device. Look at sales numbers to see if people are just surfing or actually buying merchandise.	Determine amount and type of advertising on web. Emphasize web sales rather than store sales. Decide on best website design.
Accounting	Plan to implement ERP system to monitor department activities and record finances.	Train employees on new system. Find potential flaws in the system and fix before implementation.	Track employee work schedules to stay on time. Double check entries to ensure the system is working properly.	Decide whether to phase in the system or have all departments “go live” at the same time.

(continued) P1-44B

Human Resources	Decrease employee turnover.	Hire employees that are “a good fit” for the company. Raise employee morale; set clear job descriptions. Give feedback to employees.	Monitor both involuntary and voluntary turnover. Interview employees to determine potential problems with the workplace.	Decide who to hire and fire. Decide proper wages. Take note of any potential labour issues and take corrective action when necessary.
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Student responses may vary.

Req. 2

	Planning	Directing	Controlling	Decision Making
Sales	Ohh would need a sales budget for the entire company and each individual product at each location.	Analyze sales reports to monitor type and amount of sales made. Prices would be analyzed using these reports and market analysis of Circuit Pro's competitors.	Compare budgets with actual sales numbers. Investigate variances to take corrective actions if needed. Change prices if deemed appropriate.	Decision making will take place in each management function by each department manager. Management will use all available budgeted and actual information to make decisions. Essentially, the needs of the first three responsibilities are combined, and management makes decisions based on all information to reach the departmental goals. The managerial accounting system will be used to gather, summarize, and report data to each department's management.
Customization	Budgets for types of computers offered, time needed per job, and market analysis to determine which computers potential customers want.	Ensure customer satisfaction by hiring qualified staff. Research quality of available parts. Analyze market analysis to determine market needs and proper pricing schemes.	Compare budgets with actual results. Use customer feedback to improve custom builds. Make changes if needed.	
Repairs	Labour budgets would be needed to determine the time taken to repair computers and if hiring more repair staff would be feasible.	Employee training programs would be used. Monitor time taken per repair for each member of repair staff.	Compare budgets with actual results. Investigate variances and take corrective action if needed.	

(continued) P1-44B

Web Development	Ohh would need an expense budget to ensure money is spent efficiently. A budget would also be needed to set web traffic goals.	Monitor department expenses and website visits using online counting program.	Compare budgeted expenses with actual and compare expected web traffic with actual. Investigate variances and make changes as needed.
Accounting	Ohh would need time budgets as well as expense budgets.	Train employees on new system to keep within time budget. Monitor expenses closely.	Compare budget with actual numbers. Investigate variances and make changes if needed.
Human Resources	Employee satisfaction surveys and feedback reports.	Active relationship between management and employees. Management would record needs and suggestions made by employees in feedback system.	Consider employee suggestions and enact changes if needed.

Student responses may vary, and it should be noted that most of the information needed would be generated by the managerial accounting system with some contribution of actuals coming from the financial system.

(15–20 min.) P1-45B

- If advertising is postponed, there is no transaction to record. This strategy is beyond the responsibility of the controller, so it does not violate CPA standards.
- The value of each individual sales return may not be material. However, even if each is small on an individual basis, in aggregate, they may amount to a material level. Failing to record sales returns and allowances will falsely inflate this year's sales, so it is inconsistent with the CPA standards.
- If customers actually place orders in December and those orders are filled, then a transaction has occurred that can legitimately be recorded. This strategy does not violate CPA standards.
- The appropriate allowance for bad debts is a difficult judgment. The allowance for bad debts should not be driven by the desire to meet a profit goal. It should be based on the collectibility of the accounts receivable. Without more information on the collectibility of accounts receivable, it is not clear whether this strategy would violate CPA standards.
- The goods in the public warehouses have not yet been sold and therefore should not be recorded as sales. This strategy is inconsistent with the CPA standards.

Strategies b and e are clearly unethical and violate the CPA standards of integrity, credibility, and perhaps competence. Without more information, it is not clear whether strategy d violates the CPA standards. The controller should resist attempts to implement strategies b and e and should gather more information about strategy d. If the president ignores Kourtney's concerns, then Kourtney should probably resign rather than continuing to work for a company that engages in unethical behaviour.

(15–20 min.) P1-46B*Req. 1*

Benefits if the project is successful:

Savings from more efficient order processing.....	\$185,000
Savings from streamlining the manufacturing process.....	270,000
Savings from inventory reduction.....	230,000
Profits from increased sales.....	<u>155,000</u>
Total benefits if the project is successful.....	<u>\$840,000</u>

Costs of implementing the project:

Software costs.....	\$360,000
Customizing ERP and loading data.....	95,000
Employee training.....	<u>115,000</u>
Total costs.....	<u>\$570,000</u>

Now compare the value of benefits to the costs assuming project success:

Expected value of benefits.....	\$840,000
Costs	<u>(570,000)</u>
Excess of benefits over costs.....	<u>\$270,000</u>

Req. 2

If the project is successful, the net benefits will be \$270,000; there is an 80% likelihood of success, so the expected value of the success outcome is $0.8 \times \$270,000 = \$216,000$. If the project is not successful, the net costs will be \$(840,000); there is a 20% likelihood of failure, so the expected value of the unsuccessful outcome is $0.2 \times \$(-840,000) = \$(-168,000)$. The net expected benefit of the project is \$48,000 when taking into account both possible outcomes.

The value of the benefits exceeds the cost; therefore, as long as AquaBoat Marine is fully aware of the risks-versus-returns aspects of the project and has the financial strength to accept the loss should it occur, AquaBoat Marine should undertake the project.

(continued) P1-46B*Req. 3*

Rick Wilson formed a team to evaluate the feasibility of installing an ERP system for two reasons. First, the project was probably too big for one person. Second, representatives of the different functional business areas have different knowledge and information to contribute.

The systems specialist would have contributed the software costs. The systems specialist and management accountant would have estimated the cost of loading AquaBoat's data into the new ERP system. Both would have also been significantly involved with customizing the ERP software, but all team members would have contributed to the estimate of customization costs. The human resources director likely estimated employee training costs.

Savings from more efficient order processing were probably contributed by the systems specialist and management accountant. The plant engineer and possibly the plant manager estimated the savings from streamlining the manufacturing process. The plant manager would have evaluated the effects of integration on inventory reduction and the marketing director would have estimated the increase in sales from higher customer satisfaction. The management accountant likely assisted team members in estimating each of the costs and benefits. The management accountant would also have compiled all this information into a cost–benefit analysis or verified the consulting firm's analysis.

Student responses may vary. The main point is that different team members contribute different knowledge.

(10–15 min.) P1-47B

Costs:

Financial assistance to dealers.....	\$ 760,000
Computer hardware upgrade.....	155,000
Software and consulting fees.....	<u>225,000</u>
Total costs.....	<u>\$1,140,000</u>
Value of benefits (lower labour costs).....	\$1,370,000
Total costs.....	<u>(1,140,000)</u>
Excess of benefits over costs.....	<u>\$ 230,000</u>

Because the benefits exceed the costs, a cost–benefit analysis suggests that Yun Ma should proceed with the Web-based ordering system.

(continues P1-47B) (20–25 min.) P1-48B

Req. 1

The expected value of the benefits is the labour cost savings of \$925,000. This is a downward revision from what was originally estimated in P1-47B.

Req. 2

Expected value of benefits.....	\$925,000
Total costs (from P1-47B).....	<u>(1,140,000)</u>
Net cost.....	<u>\$ (215,000)</u>

The revised estimates mean the expected costs are greater than the expected benefits. The quantitative analysis suggests West Coast Gas should not undertake the project. Before making a decision, Yun Ma should carefully consider other factors such as those listed in *Req. 3*.

Req. 3

Other factors Yun Ma should consider before making a final decision include:

- The difficulty and costs of laying off employees may reduce the expected benefits.
- Employee layoffs may hurt morale and efficiency in other areas of the company, thus increasing costs.
- Electronic order processing should reduce human errors, thereby reducing costs.
- Providing dealers with current availability, price information, and timely order processing will help West Coast Gas manage and reduce its inventories.
- Labour savings represent annual, recurring savings, whereas costs are predominately one-time expenses.

Student responses to *Req. 3* may vary.

Application Questions

(10 min.) A1-49

Instructional note:

Student responses will vary widely. The point of the case is for students to see how ethical concepts have personal and practical applications. Illustrative answers are:

Some answers based on standard concepts in codes of professional conduct, and exhibited in CPA Ontario's code of professional conduct, might include:

- *Competence:* Students have a responsibility to build their professional competence by attending classes, conscientiously completing homework, and studying for exams.
- *Confidentiality:* Students should recognize that sometimes assignments are to be done individually, not as a group. Does this mean you should not help a classmate who is having a problem with a specific assignment? It depends on your instructor's expectations for the course in general and for this assignment in particular.
- *Integrity:* Students have a responsibility to act with integrity and not to cheat. Students should also help ensure the integrity of the process. For example, students should inform the instructor if they suspect other students have a copy of an upcoming exam.
- *Credibility:* Students have responsibilities for communicating information. For example, students fill out teacher evaluations and, more informally, advise other students about courses they have taken. Information should be communicated fairly and objectively. Having to take a class at an inconvenient time does not mean the student should vent his or her frustration in evaluating the instructor.
- *Independence:* Students have a responsibility to think independently of others. The years spent in university and college are supposed to help provide you with the confidence of your own convictions and the tools with which to gather the information you need to make informed decisions, independent of anyone else's wishes or biases.

Ethical Issue

(30–35 min.) I1-50

1. What is the ethical issue?

The ethical issue facing Ricardo is deciding what to do about the gifts to the sales representatives. The regular basis and the large value of the gifts suggest that the owner is bribing the sales representatives to receive a large allocation of cars. If this is a bribe, it violates the CPA's standard of integrity.

2. What are my options?

The alternatives available to Ricardo are:

- (a) Do nothing.
- (b) Discuss the matter with the owner, even though he is involved in the situation.
- (c) Discuss the situation with an ethics counsellor and/or his own lawyer.
- (d) Resign if the owner will not stop the practice.
- (e) Inform the manufacturer.

3. What are the possible consequences?

- (a) If Ricardo does nothing, then his job and those of the other employees remain secure for the time being.

However, as controller, he could be held accountable for laundering a bribe if the scheme became public. A lawsuit brought by other dealers who did not receive a fair share of available cars could name him as an involved party. If Ricardo is a professional accountant, he could also lose his designation if his involvement in wrongdoing becomes known.

- (b) If Ricardo discusses the matter with the owner, he might find out that there is another side to the story and in fact there is no wrongdoing or ethical dilemma. However, this seems unlikely given the facts. It also seems unlikely that the owner will end this practice because it has enhanced the dealership's profits. However, Ricardo may have some influence on Mueller Imports if he explains the dangers of continuing the bribes. Mueller could be sued by other dealers, or the manufacturer could cancel his dealership. Such outcomes would affect all the dealership's employees, in addition to Mueller. If Mueller refuses to change his ways, then Ricardo is in an even more difficult position because he now has direct knowledge of the bribery.
- (c) By discussing the situation with an ethics counsellor, Ricardo may gain more insight into the issue and possible courses of action. Ricardo may also wish to consult his own lawyer to determine his legal obligations and rights. Keep in mind that Ricardo will have to pay for his lawyer's advice.

- (d) By resigning, Ricardo loses his job but protects his integrity and avoids being involved in subsequent action against the dealership if the bribery becomes known.
- (e) Perhaps an even more difficult question is whether Ricardo should inform the manufacturer about the bribery. If he has not already resigned, Mueller would probably fire him for taking this action. Also, by informing the manufacturer, Ricardo would be violating the ethical standard of confidentiality.

4. What should I do?

Accountants should never become party to, or appear to be involved in, an illegal situation such as this. Ricardo should probably initiate a conversation with an ethics counsellor to determine whether there are other possible courses of action he should consider. If no other choices come to light, Ricardo should discuss his concerns with the owner. If Mueller is indeed bribing the sales representatives and refuses to stop this practice, Ricardo should resign.

Student responses will probably be less comprehensive. The above solution is provided as a basis for stimulating classroom discussion.

Team Project

T1-51

This is an open-ended project, without definite solutions. However, the following observations may be helpful.

This project works best with groups of four to five students.

The person interviewed could be identified through a connection of one of the students, a connection made by the instructor, or a connection through the school.

Requiring students to answer the first four questions before the interview will help ensure that they are prepared for the interview. It is important that students be prepared so they can make a favourable impression on the interviewee (for the school and future employment!) and so they do not waste the interviewee's time. If the company is of any reasonable size, they should be able to gather information from the library or the internet.

While it would be unusual for a company not to have a website, its role in the company's business plan can vary significantly. The site may simply provide information about the company and/or its products and, for a manufacturer, a dealer locator. Other websites are designed to sell products. Certain webpages may be designed for sales to the general public, while other parts of the site may require a password and offer sales to specific customers on pre-arranged terms. The website might not give a full indication of the extent to which a company relies on the internet. For example, a company may rely on the internet for purchasing, budgeting, or communicating within the firm.

Increasing dependence on the internet has implications for managerial accounting. A full-featured website may cost millions of dollars, so the CFO will likely be involved in the investment decision and in monitoring and evaluating the success of this investment. Management accountants will collect and analyze new types of data, such as the number of unique customers at the company's website and the length of time each customer spends at the site.

Accounting applications may also follow the underlying transactions to the web. For example, when a company moves business-to-business sales to the Web, it may also adopt internet-based receivables management software to reduce billing costs and speed collection. The company may also install an ERP system to further integrate and speed its transaction processing.

Discussion & Analysis

1. What are the four main areas of management's responsibility? How are these four areas interrelated? How does managerial accounting support each of the responsibility areas of managers?

The four main areas of management's responsibility are planning, directing, controlling, and decision making. Planning involves setting goals, directing means overseeing the day-to-day operations that support those goals, controlling means evaluating the results of those operations, and making decisions takes place continually throughout planning, directing, and controlling. Budgets, variance analysis, and cost-volume-profit analysis are some of the ways managerial accounting supports the responsibility areas of management.

2. What is the Sarbanes-Oxley Act of 2002 (SOX)? How does SOX affect financial accounting? How does SOX impact managerial accounting? Is there any overlap between financial and managerial accounting in terms of the SOX impact? If so, what are the areas of overlap?

The Sarbanes-Oxley Act of 2002 is an American act of Congress that enhances internal control and financial reporting requirements and establishes new regulatory requirements for publicly traded companies and their independent auditors. SOX requires company CEOs and CFOs to assume responsibility for the financial statements and disclosures. In addition, they assume responsibility for establishing an adequate internal control structure and procedures for financial reporting. Managerial accounting is affected by SOX because internal control affects the entire company and managerial accounting systems provide information that is published in the company's financial reporting.

3. Why is managerial accounting more suitable for internal reporting than financial accounting?

Managerial accounting is more suitable for internal reporting than financial accounting because management needs timely information that will assist them in planning, analyzing, and making decisions. They cannot wait for the historical information that is provided by financial accounting.

4. A company currently has all of its managerial accountants reporting to the controller. What might be inefficient about this organizational structure? How might the company restructure? What benefits would be offered by the restructuring?

Having all managerial accountants report to the controller is the traditional way of structuring companies in the past when management accountants were viewed as recorders of historical transactions. Now the company should consider how management accountants make a better fit in cross-functional teams, which consist of employees representing various functions of the company. This would allow the management accountants to use their consultant and advisor roles more effectively for the company.

5. What skills are required of a management accountant? In what university courses are these skills taught or developed? What skills would be further developed in the workplace?

Today's management accountants need the following skills:

- Solid knowledge of both financial and managerial accounting
- Analytical skills
- Knowledge of how a business functions
- Ability to work on a team
- Oral and written communication skills

These skills are taught and developed in a variety of university courses: accounting, management, communication, computer science, finance, and any courses that require students to work in teams and practise their communication skills. All skills would be further developed in the workplace, especially as each company has its own needs and requirements based on its industry and culture.

6. How has technology changed the work of management accountants? What other business trends are influencing managerial accounting today? How do these other trends impact management accountants' roles in the organization?

Due to technology, management accountants have been freed from the routine mechanical work and spend their time planning, analyzing, and interpreting accounting data to provide decision-making support. Some business trends, such as the shifting economy, have required managers to become knowledgeable in services as well as products. Global competition also has required managers to become skilled in e-commerce.

7. What significant regulatory trends are impacting accounting in general today? How do these regulatory trends affect the field of managerial accounting?

Some significant regulatory trends impacting accounting in general today are SOX, IFRS, and XBRL. All these trends affect different aspects in the field of managerial accounting, requiring managers to keep educated and updating their skills.

8. Compare a traditional production system with a lean production system. Discuss the similarities and the differences.

Some of the differences between a traditional production system and a lean production system are:

- like machines grouped together vs. production cells
- longer vs. shorter set-up times
- larger vs. smaller batches
- higher vs. lower inventories
- many suppliers vs. fewer, well-coordinated suppliers
- single-tasking labour vs. wider range of labour tasks
- longer vs. shorter manufacturing cycles

Similarities include:

- machinery needed
- labour needed
- inspection of products

9. It has been said that external failure costs can be catastrophic and much higher than the costs of other categories. What are some examples of external failure costs?

- Lost sales
- Sales returns
- Warranty repairs/replacements

Why is it often difficult to arrive at the cost of external failures?

Often the largest external failure cost—lost sales/profits—is hard to measure because of its nature. There are no records kept of lost sales. They must be estimated using subjective experiences and judgments. Defect rates, the number of customer complaints, and warranty repairs/replacements can help in the estimation.

10. What are the four categories of quality-related costs? Name a cost in each of the four categories for each of the following types of organizations:

- a. Restaurant
- b. Hospital
- c. Law firm
- d. Bank
- e. Tire manufacturer
- f. University

The four categories of quality-related costs are prevention, appraisal, internal failure costs, and external failure costs.

	Prevention	Appraisal	Internal Failure Costs	External Failure Costs
a. Restaurant	Training for cooks/servers	Wait staff inspects orders before serving	Meals not as ordered	Mould/insect found on meal by customer
b. Hospital	Training for ER employees	Evaluating an ER patient	Reissuing medication due to inaccurate recording	Recasting improperly set broken arm
c. Law firm	Training for paralegals	Lawyer review of paralegal's work	Underestimated case time	Losing a case due to carelessness
d. Bank	Training for tellers	Manager approval for certain transactions	Cashed an NSF cheque	Customer reporting bank error on statement
e. Tire manufacturer	Training for factory employees	Tires inspected before shipping	Tires returned to factory for rework or scrap	Warranty repairs
f. University	Training for admissions staff	Dean approval for departmental budgets	Cancelled classes	Losing alumni support

Application & Analysis

Discussion Questions

1. When you think of an accountant, whom do you picture? Do you personally know anyone (family member, friend, relative) whose chosen career is accounting? If so, does the person “fit” your description of an accountant or not?

Student responses will vary.

2. Before reading Chapter 1, what did you picture accountants doing, day in and day out, at their jobs? From where did this mental picture come (movies, first accounting class, speaking with accountants, and so on)?

Student responses will vary.

3. What skills are highly valued by employers? What does that tell you about what accountants do at their companies?

Today's management accountants need the following skills:

- Solid knowledge of both financial and managerial accounting
- Analytical skills
- Knowledge of how a business functions
- Ability to work on a team
- Oral and written communication skills

Management accountants must ensure that the company's financial records adequately capture economic events. They help design the information systems that capture and record transactions and make sure that the information system generates accurate data. They use professional judgment to record nonroutine transactions and make adjustments to the financial records as needed. Since management accountants have been freed, due to technology, from the routine mechanical work, they spend more time planning, analyzing, and interpreting accounting data and providing decision support.

4. Chapter 1 includes several quotes from CPAs and accountants at Sobey's, Abbott Laboratories, and Caterpillar. After reading these quotes and from what you know about accountants, how would you describe the role/job responsibilities of accountants?

Accountants are now responsible for understanding how all the functions in a company work together. They have become members of different teams in order to participate in the daily operations of the company. This allows them to analyze the company's operations and provide advice as part of the decision-making process.

5. Many, if not most, accounting majors start their careers in public accounting. Do you think most of them stay in public accounting? Discuss what you consider to be a typical career track for accounting majors.

According to the IMA (Association of Accountants and Financial Professionals in Business), about 85% of all accountants work in organizations, so it appears that most accounting majors do not stay in public accounting.

Student answers will vary concerning the typical career track for accounting majors because there are many. It would start with the decision to enter public, corporate, governmental, or independent accounting.