Cost Accounting 2nd edition Farmer Solutions Manual

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Chapter 1

Cost Accounting Has Purpose

Note: the end of chapter brief exercises, exercises, and problems are coded K (knowledge), C (comprehension), AP (application), AN (analysis), S (synthesize), and E (evaluation) according to the original Blooms Taxonomy published in 1956.

Assignment Classification Table (By Learning Objective)

Learning Objectives	Questions	Brief Exercises	Exercises	Problems
1. Explore the elements that support a company's purpose, as well as your own.	1, 2, 3, 4	1, 2, 3, 4, 5, 6, 13	1, 2, 3, 12	1, 2, 3, 4
2. Connect the purpose of cost accounting with the role of accountants in organizations.	5, 6, 7, 13, 14	7, 8, 9	4, 5, 6, 11	5, 6
3. Outline the frameworks, including ethics, that guide the profession.	8, 9, 10, 11, 12	10, 11, 12	7, 8, 9, 10	7, 8, 9

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Assignment Characteristics Table

Item		Description	Level of Difficulty	Time (minutes)
E1.1		Identify the mission and vision of each of the Big Four firms and their underlying values.	Moderate	15–20
E1.2		Evaluate a company's SWOT analysis.	Moderate	10–15
E1.3		Explain how a balanced scorecard reveals a company's strategy.	Moderate	10–15
E1.4		Identify cost accounting skill sets valued by the Big Four.	Moderate	10–15
E1.5		Use the decision-making framework to make a personal decision.	Moderate	10–15
E1.6		Use the decision-making framework to make a business decision.	Moderate	10–15
E1.7		Identify IMA opportunities and certification requirements.	Simple	10–15
E1.8		Get to know the continuing education requirements for the IMA's flagship certification.	Simple	5–10
E1.9		Describe the IMA's Statement of Ethical Professional Practice.	Moderate	10–15
E1.10		Identify the AICPA's mission and activities.	Moderate	15–20
E1.11		Interpret supply chain visualization.	Simple	5–10
E1.12		Address conflicts between stated mission, values, and outward behavior.	Moderate	10–15
P1.1		Describe your own personal purpose.	Simple	5–10
P1.2		Identify your goals.	Simple	5–10
P1.3		Identify strategies to achieve your goals.	Simple	5–10
P1.4		Conduct your own personal SWOT analysis.	Moderate	10–15
P1.5		Identify data analytics approaches to help solve a business question.	Moderate	10–15
P1.6		Explain the steps in the value chain.	Moderate	10–15
P1.7		Evaluate IMA's Statements on Management Accounting.	Moderate	5–10
P1.8		Identify the CPE requirements for CPAs in your state.	Moderate	10–15

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P1.9		Describe how the NASBA supports the State Boards of Accountancy.	Moderate	10-15
Case		Sort out the issues in an ethical dilemma using IMA's Statement of Ethical Professional Practice alongside the decision-making framework.	Moderate	15–20

Answers to Questions

1. A vision reflects what you strive to be (or what an organization strives to be) or what you strive to achieve by some future date.

In contrast, a mission (i.e., a purpose) is the reason you exist (or an organization exists). Your mission, or purpose, is what drives you.

A strategy reflects the chosen method(s) and technique(s) to get you to the end goal (the vision).

You can think of a vision as being your destination, a mission (i.e., purpose) as your vehicle (what drives you!), and a strategy is the road you take to get there. Being aware of these key pieces as well as how they work together can help you stay motivated and adjust course as needed. By keeping your end goal in mind, you will be more motivated and driven as you travel the road there.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

2. A SWOT analysis is a survey of a company's internal Strengths and Weaknesses along with its external Opportunities and Threats. Companies use this type of analysis to evaluate their position in the market so they can work to capitalize on their strengths and address their weaknesses in an effort to take advantage of opportunities in the market while also addressing the threats.

In the process of conducting a SWOT analysis, managers often recognize Porter's Five Forces among the company's strengths, weaknesses, opportunities, and threats. The five forces are customer power, supplier power, threat of substitute products, threat of new entrants, and industry rivalry.

Through a formal SWOT analysis or a formal evaluation of Porter's Five Forces, a company will have a very thorough understanding of where it is positioned in the market and in the industry, which can help decision-makers determine the best course forward in order to live the company's mission and reach its vision.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Enterprise Risk Management

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Questions Chapter 1 (Continued)

3. A balanced scorecard is a performance management tool in which managers can comprehensively evaluate their organization's performance. Within the balanced scorecard, four traditional perspectives are often used (described below). Within each perspective, the company recognizes its key objectives, key initiatives for each objective, and specific metrics for each objective, using both financial and non-financial metrics – hence the term "balanced" scorecard. Targets are specified for each objective, and at the end of the month/quarter/year, managers can compare actual results against the company's stated objectives and targets. A balanced scorecard can be implemented for the entire entity, for sub-units, and/or for individuals.

The four perspectives of a traditional balanced scorecard include:

- Financial perspective – considers the shareholder's perspective and how metrics like growth, profit, and risk that impact shareholder value translate into company objectives.
- Customer perspective – considers the customer and includes the metrics that create value for the customer, while also often measuring customer satisfaction and retention.
- Internal business process perspective – considers processes internal to a company that are responsible for creating value for the customer and shareholder.
- Learning and growth perspective – considers how an organization supports its people and infrastructure to drive and maintain new products and service development and growth.

The objectives within each of the four perspectives should be linked such that improvement in more foundational areas of the scorecard, such as learning and growth or internal business process perspectives, will lead to expected improvement in customer and financial areas, as well.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: Strategic Perspective, Process and Resource Management Perspectives, AICPA AC: Reporting, Systems and Process Management, AICPA PC: Communication, IMA: Business Acumen & Operations: Quality Management and Continuous Improvement

4. Health goals are linked to friends/family goals, suggesting that once a basic level of health is achieved, one can pursue healthy relationships with family and friends.

Friends/family goals are then linked to self-enrichment goals, suggesting once one has healthy relationships with friends/family, one can pursue self-enrichment goals.

Self-enrichment goals are then linked to career goals, suggesting that once one has self-enrichment in his or her life, he or she can pursue career goals.

The lower levels are considered more foundational, allowing a person to progressively pursue higher-level goals.

Responses here will likely vary by student.

A student's response to the order of the proposed scorecard might be to move the career perspective a bit lower in the list, with self-enrichment at the top, as an ultimate goal. Others may put certain social or environmental goals at the very top of their scorecard, suggesting the ultimate reward would be contributing to world peace, for example.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Communication, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Questions Chapter 1 (Continued)

5. Cost accounting and financial accounting differ in their purpose, scope, and reporting as follows:

Cost accounting's purpose is to support internal decision-making.

Financial accounting's purpose is to present financial information to external users and decision-makers, who might be investors, stock analysts, regulators, lenders, suppliers, competitors, customers, or others.

Cost accounting's scope is far broader than simply costing products. Cost accountants analyze activities and transactions of every aspect of an organization's value chain, from inception of idea through to sales and customer service.

Cost accounting's reporting is unlimited, as reports can be arranged and presented in any reasonable way that supports managers' needs. Managers' feedback further modifies the type of reports created.

Financial accounting's scope and reporting includes the details, format, and content required by GAAP or IFRS.

LO: 2, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

6. The main steps of the complete value chain are:

(1) Inception of an idea and its resulting development (R&D) – this is where a company explores new product and/or service ideas and conducts research on the viability of such an idea.

(2) Design – this is where designers collaborate to find the best possible solution for a new product idea.

(3) Supply of inputs like direct materials and direct labor – this is where manufacturers procure the raw materials and labor resources needed in order to produce a given product. This is where service providers hire laborers to provide the company's services.

(4) Production – this is where manufacturers actually produce the product, or where service providers actually provide the service. Much value is added in this key step.

(5) Marketing – this is where organizations of all types provide education to potential customers about their available products/services, as well as where they make an appeal to customers for why they need the given product or service.

(6) Distribution – this includes the physical movement of goods to customers, to intermediaries, or to retail locations.

(7) Customer service – this includes handling post-sale activities, including returns and warranty support.

While most of these activities work best in this specific order, particularly for manufacturing companies that would be unable to produce a product without raw materials and labor, it is not set in stone that they must always be completed in this order. For example, marketing activities may take place before or during production, and sourcing of raw materials and labor could take place while designers are fine-tuning the specifications of a product. Also, not all companies participate in all steps of the value chain. Pure retailers, for example, might not take part in steps 1 and 2.

LO: 2, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: Process and Resource Management Perspectives, AICPA AC: Reporting, Systems and Process Management, AICPA PC: Communication, IMA: N/A

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Questions Chapter 1 (Continued)

7. Some decision-making tools available to cost accountants include:

- Break-even analysis – can help managers determine the volume of units to be sold to break even or to generate a target amount of income.
- Budgeting – can help managers plan and allocate resources to different priorities across the organization.
- Net present value – can help managers evaluate the viability of different investment opportunities.
- Contribution margin – can help managers determine the amount left over from each different type of unit sold that contributes to fixed costs and operating profit.
- Regression – can help managers evaluate which cost driver/s (independent variable/s) best explains/predicts a mixed cost (dependent variable).
- Segment margin – can help managers determine the profitability of each division within the company before common or allocated fixed costs are considered.
- Transfer pricing – can help managers determine the viability of inter-departmental sales, and if viable, the range within which the transfer price should land.
- Variance analysis – can help managers evaluate differences between standard and actual prices and/or quantities used for key resources, which can facilitate more targeted investigation for continuous improvement efforts.
- Data analytics – can help managers gain insights from data available, by generating descriptive, diagnostic, predictive, and/or prescriptive information.

LO: 2, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Data Analytics, AICPA BC: Process and Resource Management Perspectives, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

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Questions Chapter 1 (Continued)

8. The Sarbanes Oxley Act of 2002 (SOX) has forever changed the accounting profession by addressing many previous weaknesses in the financial reporting process. While the financial reporting process is primarily under the purview of financial accountants, there are a few sections of SOX that are particularly relevant to cost accountants.

- Section 302 requires CFOs and CEOs of publicly traded companies to certify the accuracy of their reported financial information, creating heightened awareness of the significant impacts that financial information has on a company's stakeholders. Cost accountants are intimately involved in, and often directly responsible for, many fundamental business processes reflected in the company's financial statements. Specific examples include production and processing costs, inventory costs, and overhead allocation just to name a few. If cost accountants provide clear, accurate, and reliable information to their fellow financial accountants, the financial accountants will feel confident presenting that information to the controller and CFO, in turn, allowing the CFO and CEO to feel confident signing the financial statements release to external users.
- Section 404 requires management of public companies to recognize their responsibility for establishing internal controls. Further, they are required to provide an assessment of the effectiveness of those internal controls in their external reporting, as well. Since cost accountants are often intimately involved in many fundamental business processes that support transactional reporting and information sharing, cost accountants are often important participants in these internal control discussions.
- Section 406 requires public companies to disclose if they adopted a code of ethics for their senior officers. Espousing an ethical climate throughout the organization is a key tenet of cost accounting, thus making this section of SOX relevant to cost accountants, as well.

LO: 3, Bloom: C, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Communication, AICPA BC: Governance Perspective, AICPA AC: Reporting, AICPA PC: Professional Behavior, Communication, IMA: Professional Ethics & Values: Legal and Regulatory Requirements

9. The IMA's key activities areas as it guides the profession include:

- Serving as a thought leader in research and industry best practices.
- Issuing Statements on Management Accounting (SMAs)—publications on best practices within management accounting.
- Offering the Certified Management Accounting (CMA) credential, which reflects best-in-class competencies related to organizations' internal financial management.
- Helping members build a professional network.
- Creating and offering CPE-eligible education programs that help its members improve their industry knowledge and leadership potential.
- Advocating for the profession, even in a challenging regulatory environment.

The IMA's mission is to provide a forum for research, practice development, education, knowledge sharing, and advocacy of the highest ethical and best business practices in management accounting and finance. Each of the above key activities helps the IMA achieve one or more of the different facets of its mission.

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: Governance Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Business Acumen & Operations: Industry-Specific Knowledge

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Questions Chapter 1 (Continued)

10. The AICPA guides the profession through the following key activities:

- Advocacy – protecting and promoting the profession's best interests as the national representative of CPAs before government, regulatory bodies, and other organizations.
- Certification and licensing – setting forth the highest possible level of uniform certification and licensing standards and promoting and protecting the CPA designation.
- Communications – promoting public awareness of and confidence in the integrity, objectivity, competence, and professionalism of CPAs.
- Recruitment and education – encouraging individuals to become CPAs and supporting academic programs that support this effort.
- Standards and performance – establishing professional standards; assisting members in continually improving their professional conduct, performance, and expertise; and monitoring its members' performance to ensure they adhere to current standards and requirements.

The AICPA's mission is to power the success of global business, CPAs, Chartered Global Management Accountants (CGMAs), and specialty credentials by providing the most relevant knowledge, resources, and advocacy, and by protecting the evolving public interest. All of the above key activities help the AICPA to achieve its mission along one or more fronts.

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: Governance Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Professional Ethics & Values: Legal and Regulatory Requirements

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Questions Chapter 1 (Continued)

11. IMA's *Statement of Ethical Professional Practice* includes overarching ethical principles along with specific standards:

Principles: Honesty, Fairness, Objectivity, and Responsibility.

Standards: Competence, Confidentiality, Integrity, and Credibility.

The AICPA *Code of Professional Conduct* reflects the AICPA's basic expectations of ethical and professional conduct. This code expresses the profession's recognition of its responsibilities to the public, to clients, and to colleagues through the following principles (some additional context is provided here for each principle, per the AICPA Code of Professional Conduct, itself):

- Responsibilities principle – members should exercise sensitive professional and moral judgments in all their activities.
- Public interest principle – members should accept the obligation to act in a way that will serve the public interest, honor the public trust, and demonstrate a commitment to professionalism.
- Integrity principle – to maintain and broaden public confidence, members should perform all professional responsibilities with the highest sense of integrity.
- Objectivity and independence principle – members should maintain objectivity and be free of conflicts of interest in discharging professional responsibilities; members in public practice should be independent in fact and appearance when providing auditing and other attestation services.
- Due care principle – members should observe the profession's technical and ethical standards, strive continually to improve competence and the quality of services, and discharge professional responsibility to the best of their ability.
- Scope and nature of services principle – members in public practice should observe the principles of the Code of Professional Conduct in determining the scope and nature of services to be provided.

Both the IMA and the AICPA explicitly recognize *objectivity*, *responsibility*, and *integrity* within their key principles or standards.

The other principles or standards are unique to each organization, although a few of them have similar underlying tones, such as:

IMA principle or standard	AICPA principle
• Competence	Due care
• Confidentiality	Public interest
• Credibility	Public interest

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Ethics, AICPA BC: Governance Perspective, AICPA AC: Reporting, AICPA PC: Ethical Conduct, Communication, IMA: Professional Ethics & Values: Professional Ethical Behavior

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Questions Chapter 1 (Continued)

12. In the IMA, all members are expected to act in accordance with IMA's *Statement of Ethical Professional Practice*, whether the individual holds any certification or not.

In the AICPA, as well, the Code of Professional Conduct applies to all members of the organization. Two of the AICPA Code of Professional Conduct principles explicitly note, however, that they apply only to members in public practice (per additional details in the Code of Professional Conduct).

- Objectivity and independence principle – members should maintain objectivity and be free of conflicts of interest in discharging professional responsibilities; *members in public practice should be independent in fact and appearance when providing auditing and other attestation services*.
- Scope and nature of services principle – *members in public practice should observe the principles of the Code of Professional Conduct in determining the scope and nature of services to be provided*.

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Ethics, AICPA BC: Governance Perspective, AICPA AC: Reporting, AICPA PC: Ethical Conduct, Communication, IMA: Professional Ethics & Values: Professional Ethical Behavior

13. A supply chain is a subset of the larger value chain. One is not meant to take the place of the other, but not all companies will choose to operate in all value chain spaces.

LO: 2, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

14. Data analytics can provide summarized information of large datasets, thus helping decision makers quickly gain perspective of the landscape around key decisions. Visualizations can also support decision making, presenting a summary of data in a visual format that is easier to understand than the raw data itself.

The four types of analytics are:

- Descriptive analytics – describes what has already happened or what is currently happening and helps organizations detect patterns in data.
- Diagnostic analytics – attempts to find a reason for ("diagnoses") the observations and/or patterns detected.
- Predictive analytics – uses the observations/patterns detected to predict future decisions.
- Prescriptive analytics – using the outputs of predictive analytics, finds different ways to achieve the desired outcomes.

LO: 2, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Technology & Analytics: Data Analytics

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Solutions to Brief Exercises

Brief Exercise 1.1 (3–5 minutes)

(a) Strategy: The selected action(s) or path to get you to your desired state.
(b) Mission: Your purpose; it's what drives you.
(c) Vision: The future destination or updated status you're heading for.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, AICPA BC: Strategic Perspective, AICPA AC: Reporting, Systems and Process Management, AICPA PC: N/A, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

Brief Exercise 1.2 (3–5 minutes)

Student responses here will vary. One sample solution is provided.

Strategic plan for coffee shop on campus:

Goal: To increase sales volume during the year.

Initiative: Introduce loyalty cards, with which customers can redeem a reward (like a free coffee) after a certain number of purchases.

Specific metric and target: A 10% increase in sales volume over the prior year.

Actual results (hypothetical): At the end of the year, sales volume was up by 11%! Goal met.

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, Systems and Process Management, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

Brief Exercise 1.3 (3–5 minutes)

Student responses will vary.
One possible set of SMARTER goals for Rocco is provided below.

Specific: To earn a B+ or higher in the course.

Meaningful: He wants to pursue an internship in the cost accounting area, so having a thorough understanding of the material will be very important to bring to that experience.

Achievable: Since he did well in his introductory managerial accounting class, he thinks it is reasonable to expect to do well in this class, as well.

Relevant: Earning a top grade in the course should reflect a great deal of learning on his part, which is the ultimate reason for his goal.

Time-bound: By nature, the length of the semester is fixed. Rocco must complete the course and earn his desired grade within that time frame. In order to stay on track, though, he carefully keeps track of due dates and plans to turn in all assignments on time.

Evaluate: At least once per month, and after each test, Rocco will compare his performance on all assignments to his goal to see if he is still on track for earning at least a B+ in the course.

Readjust: If during one of his evaluations Rocco realizes he is not on track, he will evaluate the amount of time and effort put into the course thus far to determine if he believes it to be adequate. If not, he will find a way to dedicate more time and effort to the course going forward. He may also visit with the professor to get his or her advice on better ways to study and learn the material, and to get additional help on topics that he may be struggling with.

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

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Brief Exercise 1.4 (3–5 minutes)

Bargaining power of the customer: This force is not described in the exercise, but we could assume customers have little power in this setting. Customers could presumably barter with the store manager if better online prices are available, though.

Bargaining power of the suppliers: The company is said to have good relationships with its suppliers. Gertrude & Sons will likely need to keep nurturing these relationships so it can maintain favorable terms, particularly since big box stores are vying for many of the same products.

Threat of new entrants: Since the area is described as a fully developed metropolitan area, we can assume there would be high barriers to entry for a new competitor in terms of location. Presumably, there are not open lots in prime locations just waiting for a potential entrant to set up shop. Further, Gertrude & Sons and the box stores are already established entities in the neighborhood.

Threat of substitute products: This not described. Many of the products at the hardware store, such as a kitchen faucet, or paint, or a hammer, would not have readily available substitutes. Customers would have alternative sources by which to purchase similar products, though. While the products themselves may not have substitutes, customers would have a variety of other brands of these products that they could purchase elsewhere, as well.

Industry rivalry: There are big box stores within a few miles of Gertrude & Sons. Since hardware products are therefore readily available for consumers via a few different stores, at least, in this geographic area, Gertrude & Sons has worked to set itself apart by providing exceptional customer service. Still, it is likely customers could find many if not all of the Gertrude & Sons' products at one of the neighboring big box stores at a lower price, or from one of many online businesses. The owner will need to make sure to keep abreast of the competition and continue to set the company apart with its customer service (or along some other differentiation aspect).

LO: 1, Bloom: AP, Difficulty: Moderate, Time: 3-5, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

Brief Exercise 1.5 (3–5 minutes)

Balanced Scorecard Perspective	Objective
Customer	Increase customer satisfaction
Learning & Growth	Improve employee wellbeing
Financial	Increase profit margin
Internal Business Process	Improve efficiency in delivering recommendations to clients
Learning & Growth	Increase training/continuing education for employees
Internal Business Processes	Improve professionalism while on-site with clients

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: N/A, IMA: Business Acumen & Operations: Quality Management and Continuous Improvement

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Brief Exercise 1.6 (3–5 minutes)

Student responses may vary.

In the chapter, the four personal balanced scorecard perspectives were presented in the following order:
1. Career
2. Self-enrichment
3. Family and friends
4. Health and wellbeing

The philosophy behind the above order recognizes that achievement of goals in a lower perspective leads to the potential for goal achievement in the next perspective above it. The above order assumes that our health is the most foundational requirement, which then supports our relationships with family and friends, which allows for self-enrichment, which allows for career success.

Students could also make the case to order it as such:
1. Self-enrichment
2. Career
3. Family and friends
4. Health and wellbeing

This order assumes the same foundational health and wellbeing connections to healthy relationships with family and friends, but puts career goals before self-enrichment, suggesting that achieving goals in our career may support our self-enrichment activities and accomplishments.

These are two of several possible orderings. There is no single correct answer.

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Communication, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Brief Exercise 1.7 (5–10 minutes)

1. *Clearly outline the problem and its related unknowns*.

   Parties/expertise needed: (1) finance/accounting to evaluate quantitative costs and benefits associated with selling the space versus alternative uses of the space; (2) executive leaders in management, sales and marketing, production, research, and design to evaluate potential alternative uses of the space.

2. *Identify suitable options and gather relevant qualitative and quantitative information, making informed assumptions as needed*.

   Parties/expertise needed: (1) finance/accounting to help the remaining team members consider the information needed; and (2), the same executive leaders as above to make estimates for various options considered.

3. *Calculate relevant quantitative and qualitative costs and benefits for each option*.

   Parties/expertise needed: (1) finance/accounting to calculate the relevant costs and benefits of each option considered.

4. *Select the option that maximizes benefit to the organization and meets required qualitative criteria*.

   Parties/expertise needed: executive leaders, considering quantitative and qualitative information summarized thus far.

5. *Implement your decision*.

   Parties/expertise needed: will depend on option selected. If they decide to sell the space and not use it for a different purpose, (1) finance/accounting will be involved in the sale to provide appropriate documentation for the sale and record the transaction after the sale.

LO: 2, Bloom: AP, Difficulty: Moderate, Time: 5-10, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

Brief Exercise 1.8 (5–10 minutes)

Ahmad is utilizing descriptive analytics to better understand how the different marketing campaigns have affected and are still affecting product sales for this company. This type of analytics allows him to see trends in the data associated with each type of marketing campaign, which is a signature characteristic of descriptive analytics.

If Ahmad wants to understand why certain products might respond differently to each type of marketing campaign, he would be utilizing diagnostic analytics. Diagnostic analytics allow users to make sense of patterns and observations in data, essentially diagnosing the cause(s) for observed findings.

LO: 2, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Communication, Data Analytics, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Technology & Analytics: Data Analytics

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Brief Exercise 1.9 (5–10 minutes)

The first four steps in the value chain for a manufacturing entity like Bellvin would include the following: (at least one sample activity is provided, as well; the specific activity listed within each value chain step may vary by student)

1. Research and development: Bellvin hires researchers to determine appropriate features for rugged, durable hiking boots; this research includes talking to hiking enthusiasts.
2. Design: Bellvin hires designers to create a model of the boots that the researchers envision and suggest, including the types of raw materials needed for each aspect of the product. The designers bring to life the ideas generated from the research process.
3. Supply: Bellvin sources the key raw materials for its hiking boots based on the design specifications – most likely leather, canvas, water-proofing material, and durable rubber product for the soles. Bellvin also sources its direct labor workers in this step of the value chain.
4. Production: Bellvin puts the production line into operation, making sure it has the proper equipment and appropriate facilities to produce the boots. Production will also schedule laborers and the transfer of materials to make sure the production of its high-quality products can operate as intended.

LO: 2, Bloom: AP, Difficulty: Moderate, Time: 5-10, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, Systems and Process Management, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

Brief Exercise 1.10 (5–7 minutes)

The stated mission belongs to the Institute of Management Accountants (IMA). Six strategic pathways this organization engages in to achieve its mission include:

(1) **Customer understanding**: We will understand the career needs and experiences our customers seek to help them advance and reach their career goals.

(2) **New Markets and Prioritized Existing Markets**: We will leverage our global reputation and footprint to ensure we operate in markets where IMA's value proposition resonates most.

(3) **Partnerships and Alliances**: We will partner with corporate and academic stakeholders to provide them with solutions and offerings most important to their success.

(4) **Digitization**: We will use technology to enable greater connections and experiences with our members, communities, and stakeholders.

(5) **Career-Centric Product Development**: We will develop products and services aligned to the real-life career journeys of our customers.

(6) **Seamless Member Experience**: We will provide our members and customers with seamless ways of interacting and transacting with IMA throughout the world.

Each of these pathways supports the organization's stated mission associated with research, practice development, education, knowledge sharing, and advocacy of the highest ethical and best business practices in management accounting and finance.

LO: 3, Bloom: C, Difficulty: Simple, Time: 5-7, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Brief Exercise 1.11 (5–7 minutes)

The stated mission belongs to the American Institute of Certified Public Accountants (AICPA). Five key activities this organization works on to achieve its mission are:

(1) People, leadership, and advancement – encouraging members to build their leadership, management and coaching skills like they would any technical topic – with purpose, practice and planning

(2) Management accounting & finance – encouraging members to make an impact in the C-suite with a deeper understanding of corporate finance strategy, governance and risk management

(3) Climate & sustainability/ESG – leading organizations into a sustainable future

(4) Audit and assurance – maintaining trust in and across the profession

(5) Forensic services – encouraging members to deepen their skill set as an expert provider of forensic accounting and litigation support, plus fraud detection and prevention

These activities support the organization's mission to empower trust, opportunity and prosperity for individuals, organizations, and economies around the globe. The above activities explicitly refer to CPAs most commonly, although activities related to CGMAs and to other specialty credentials are embedded within the certification and licensing space.

LO: 3, Bloom: C, Difficulty: Simple, Time: 5-7, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

Brief Exercise 1.12 (3–5 minutes)

According to the IMA's Statement of Ethical Professional Practice, the noted terms fit into the following categories:

Principles	Standards
Honesty	Competence
Fairness	Confidentiality
Objectivity	Integrity
Responsibility	Credibility

The Principles in IMA's Statement of Ethical Professional Practice are overarching ideals for individuals to uphold and to encourage others within their organizations to adhere to.

The Standards in IMA's Statement of Ethical Professional Practice are enforceable, whereby all members have a responsibility to comply and uphold. Members that do not comply with the standards may face disciplinary action.

LO: 3, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Ethics, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Ethical Conduct, Professional Behavior, IMA: Professional Ethics & Values: Professional Ethical Behavior

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Brief Exercise 1.13 (3–5 minutes)

The following are just a few examples of possible types of business that could use these mission statements; students may have thought of others.

Mission Statement	Possible Types of Businesses
"Provide exceptional cleaning services."	Home/business cleaning company
	Medical instrument cleaning company
	Dry cleaning company
"Make someone's day brighter; literally!"	Light bulb company
	Electricity company
	Indoor lamp company
"Feed the hungry in the community."	Local nonprofit (food bank)
	Local restaurant
	Local grocery store
"We move mountains."	Excavating company
	Moving company
	Trailer rental company

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: N/A, IMA: N/A

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Solutions to Exercises

Exercise 1.1 (15–20 minutes)

Please note: the information provided on these firms' websites is subject to change.

a. Deloitte's vision statement is provided in the question.

Deloitte's purpose is to "make an impact that matters."

Deloitte's complete vision and strategy is more fully described here:

"Our vision and strategy, developed in collaboration with leadership and member firm partners from around the world, focuses on working together As One across geographic, functional, and business borders to deliver excellence in all of the services provided by the member firms."

EY's mission statement is provided in the question.

EY's full mission statement is "Building a better working world. The insights and quality services we provide help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all our stakeholders."

EY's vision statement is presented here:

"We're building the workplace of the future at EY. A place that's smarter, more inclusive, more dynamic and more flexible."

KPMG's mission statement is provided in the question.

KPMG's mission statement is: "At KPMG, we inspire confidence and empower change in all we do."

KPMG's vision statement is provided below:

"At KPMG, our goal is not to be the biggest professional services firm. Our goal is to be the best professional services firm. And we define this in a very tangible way through our vision of being the Clear Choice." For KPMG, being the clear choice means that our people are extraordinary; our clients see a difference in us; and the public trusts us.

PwC's mission statement is provided in the question.

PwC's vision is: "Creating leaders, inspiring people and bringing perspectives together to achieve what matters most."

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Exercise 1.1 (Continued)

b. Deloitte's values are recognized to be timeless; they succinctly describe the core principles that distinguish the Deloitte culture:
   - Integrity,
   - Outstanding value to markets and clients,
   - Commitment to each other, and
   - Strength from cultural diversity.

   EY states its core values as:
   - People who demonstrate integrity, respect, teaming, and inclusiveness,
   - People with energy, enthusiasm, and the courage to lead, and
   - People who build relationships based on doing the right thing.

   KPMG values are:
   - Integrity: We do what is right.
   - Excellence: We never stop learning and improving.
   - Courage: We think and act boldly.
   - Together: We respect each other and draw strength from our differences.
   - For Better: We do what matters.

   PWC values are:
   - Act with integrity,
   - Make a difference,
   - Care,
   - Work together, and
   - Reimagine the possible.

c. Yes, the visions, missions, and values espoused by each firm do appear very complementary. Each has a main focus on quality and integrity from the purpose statements to the vision/mission statements to their values.

LO: 1, Bloom: S, Difficulty: Moderate, Time: 15-20, AACSB: Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Reporting, Research, AICPA PC: Communication, IMA: N/A

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Exercise 1.2 (10–15 minutes)

a. The competitive environment, explained in the framework of Porter's Five Forces, is as follows:

Customer power – Not explicitly referenced. The end consumers (individuals) would likely have little power in this exchange, but large dealerships may have some power.

Supplier power – The company has deep supplier relationships noted as a strength, which suggests supplier power is low.

Threat of substitute products – Not explicitly referenced. However, end consumers' primary need for an automobile is transportation. Instead of owning/leasing a vehicle, individuals could take the bus or use other forms of public transportation, ride their bike, use a ride share service, or walk.

Threat of new entrants – Not explicitly referenced. Given the huge capital investment necessary to start up a new automobile manufacturing plant, however, it seems the threat level for new entrants would be low.

Industry rivalry – There is very stiff competition, given that foreign competitors are making headway in the local market.

b. See descriptions for customer power, threat of substitute products, and threat of new entrants described in part (a).

c. In the environment described here, industry rivalry would be a very important force for a manufacturing company like this one. Here, competitors have more power than customers and suppliers. If a competitor comes out with a new vehicle model that exhibits all the specifications a customer could ask for and at a price point that is more attractive than what this company can meet, this company will be at a disadvantage.

All remaining forces are still very important for a manufacturing company like this. Customers and dealerships have ultimate power in deciding what they will buy (based on what's available). If the company cannot meet their demands, customers and dealers will find a different vehicle that can meet their needs. Supplier power is important if certain key inputs (raw materials or labor) become scarce or difficult to retain. As environmental issues become top-of-mind for more consumers, substitute forms of transportation will gain momentum. These efforts are part of the reason for some auto manufacturers to pledge to be carbon neutral by a specific date, which puts tremendous pressure on the manufacturers to adjust their methods. The threat of new entrants, while still low, could be a source of worry for an auto manufacturer at this time, particularly if a new manufacturer could set up a carbon neutral operation from its inception.

LO: 1, Bloom: S, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Business Acumen & Operations: Industry-Specific Knowledge

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Exercise 1.3 (10–15 minutes)

a. This balanced scorecard reveals specific objectives within each of four traditional perspectives of the company's performance. These objectives are revealing in terms of management's strategy or approach for generating higher returns for the owners. According to the objectives, management plans to use increased employee training to improve efficiency in the restaurant, which should provide a better experience for customers. This better customer experience should lead to improved financial performance for the company.

   If we could see information on the specific initiatives for meeting each of the objectives, that information would provide even more insight into the company's plans for achieving its goals.

b. Student responses will vary, as they are asked to fill in just three of the eight open initiatives. Further, many reasonable initiatives could be appropriate for each objective.

   Below is an example of a plausible initiative that corresponds to each objective in the scorecard:

   Increase revenues: Invest time and dollars into a social media campaign to increase sales volume.

   Increase margins: Decrease costs by working with suppliers to negotiate better terms.

   Increase customer satisfaction: Offer a different special menu item (or special price on an existing menu item) for every weekday lunch; offer a loyalty card with reward points.

   Increase number of new customers: Offer a referral discount for returning customers to bring their new customer friends with them to lunch.

   Decrease time from order placed to meal served: Develop and train employees on best practices for the most efficient ways to prepare the company's most popular meals.

   Reduce rework: Offer rewards to employees with the lowest rework occurrences.

   Increase employee training: Allow employees to choose from a variety of relevant training options to improve their skills.

   Increase employee satisfaction: Offer an employee discount (if not done already) or open a suggestion box for employees to offer their ideas of what might make it a better place to work, or provide awards for an employee of the week/month/year.

c. Yes, causal links appear to exist between the objectives in this balanced scorecard. The Learning & Growth objectives should help to boost employee satisfaction, morale, and skill level. These more satisfied and skilled employees should, in turn, be able to prepare the meals in less time and supply their customers with their desired meal with less rework. Having better meals served more quickly should help to improve customer satisfaction, which should help encourage positive word of mouth marketing as well as positive customer reviews left online. All of these actions should lead to more business for the company, thus helping the financial objectives of increased revenue and margins to be achieved.

LO: 1, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Business Acumen & Operations: Quality Management and Continuous Improvement

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Exercise 1.4 (10–15 minutes)

Student responses may vary, as there are numerous consulting and advisory services offered by these firms, and students are asked to provide a sample of them. Additionally, the consulting and advisory services provided by these firms are subject to change.

a. PwC offers advisory consulting services around benchmarking, digital, forensics, strategy, data and analytics, finance, operations, and technology.

EY offers a multitude of advisory services, such as blockchain, analytics, customer experience, customer engagement, strategy, program management, supply chain and operations, and risk transformation (to name a few).

Deloitte offers consulting around strategy, analytics and M&A, customer and marketing, core business operations, human capital, enterprise technology and performance, and global operations services.

KPMG offers consulting around business performance, business protection, digital adoption and transformation, environmental, social, governance and sustainability, and government and regulatory.

b. PwC. Cost accounting skill sets would be valuable in at least the following consulting services noted in part (a): Finance, strategy, operations, and data and analytics.

EY. Cost accounting skill sets would be valuable in at least the following consulting services noted in part (a): analytics, strategy, program management, and supply chain and operations.

Deloitte. Cost accounting skill sets would be valuable in at least the following consulting services noted in part (a): strategy, analytics and M&A, and core business operations.

KPMG. Cost accounting skill sets would be valuable in at least the following consulting services noted in part (a): Business performance and business protection.

c. All of the firms recruit both new hires and experienced professionals into their consulting or advisory practices. The careers/jobs site for each of the Big 4 lists out the available positions.

LO: 2, Bloom: S, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Reporting, Research, AICPA PC: Communication, IMA: Business Acumen & Operations: Industry-Specific Knowledge

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Exercise 1.5 (10–15 minutes)

a. **Step 1:** Clearly outline the problem and its related unknowns.

The problem is that Kushal has been offered an internship that he is both excited about in terms of the opportunity it provides, but also nervous about it in terms of adequate preparation.

Step 2: Identify suitable options and gather relevant qualitative and quantitative information, making informed assumptions as needed.

Option 1: Accept the internship

We can assume that the firm will train Kushal on what he needs to know to do this job. The firm likely does not expect interns (or full-time new hires) to have learned and/or retained every piece of accounting knowledge from their coursework. Further, much of what he will need to know will be taught on the job.

Option 2: Decline the internship

Kushal will have to take more accounting courses over the next year and will feel more confident going into an internship the following busy season (assuming he will receive an offer for an internship at that time).

b. **Step 3:** Calculate relevant quantitative and qualitative costs and benefits for each option.

Option 1: As stated in the scenario, Kushal will be renting an apartment for three months, but still has a net $1,500 benefit per month, or $4,500 total financial benefit over three months. If he is taking the internship for credit, he will also have the cost of the internship credits.

Option 2: He will forego the $1,500 per month financial benefit of the paid internship less his living expenses. Kushal will instead incur a full semester's tuition cost during the upcoming semester (the same tuition cost that he will incur further down the road if he chooses Option 1, as the full course load tuition is simply deferred in that option).

c. **Step 4:** Select the option that maximizes benefit to Kushal and meets his required qualitative criteria.

Student responses may vary.

Either option might be appropriate for Kushal depending on his comfort level with his intermediate and cost accounting courses during this current semester.

If he feels quite confident with his performance in both courses and is emotionally ready to experience the professional world for a few months, Option 1 would be a good option. Kushal would be gaining experience, learning more about how accounting works in practice, and building his network. He would want to make sure the firm is fully aware of where he stands with his coursework, though, so there are no surprises.

If Kushal feels somewhat less confident with his performance in both courses and/or is not quite emotionally prepared to experience the professional world yet, Option 2 may be the better choice. He could give himself another year to gain confidence in his technical and professional skills so that he can go into an internship with more confidence one year from now (assuming he could land an internship at that time). The firm would likely understand and respect his decision to wait.

d. Responses will vary by student but will likely follow one of the perspectives considered in part (c).

LO: 2, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Risk Assessment, Analysis and Management, Reporting, AICPA PC: Decision Making, Communication, IMA: N/A

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Exercise 1.6 (10–15 minutes)

a. **Step 1:** Clearly outline the problem and its related unknowns.
The problem is whether to purchase a new piece of equipment that is capable of producing a new product for the company. The unknown is whether the company can be profitable upon producing and selling the new product.

Step 2: Identify suitable options and gather relevant qualitative and quantitative information, making informed assumptions as needed.

Option 1: Purchase the new equipment
- Potential for new customers and increased sales
- Satisfies the risk-tolerant members of the management team

Option 2: Do not purchase the new equipment
- Avoids risk of new product not paying off
- Saves money on the initial cash outlay
- Satisfies the risk-averse members of the management team

Step 3: Calculate relevant quantitative and qualitative costs and benefits for each option. The team has conducted a net present value analysis and determined the quantifiable costs and benefits of the purchase to be nearly equal. Therefore, neither option has a cost/benefit advantage over the other.

Cost accountants would be most involved in determining quantitative factors and determining the costs and benefits in steps 2 & 3, so far.

b. **Step 4:** Select the option that maximizes benefit to the organization and meets required qualitative criteria.

Student responses may vary.

This decision would depend on the company's values, how well-positioned it currently is in the market, and whether the company prefers to take the risk in trying to expand its market, or whether the company prefers to remain in the relative safety of its known products and market.

Since the quantitative factors are roughly the same between both options (the purchase is expected to have a zero net present value), this decision will likely hinge on the qualitative factors.

Here, we will assume that the company is in a good position to take a calculated risk, and they decide to recommend the purchase.

c. If the company decides to move forward with the purchase, it could communicate this as an exciting new opportunity for everyone involved. To the rest of the management team, it provides yet another opportunity for the company to surpass expectations (assuming performance to date has been good) while explaining the decision-making process. This may help put the entire team at ease to know that due diligence was performed prior to this investment. To the customers and other stakeholders, the company would want to emphasize that it is bringing the same level of quality and expertise to this new venture that it already brings to its existing products. It would want to further stress that it has the capacity to move into this new product line without limiting its existing operations.

LO: 2, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Risk Assessment, Analysis and Management, Reporting, AICPA PC: Decision Making, Communication, IMA: Strategy, Planning, & Performance: Capital Investment Decisions

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Exercise 1.7 (10–15 minutes)

a. IMA's flagship certification/designation is the Certified Management Accountant (CMA).

b. The CMA exam has 2 parts:
- Part 1: Financial Planning, Performance, and Analytics
- Part 2: Strategic Financial Management

c. The 12 competency areas are:
- External financial reporting decisions
- Planning, budgeting, and forecasting
- Performance management
- Cost management
- Internal controls
- Technology and analytics
- Financial statement analysis
- Corporate finance
- Decision analysis
- Risk management
- Investment decisions
- Professional ethics

d. The scholarship program is intended to help eligible students pass the CMA exam while still in college.

Eligible students include the following:

- For IMA-endorsed Schools: 10 students per academic year can be nominated for an IMA Student Scholarship. Students can select which exam they prefer to take for the scholarship: the CMA® (Certified Management Accountant) or the FMAA™ (Financial and Managerial Accounting Associate).
- For IMA Partner Schools*, three students per academic year can be nominated for an IMA Student Scholarship. Again, students can select which exam they prefer to take for the scholarship: the CMA or the FMAA.
- All students who are nominated by a professor and meet the eligibility requirements will earn a scholarship.

*IMA Partner Schools must meet certain eligibility criteria. For example, having an active IMA student chapter on campus; integrating IMA content into their course curriculum; sending students to the IMA Student Leadership Conference; and inviting IMA to present to students on a regular basis.

The scholarship includes the entrance fee to the CMA exam or entrance fee to the FMAA exam, exam fees for both parts of the CMA exam (1 time for each), access to Gleim online study materials for up to 12 months from the time the scholarship is received, and up to two years of IMA student membership while pursuing the certification.

Students cannot self-nominate, except for Ph.D. students, who do not require a professor's nomination.

e. Yes, the IMA has a student membership option. It costs roughly $49 per year. A student membership offers many of the benefits of a regular membership, and allows students to learn more about the accounting and financial management profession, to explore future career options, and to build their resumes and professional networks.

LO: 3, Bloom: AP, Difficulty: Simple, Time: 10-15, AACSB: Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Reporting, Research, AICPA PC: Professional Behavior, Communication, IMA: N/A

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Exercise 1.8 (5–10 minutes)

a. Certified Management Accountants (CMAs) and members Certified in Financial Management (CFMs) must fulfill 30 hours of continuing education per year, including 2 hours of ethics-focused continuing education every year. (Note: the CFM designation was first available from the IMA in 1996 but was discontinued in 2007. The CFM credential is still considered active for the nearly 4,000 individuals with this designation, however, and the IMA continues to keep records and accepts renewals for its CFM holders.)

b. The topics/subjects that are acceptable for continuing education hours should be related to the topics covered on IMA's exams and/or to an individual's job responsibilities. This could include: all aspects of accounting, financial management, business applications of mathematics and statistics, computer science, economics, management, production, marketing, business law, and organizational behavior, and ethics.

c. There are many options for obtaining continuing education credit. Individuals may take courses sponsored by the IMA, its councils, chapters, employers, businesses, educational institutions, and other professional accounting organizations and trade associations. Continuing education credit may be earned from college courses, seminars, workshops, or technical meetings. These courses or seminars can be delivered by lecture, discussion, case studies, and teaching aids such as training films, video tapes, audio cassettes, and computers. Credit may also be granted for home study courses, service as a speaker or discussion leader, service as a college teacher, publication of technical articles, and examinations.

d. Two hours per year of the 30-hour annual total requirement must be on the subject of ethics.

LO: 3, Bloom: S, Difficulty: Simple, Time: 5-10, AACSB: Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Reporting, Research, AICPA PC: Professional Behavior, Communication, IMA: Professional Ethics & Values: Legal and Regulatory Requirements

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Exercise 1.9 (10–15 minutes)

a. The IMA's overarching ethical principles are honesty, fairness, objectivity, and responsibility.

b. The standards that IMA members have a responsibility to uphold include:

- Competence
  - Maintain an appropriate level of professional leadership and expertise by enhancing knowledge and skills;
  - Perform professional duties in accordance with relevant laws, regulations, and technical standards;
  - Provide decision support information and recommendations that are accurate, clear, concise, and timely;
  - Recognize and help manage risk.
- Confidentiality
  - Keep information confidential except when disclosure is authorized or legally required;
  - Inform all relevant parties regarding appropriate use of confidential information; monitor to ensure compliance;
  - Refrain from using confidential information for unethical or illegal advantage.
- Integrity
  - Mitigate actual conflicts of interest; Regularly communicate with business associates to avoid apparent conflicts of interest; Advise all parties of any potential conflicts of interest;
  - Refrain from engaging in conduct that would prejudice carrying out duties ethically;
  - Abstain from engaging in or supporting any activity that might discredit the profession;
  - Contribute to a positive ethical culture and place integrity of the profession above personal interest.
- Credibility
  - Communicate information fairly and objectively;
  - Provide all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations;
  - Report any delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law;
  - Communicate professional limitations or other constraints that would preclude responsible judgement or successful performance of an activity.

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Exercise 1.9 (Continued)

c. In the event a member encounters unethical conduct, the IMA's position is that the issue must be addressed, not ignored. The IMA recommends its members consider all risks involved and whether there are protections in place to counter retaliation. Should the member's own organization not have ethical guidelines addressing resolution of the issue, the member should consider the following steps as outlined by the IMA:

- Step 1. Discuss the issue with the member's immediate supervisor (or the next level of management if the supervisor appears to be involved);
- Step 2. The member may call the IMA's anonymous helpline to determine how key elements of the IMA Statement of Ethical Professional Practice could be applied to the ethical issue;
- Step 3. The member may want to consult an attorney to learn of any legal obligations, rights, and/or risks concerning the issue

Student responses here may vary:

If a new professional encounters an ethical dilemma in their first job after graduation, it would likely be a very stressful experience. The process outlined here could help them to step back and process the situation one step at a time. While talking about these issues is difficult, the professional might feel most comfortable speaking to their supervisor about the issue, which is the first step described above. Of course, if the supervisor appears to be part of the issue, then this is not a good option. Speaking to someone from IMA's anonymous helpline could also be helpful in sorting out the issue.

Students should recognize now that ethical lapses do happen. They may encounter such a situation at work, and they should be alert to these situations and have a plan for processing the situation. IMA's process may be helpful in their journey to resolution. Hopefully students will never need to use it.

d. The IMA's helpline can be reached at (800) 245-1383. It is available worldwide, but outside the U.S. and Canada the caller should take additional steps, dialing the AT&T USA Direct Access Number.

LO: 3, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Reporting, Research, AICPA PC: Ethical Conduct, Communication, IMA: Professional Ethics & Values: Professional Ethical Behavior

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Exercise 1.10 (15–20 minutes)

a. The AICPA is responsible for content development and scoring of the Uniform CPA exam. The AICPA also encourages efforts to adopt uniform, high level requirements governing the issuance of the CPA certificate.

b. The Board of Accountancy for each state/jurisdiction determines which individuals meet the criteria to become a licensed CPA. Each state Board of Accountancy also issues those licenses. Every state/jurisdiction has their own set of education and experience requirements that individuals must meet.

c. The AICPA's major programs as listed on its website include (the activities particularly related to cost accounting are in bold):

- Evaluating international, national, and local issues and trends, and tracking and analysis of challenges and opportunities for the profession.
- Undertaking recruitment efforts to attract highly qualified and diverse individuals into the profession and position the profession as offering a rich array of work and career paths.
- Promoting outstanding academic programs and an emphasis on teaching quality.
- Preparing and grading the Uniform CPA Examination and encouragement of efforts to adopt uniform, high level requirements governing the issuance of the CPA certificate.
- Promulgating standards, setting of requirements for, and membership assistance in the continuous improvement of professional and ethical conduct, performance, and expertise.
- **Chartered Global Management Accountant ® (CGMA®). Two of the world's most prestigious accounting bodies, the AICPA and the Chartered Institute of Management Accountants (CIMA), have formed a joint-venture to establish the Chartered Global Management Accountant (CGMA) designation. In elevating management accounting, the designation recognizes the most talented and committed management accountants with the discipline and skill to drive strong business performance.**
- Supporting efforts of the Financial Accounting Foundation's Private Company Council to develop alternatives in U.S. GAAP to reflect the private company environment.
- Encouraging America's Main Street businesses and their stakeholders to use the AICPA's Financial Reporting Framework for Small- and Medium-Sized Entities, a non-GAAP financial reporting option that delivers streamlined, relevant, and consistent financial statements in a cost-beneficial way.
- Supporting the development of international convergence, including accounting standards, auditing standards, and ethics.
- Developing measures to continually improve the financial reporting system and to detect, expose and prevent fraud.
- Operating comprehensive Continuing Professional Education (CPE) programs for CPAs.

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Exercise 1.10 (Continued)

- Managing 360 Degrees of Financial Literacy, a national volunteer effort of the nation's Certified Public Accountants to help Americans understand their personal finances and develop money management skills. It focuses on financial education as a lifelong endeavor—from children learning about the value of money to adults reaching a secure retirement.
- Promoting federal financial awareness through What's at Stake? A CPA's Insights into the Federal Government's Finances, a video that shows the financial sustainability of our country could be in jeopardy. It offers guidance for policymakers and the public on how the U.S. government's financial statements can be used for greater understanding of the nation's fiscal health.

d. The AICPA's mission is to power the success of global business, CPAs, Chartered Global Management Accountants (CGMAs), and specialty credentials by providing the most relevant knowledge, resources, and advocacy, and by protecting the evolving public interest. Yes, there appear to be clear linkages between the specific activities identified in part (c) and the organization's mission.

LO: 3, Bloom: S, Difficulty: Moderate, Time: 15-20, AACSB: Communication, Analytic, Technology, AICPA BC: Governance Perspective, AICPA AC: Reporting, Research, AICPA PC: Communication, IMA: N/A

Exercise 1.11 (5–10 minutes)

a. East/Northeast region. The largest circles on the map are in this area, indicating the highest concentration of goods shipped out.

b. North, Central, and Northwest regions. There are very few circles in these areas, and the ones that are present are quite small, indicating very little activity.

c. Metropolitan areas that could be considered to have a medium level of activity could include San Francisco, Los Angeles, Chicago, Boston, Houston, and Miami.

d. Answers will vary, but possibilities include adding a dollar value of merchandise shipped, quantity of items, types of products, from where the goods originated if overseas, etc.

LO: 2, Bloom: C, Difficulty: Simple, Time: 5-10, AACSB: Analytic, Data Analytics, AICPA BC: Global and Industry Perspectives, AICPA AC: Reporting, Technology and Tools, AICPA PC: Communication, IMA: Technology & Analytics: Data Analytics, Technology & Analytics: Visualization

Exercise 1.12 (10–15 minutes)

a. Problem: The company manager spoke out against other employees in the company, thus going against the culture and values that the company claims to desire in its employees.

Possible options:

(i) Do nothing and hope the issue goes away on its own.

(ii) Speak to the manager and readdress the culture/values but otherwise enact no discipline.

(iii) Speak to the manager and enforce some kind of disciplinary action.

(iv) Terminate the manager for violating the culture/values of the company (there might have been a code of ethics that manager-level employees were required to commit to).

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Exercise 1.12 (Continued)

b. Costs and benefits of each option:

(i) If they do nothing, employees and the public will assume that the company is not sincere in its culture/values ideals. The value statements will seem merely as window dressings, which could undermine future work in this area. On the other hand, people may not care that much, and they might forget about it.

(ii) Speaking to the manager about this could be uncomfortable, but the company's position on the matter could be reinforced. Not enacting any discipline could show goodwill toward the manager by giving them a second chance. On the other hand, not disciplining could also show weakness and a lack of sincerity toward the company culture/values statement.

(iii) Disciplinary action could show others and the public that the company is serious about its culture and values and intends to uphold them. By not going as far as firing them, this option could also show mercy to the employee by giving them an opportunity for a second chance to do better. However, if the company hadn't warned employees that there could be consequences for actions that went against the company culture/values, disciplinary action could be seen as overly harsh and unfair.

(iv) Terminating an employee for going against the culture/value norms of a company may seem very extreme, unless this type of consequence was specified as a possibility in the company's expectations, or even on a signed contract with employees upon hire or upon reaching a management level. It could show other employees that the company is very serious and has a zero-tolerance policy for this type of behavior. At the same time, it could negatively impact other employees who believe that a second chance might have been more appropriate; it likely depends on the severity of the incident (the manager’s social media post).

c. Answers will vary; there isn't necessarily a single correct answer, but students should support their answer with appropriate rationale.

d. Answers will vary, but some recommendations could include:

(i) Having employees sign an employment contract that explicitly outlines possible disciplinary actions that could be instituted depending on severity of action that went against culture/values or perhaps was even against the law.

(ii) Communicating examples of how to work and live in alignment with the company's culture as well as examples of actions that do *not* align with it.

(iii) Having a strong “tone at the top” from the executive team and all levels of management, clearly treating employees similarly to what they are communicating in the culture/values statements.

LO: 1, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Communication, Ethics, Analytic, Diversity, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Ethical Conduct, Professional Behavior, Leadership, Communication, IMA: Leadership: Conflict Management, Professional Ethics & Values: Recognizing and Resolving Unethical Behavior

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Solutions to Problems

Problem 1.1
(5–10 minutes)

Student responses will differ. Some sample student responses are provided as possible examples.

a. My purpose as a human is to find joy in life, to help others improve their position in life so they can find joy in their own lives, and to be a good custodian of the earth.

b. My purpose as a friend is to support my friends (while maintaining healthy boundaries).
My purpose as a parent is to raise my child: to be an independent and kind contributor to society; to be grateful for what they have; to be generous with their gifts and talents.
My purpose as a sibling is to support my siblings and to love them unconditionally.

c. My purpose as a student is to learn and retain knowledge for the long-term, making connections between topics, concepts, and courses so that I can draw upon this knowledge and this experience in my professional career and in my personal life.

d. My educational goals are to graduate with an accounting degree (preferably with honors), to become a well-rounded accountant in the process, to sit for at least one section of the CMA or CPA exam (finishing and passing all sections within one year of starting the process), and to begin a professional accounting career.

LO: 1, Bloom: S, Difficulty: Simple, Time: 5-10, AACSB: Communication, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Problem 1.2
(5–10 minutes)

Student responses will differ. Some sample student responses are provided as possible examples.

a. My goals for this course are to gain a deeper understanding of cost accounting, making connections between this course material and my other coursework, so that I can use this knowledge and these experiences in my professional career and in my personal life.

b. Assuming my goal is to gain a better understanding of the course content for the sake of learning (and not just to pass tests), this would likely impact:

(i) How I study. I would consider the how's and why's of cost accounting techniques rather than memorizing them.

(ii) How much time I study. I would take more time with each topic, as feasible, and try to study with other students to help me see other perspectives. These different learning approaches will likely help me grasp the material at a deeper level, giving me a better chance of retaining this knowledge.

(iii) How I approach the course. I would seek out conversations with my instructor to gain her perspective and ask questions during class. I would also participate in outside of class activities that are related to the course to help make connections from the classroom to the profession.

LO: 1, Bloom: S, Difficulty: Simple, Time: 5-10, AACSB: Communication, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Problem 1.3
(5–10 minutes)

Student responses will differ. Some sample student responses are provided as possible examples.

a. In the past, I have employed the following study strategies to help me achieve my goals: I have read the chapters and created review sheets and concept maps; I've tried explaining a topic to a friend until I am sure I understand it; I have studied with friends where we quiz each other; I have worked and re-worked homework problems and attempted extra problems.

b. Yes, I believe many of the strategies I've used in the past will be effective in this course and in future courses because these approaches have worked for me in the past. The basic structure of most of my courses is similar, so I expect similar strategies to work going forward.

   Alternatively, if students have struggled in previous coursework, they may answer no to this question as they are still searching for strategies that will work well for them.

c. Other strategies I could consider in an effort to increase the likelihood of achieving my educational goals include: Talking to my instructor more; participating more in class and going to office hours; being brave to reach out to students in class who seem to "get" the material to see if they'd be interested in forming a study group, and talking myself through the material to better understand it.

d. Yes, there are costs involved in employing such strategies as noted in part (c). These strategies might take more time, and might make me feel nervous at first, as they will push me outside of my comfort zone. The payoff could be high, though, resulting in a better understanding of the material, which should help me earn a good grade in the course and also should help me with my certification exam later. The additional effort should further help me use these skills and experiences in my career. I might even make some new friends in the process.

LO: 1, Bloom: S, Difficulty: Simple, Time: 5-10, AACSB: Communication, Analytic, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Problem 1.4
(10–15 minutes)

Student responses will differ. Some sample student responses are provided as possible examples.

a. Strengths: Strong performance in introductory coursework, determination, test taking skills, and critical thinking skills.

Weaknesses: Easily distracted, and a procrastinator.

Opportunities: Supplemental Instruction, instructor office hours, and internships.

Threats: Job, friends, Netflix, and Instagram.

b. I can use my background knowledge to help me get started in new topics, trying to make connections to what I already know. I can use my critical thinking skills when I both study and review to try to think more in-depth about the concepts learned in class, trying to make new connections. My critical thinking skills also should assist my test taking skills, giving me the ability to reason my way through an answer when I'm not completely sure about it at first.

c. I can use my background knowledge and ability to make connections to help me ask relevant questions during class and during office hours with my professor. If I'm able to add to my previous knowledge and learn the new material well, it may help me gain confidence in the material so that I can seek out an internship!

d. I can address my weakness of being easily distracted by going to the library to study and by turning my phone off when I'm in full study mode. I can address my weakness of procrastination by setting a solid study plan, and really trying to stick to it. I could set up rewards for myself every time I complete an assignment or other important task ahead of schedule (even a simple reward such as treating myself to a specialty coffee or giving myself time to watch an episode of my favorite show). I can also address that weakness by setting a recurring group study session with my classmates so we can all help each other be accountable for our learning.

e. I can address the threat of my job taking too much time away from my studies by having an open and honest conversation with my boss about when my classes meet and how many hours each week I can work. I can address the threat of my friends pulling me away from my studies by making sure they understand how important academic success is to me, and by having friends who are supportive of that goal (while also making sure I give myself some down time so that I can stay connected with my friends and stay balanced in my life). I can address the threat of Netflix and Instagram distracting me from my plan by turning off my phone when studying and by using those activities as rewards after completing an assignment (as noted, above). I could also consider following educational or accounting related accounts on Instagram. (Yes, they exist!)

LO: 1, Bloom: S, Moderate, Time: 10-15, AACSB: Communication, Analytic, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

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Problem 1.5
(10–15 minutes)

a. **Step 1:** Clearly outline the problem and its related unknowns:

The problem is the university needs to reduce costs so that it can stay on budget. The specific problem is whether to consider reducing the temperature in campus buildings to save utility costs. The related unknowns might include whether the temperature would make an uncomfortable learning environment for students and faculty. Another unknown might be whether certain research projects being conducted on campus might require specific controlled temperature ranges.

b. The four data analytics techniques are:

- **Descriptive analytics** – describes what has already happened or what is currently happening; helps detect patterns in data.
- **Diagnostic analytics** – attempts to make sense of the observations and/or patterns detected.
- **Predictive analytics** – uses observations and patterns detected to shape future decisions.
- **Prescriptive analytics** – involves understanding the outputs of predictive analytics in order to figure out what should be done to reach the desired end state.

c. **Step 2:** Identify suitable options and gather relevant qualitative and quantitative information, making informed assumptions as needed.

We could use **descriptive analytics** to evaluate the utility costs at a given thermostat setting. If the campus uses different settings for different times of the year, a variety of data points might be available.

The university could ask students to complete a survey regarding the temperature at which they keep their apartments, and then conduct descriptive analytics on the results to find the average temperature, for example. They could also ask students if they are frequently hot or cold when attending class to better evaluate the current situation and use descriptive analytics to summarize their responses.

We could use **diagnostic analytics** to better understand the trends in the information gathered. For example, can we diagnose that utility costs in the fall were less than utility costs in the summer because the campus buildings did not need as much air conditioning due to cooler temperatures?

We could then use **predictive analytics** to anticipate what the change in utility cost might be given the previous relationships and given the current winter season described here. Perhaps these predictive analytics would allow the university to project the 3% drop in utility costs given a one-degree reduction in temperature, rather than relying on someone's conjecture that such a relationship might exist.

Once a predictive model is available, the university could use **prescriptive analytics** to determine how many degrees it would need to reduce the average building temperature to reach its goal of $X in utility cost savings. We must keep in mind that many assumptions would go into such a prescriptive model, so full disclosure of these reliability concerns should be made.

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Problem 1.5 (Continued)

d. **Step 3:** Calculate relevant quantitative and qualitative costs and benefits for each option.

A combination of descriptive, diagnostic, and predictive analytics, as described in part (b), would allow the university to estimate relevant costs and benefits associated with different temperature settings. Prescriptive analytics could allow them to plan a specific temperature adjustment in building temperatures to achieve a target amount of utility savings. They would need to consider the qualitative factors of such a decision, however, before moving forward with this plan.

LO: 2, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, Data Analytics, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Decision Analysis

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Problem 1.6
(10–15 minutes)

a. (1) Research & Development

(2) Design

(3) Supply

(4) Production

(5) Marketing

(6) Distribution

(7) Customer Service

b. (1) Research & Development—researching new product ideas and features and turning ideas into prototypes.

(2) Design—finding the best solution for the given product idea, including style, functionality of features, and raw materials to name a few.

(3) Supply—sourcing the materials and labor needed to create the product.

(4) Production—transforming raw materials into a finished good or providing a service.

(5) Marketing—educating stakeholders about the product or service.

(6) Distribution—transporting the product to customers or retail outlets.

(7) Customer Service—supporting customers once the product is in their hands or once the service is complete.

The order is important because a company can't produce a product without raw materials; a company can't market a product that it has not yet conceived; a company can't support its customers unless the customers already have the product or have been provided the service.

c. Each company needs to consider its own competitive advantage(s), and whether operating throughout the whole value chain on its own would be beneficial, or whether it would be too big of an undertaking. Smaller companies might operate in just one area of the value chain, whereas larger companies might have the resources to undertake the full spectrum of activities and therefore be less dependent on other companies.

By operating across multiple steps of the value chain, a company has more control over its environment. It potentially can control all steps in the chain or at least have significant influence over all steps in the chain.

LO: 2, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, Systems and Process Management, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic and Tactical Planning

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Problem 1.7
(5–10 minutes)

This solution describes information available at the time of publication per the IMA website. The details are subject to change.

a. Key topic or competency areas for SMAs include (found at https://www.imanet.org/en/About-IMA/Professional-Publications-and-Reports/Statements-on-Management-Accounting; then select 'Read More') :

- Strategic Cost Management
- Data Analytics
- Performance Management
- Quality Management and Continuous Improvement
- Strategic and Tactical Planning

b. The IMA website does not specify a total number of SMAs published to date, although the website includes access to 40 SMAs at present. Of the SMAs available on the website, 6 are included in the Strategic Cost Management competency area. A few examples of the SMAs within this category include:

- Developing an Effective Managerial Costing Model
  - Focuses on cost modeling and describes a six-step methodology that organizations can use to develop a costing model appropriate for their specific needs
- Implementing Activity-Based Costing
  - Gives an overview of the process for designing and implementing an ABC system
- Costing System Attributes that Support Good Decision Making
  - Provides consideration of causal modeling focused on decision support, which can improve the visibility and connectivity of operational and financial data to support decisions.

c. In addition to SMAs, the IMA also supports the following reports and publications: Strategic Finance, Management Accounting Quarterly, IMA Educational Case Journal, C-Suite reports, Global Economic Conditions Survey, White Papers, Community Resource Library, and IMA books. The IMA also supports a podcast and several blogs.

LO: 3, Bloom: S, Difficulty: Moderate, Time: 5-10, AACSB: Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Reporting, Research, AICPA PC: Communication, IMA: N/A

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Problem 1.8
(10–15 minutes)

Note: nasbaregistry.org is a helpful site for gathering this information.

Each state's requirements may vary; the following is an example of the relevant information for Texas and for Minnesota, as samples.

a. In the state of Texas, the CPE requirement for CPAs is 120 hours over 3 years, with a minimum of 20 hours per year. Certificate holders must complete a 4-hour ethics course every 2 years.

In the state of Minnesota, the CPE requirement for CPAs is 120 hours over 3 years, with a minimum of 20 hours per year. Certificate holders must complete 8 hours of ethics coverage during that 3-year period.

b. Texas uses the NASBA registry, but all sponsors are also required to register with the Texas State Board of Public Accountants.

Minnesota has a listing of approved providers for group programs, which includes all providers on the NASBA Registry, along with several other options, including Colleges and Universities whose academic programs qualify an applicant to sit for the CPA exam. Minnesota's approved providers for self-study, blended learning and nano learning programs must be on NASBA's Registry for that particular delivery method.

c. Oklahoma and New Mexico have very similar requirements to Texas, with the exception of requiring the sponsors to be registered in the state.

Iowa also requires 120 total hours every three years but does not have a minimum number for any one of those years, and it requires 4 hours of ethics coverage during the three-year period. Wisconsin requires reporting every two years, with 80 total hours to be completed within that period, minimum of 20 hours per year. Wisconsin requires 3 hours of ethics coverage during the two-year cycle.

LO: 3, Bloom: S, Difficulty: Moderate, Time: 10-15, AACSB: Communication, Analytic, Technology, AICPA BC: Governance Perspective, AICPA AC: Reporting, Research, AICPA PC: Communication, IMA: Professional Ethics & Values: Legal and Regulatory Requirements

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Problem 1.9
(10–15 minutes)

a. NASBA's mission is to enhance the effectiveness and advance the common interests of the Boards of Accountancy.

b. NASBA's objectives allow it to make progress toward its mission. The objectives are organized into several categories, as listed here:

- Relationships,
- Advocate for effective state-based regulation,
- Enforcement,
- Effective communication,
- Operational sustainability,
- Diversity,
- Legislative & regulatory support,
- Ethics,
- Education & training,
- Emerging issues,
- CPA pipeline,
- Leadership development, and
- Technology support.

c. The NASBA Fields of Study information is accessible at nasbaregistry.org/the-standards. At the time of publication, the most current Fields of Study document is dated Dec. 2019. Technical fields of study include:

- Accounting
- Accounting (Governmental)
- Auditing
- Auditing (Governmental)
- Business Law
- Economics
- Finance
- Information Technology
- Management Services
- Regulatory Ethics
- Specialized Knowledge
- Statistics
- Taxes

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Problem 1.9 (Continued)

Non-technical fields of study include:

- Behavioral Ethics
- Business Management & Organization
- Communications & Marketing
- Computer Software & Applications
- Personal Development
- Personnel/Human Resources
- Production

d. Subjects related to Accounting include but are not limited to:

- **Accounting—General**
- Accounting Research
- Accounting Services for Small Business
- Financial Statements and Reports
- Forensic Accounting
- Measurement, Recognition, and Presentation of Specific Financial Statement Items
- SEC Practice
- Technical Computer Software and Applications

The bolded item above, Accounting—General, would coincide with cost and management accounting. Others may also crossover between financial and cost accounting, including Measurement, Recognition, and Presentation of Specific Financial Statement Items.

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Problem 1.9 (Continued)

e. Student responses here will vary, depending upon which fields the student chooses to focus.

Two fields that would certainly overlap financial and cost accounting topics include the following:

Business Management & Organization would coincide with cost and management accounting, with subjects such as:

- Organization of a Public Accounting Practice
- Administration of a Public Accounting Practice
- *Management Planning in Industry*

Finance (technical) would also coincide with cost and management accounting. Its key subject areas include:

- Asset Management
- Budgeting and Cost Analysis
- Contracting for Goods and Service
- Financial Management
- Financial Planning and Analysis
- Quantitative Analysis

LO: 3, Bloom: S, Difficulty: Moderate, Time: 10-15, AACSB: Communication, Analytic, Technology, AICPA BC: Governance Perspective, AICPA AC: Reporting, Research, AICPA PC: Communication, IMA: Professional Ethics & Values: Legal and Regulatory Requirements

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Solution to Analysis and Decision-Making Case

Case (15–20 minutes)

a. Decision-making framework:

(1) Clearly outline the problem and its relevant unknowns.

(2) Identify suitable options and gather relevant qualitative and quantitative information, making informed assumptions as needed.

(3) Calculate relevant quantitative and qualitative costs and benefits for each option.

(4) Select the option that maximizes benefit to the organization and meets required qualitative criteria.

(5) Implement your decision.

Step 1: Clearly outline the problem and its relevant unknowns.

Leah and Jahn's problem is figuring how they are going to meet the unattainable sales quota they are being held to. Unknowns include management's intent behind these goals, and the repercussions if they don't meet them.

c. Step 2: Identify suitable options and gather relevant qualitative and quantitative information, making informed assumptions as needed.

Option 1: Leah and Jahn could discuss this issue with their supervisor, explaining that these goals are not attainable through ethical means. (IMA framework: Discussion with the member's immediate supervisor, or the next level of management if the supervisor is involved.)

Option 2: They could do their best to meet the quotas, but risk losing their jobs.

If Leah and Jahn end up meeting the quotas, all will be good for them, at least for now. The stress of wondering what will happen next month could weigh significantly on them, however, which could cause mental and physical health concerns. If these health concerns materialize, it could impact their ability to do their jobs, it could impact their relationships at home, and it could impact other employees' abilities to stay focused.

If they don't meet the quotas and if the company lets them go due to failure to meet the standard, they and their families will be significantly impacted. Their community would be indirectly and negatively impacted, as well, if they lose their jobs. The company could be negatively affected due to having fewer employees available in which to spread the workload. The higher workload for the remaining employees, along with the stress of having lost their coworkers due to unattainable standards could lead to a spiraling effect of low morale, reduced output, and additional layoffs.

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Case (Continued)

d. Step 3: Calculate the relevant quantitative and qualitative costs and benefits for each option.

Option 1:

Benefits: Follows the IMA ethical framework and follows the IMA ethical principles and standards of honesty and integrity. This option also opens up a dialogue of why these quotas are not an effective goal.

Costs: Leah's and Jahn's supervisor might not care, or might not be able to do anything about it, so the cost of this option is potentially their job. Alternatively, the supervisor might encourage them to take an unethical route, thus costing them their integrity (and/or their job).

Option 2:

Benefit: Leah and Jahn don't cause a stir, and they still follow the IMA ethical principles and standards of honesty and integrity.

Cost: If they don't meet the quotas, the cost is potentially their jobs, which would be devastating to them and each of their families. The stress of working under these pressures is also costly in terms of their mental and physical health.

e. Step 4: Select the option that maximizes benefit to the organization and meets required qualitative criteria.

The best option of these two would be to talk to their supervisor. With this option, they have at least tried to get management to understand the situation from the employee's perspective.

f. Step 5: Implement your decision.

Leah and Jahn should schedule time with their immediate supervisor to explain why these quotas are not possible to meet. It might help to get feedback from other salespeople to get their opinions, which would hopefully provide additional support for their position. If the supervisor tells them no, or suggests they consider doing whatever it takes to meet the quota, they should consider going to the next level in the chain of command.

Alternatively, Leah and Jahn should be prepared to leave their jobs at the risk of being part of something fraudulent that could ultimately cost them their long-term career.

While in the thick of it, though, leaving a well-paying position while supporting a family seems like an incredibly difficult thing to do.

Accountants must be brave and stand up for what they know is right; it's why the IMA and the AICPA both have solid ethical standards that its members are required to uphold. Hopefully, Leah and Jahn's supervisor is willing to talk to upper management to adjust the sales quotas. Hopefully, also, Leah and Jahn each have a significant amount of savings to fall back on should they decide to leave the company if it looks like there is no ethical or legal route to achieving the quota, and/or if leaving the company is the best option for their long-term happiness. Even if a job change means taking a pay cut, it may be worth it for each of them and for their families' well-being, as well.

LO: 3, Bloom: S, Difficulty: Moderate, Time: 15-20, AACSB: Knowledge, Communication, Ethics, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Ethical Conduct, Decision Making, Communication, IMA: Strategy, Planning, & Performance: Decision Analysis, Professional Ethics & Values: Professional Ethical Behavior

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Lesson Plan: Chapter 1 Cost Accounting Has Purpose

End of chapter questions/exercises/problems to consider that cover all learning objectives:
Questions: 1,4,5,9,10,13
Brief Exercises: 4,5,7,9
Exercises: 2,4,7,11
Problems: 1,2,3,4,9

1. Hook Students	**Start with an engaging class opening activity.**
2. Make it Matter	**Beginning the lecture by providing context for the topic is important.**
3. Let's Walk Through It	**Get into the details with a lecture/discussion, including examples.**
4. Now You Do It	**Have students do deep thinking and/or calculations, individually or in small groups to encourage discussion and collaboration.**
5. Additional Activity	**If time allows.**

1. **Hook Students: Start with an engaging class opening activity. Here are some ideas:**

   a. Brainstorm 5 companies that students patronize, and have students go online to find companies' mission and vision statements. Summarize them visually to show the contrast in wording between mission and vision. (Sometimes companies get it wrong, and don't see that vision is future-oriented, so be keen to detect that!)
   Taking it Online: Have students share via a discussion board, or during class using Zoom breakout rooms.

   b. Mission and Vision: Show the first 50 seconds of the following video: https://www.youtube.com/watch?v=8wem6FZAucw. This establishes the difference between mission and vision as discussed in the chapter. If you wish to show more of the 5-minute video that's fine. It goes into goals and objectives and values.

   c. Value Chain/ Supply Chain: Show illustration 1.13 from the text. Then, show the video: https://www.youtube.com/watch?v=MC_hByD8nBY. This is a short video with good coverage, good video clips and images. Continue with a class discussion linking images from the video to the value chain illustration (1.13 in the text), and tie to decision-making in Cost Accounting.

2. **Make it Matter: Begin the lecture by providing context on Why Cost Accounting Matters.**
   [Slide 2] Illustration 1.7 on the PPT slide is animated to show tie-ins from other courses in an accounting/business program that relate to the chapters in this text. Cost Accounting isn't its own "silo" discipline. It's heavily integrated through all of business. Why? Because it supports management decision-making. Wherever managers make business decisions, they can draw upon the concepts within Cost Accounting to help them.

3. **Let's Walk Through It: Get into the details with a lecture/discussion, including examples.**
   This is an overview chapter, with a sampling of topics that underpin the course.
   - **[Slide 3]** Illustration 1.8 on the PPT provides context for the accounting profession.
   - We chose not to compare financial accountants to cost accountants, since truly, you need the entire complement of accounting skills to pivot from role to role and rise through the ranks to *become* the decision-makers.
   - Discuss the flow depicted in the roundabout. (1) Managers make decisions which cause (2) financial transactions, which are organized and assembled into (3) internal financial reports. They may prompt adjustments or corrections, which is shown with the faint arrows going back to (2). The same underlying

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set of financial data is used to create both (3) internal reports and (4) external financial statements. The external financial statements are shown on an exit ramp since they're for external users. As transactions occur and financial statements are prepared, this prompts additional/continuous management decision-making.

- And where are the accountants? Central to each part of this financial roundabout. They support management decision-making, all beneath the careful, watchful gaze of ethics at top-right.
- **[Slide 4]** It's the same illustration 1.8, only with animations. This slide might help students to start thinking about cost accounting in a different way, rather than as the step-sister to financial accounting. The two are complementary; you need the skills that each offers.
- **[Slide 5]** Show Illustration 1.2 from the text. Teach students to look at the underlying meaning in the terms we use in business. **Mission,** in the religious or military context has a *focused purpose.* On the other hand, **Vision** (like *envision*) denotes seeing something in the future: a future status, or destination.
- Mission is depicted as the truck, since a mission, or purpose *drives us*. Where? Toward the achievement of its vision. How? By following its chosen strategy. That's how. A diagram like this helps students learn and remember for the long-term, rather than just memorizing.
- **[Slide 6]** The value chain is referenced multiple times in this text. It's important to visualize it and understand that not every organization undertakes each step from R&D through customer service. Take a few minutes to talk through the activities within the value chain, and note that the supply chain is captured within the value chain (not the other way around.)

If this is where you'd like to end to give students a chance to personalize the mission concept, then jump over the next few bullets to step 4.

If you're interested in discussing the Finding Purpose in Learning in-chapter tutorial, then you might use the following. (This worked well in my own class, and it caused students to realize they'd been memorizing for years, and not learning deeply.)

- **[Slide 7]** To personalize the concepts of mission and vision, have students contemplate the questions on this slide. This can be a meaningful in-class activity – this is repeated in **Step 4, Now You Do It!** below.
- **[Slide 8]** Have students read this quotation, and write for 2 minutes on how they could implement the suggestions.
- Point out that years of standardized testing have incentivized and rewarded them for memorizing, cramming, and forgetting what they've been taught. Sometimes profs are too busy to recognize their students aren't really learning and retaining, so students get As and Bs and move to another class with little ability to link concepts, or retain them in the long term. But, as they go into the working world, and especially if they're going to become professional accountants, they'll have to take the CMA or CPA exams. Therefore, they'll want to really learn, starting now, so they don't have to relearn *what you're teaching them this semester*. One student said it well when he vowed to "make learning portable." HA! For a variety of reasons, that's why we included this section in the text.
- **[Slide 9]** Similar to Maslow's Hierarchy of Needs (also included in the text) Bloom's Taxonomy shows the hierarchy of learning, wherein the foundational levels are necessary to achieve higher-order learning. To be successful in accounting and business, memorizing won't work. And look how low memorizing is – in the first level "Remember."
- Discuss the other levels and the verbs associated with them so that students can differentiate between them and start to grasp what they *should* be able to do if they're going to be working professionals.
- **[Slide 10]** This book has a variety of teaching and learning methods incorporated throughout. (As authors, we want students to walk away with new ideas, and to present them in a way that makes sense and is relatable, so the concepts will stick for the long term. We also like to make connections to other classes so they can see how useful and integrated cost accounting is within business.)
- Discuss the various teaching/learning methods we have incorporated throughout the book, and emphasize that it's to help them learn now to be effective professionals later.

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4. **Now You Do It! Students apply knowledge and work through different practice problems/ exercises in small groups**.
   - **[Slide 7]** Allow students 5 to 8 to minutes to view **slide 7** and write down their individual thoughts on their personal mission for one of the choices given.
   - Afterwards, have students turn and talk to their neighbor to exchange ideas. Ask them to offer constructive feedback to each other.
   - Share ideas in the large group.
     Taking it Online: Use breakout rooms for small groups for the same sequence of events.

5. **Additional Activity: [Slide 11]** Given the introductory nature of this class, this next exercise allows students to look at the chapters on your syllabus to brainstorm topics you'll be covering.
   - If you assign groups, you can have them meet their group members for this exercise.
   - If you don't assign groups, you can quickly assign them to groups of 4 to 6 for this exercise. It'll take about 10 minutes total, and it's a great meet and greet session, creative brainstorming session, and everyone will get a laugh.
   - You can create an Instagram account for the course, and have everyone post to it. You can always delete posts each semester to start fresh. Share the memes and have people comment on others' ideas. It's a great ice breaker activity.

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Data Analysis Technology Bootcamp: Instructor Guide

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I. How to Use this Guide

This document has been created to provide information and guidance pertaining to the Data Analysis Technology Bootcamps. We provide instructions on how to view and assign the bootcamps in a few different ways, ideas to consider for how to use the bootcamps, as well as a detailed list of the topics covered for each technology tool and the estimated time it would take a student to complete each module. Additionally, we know that technology is ever-evolving and that there are limitations when it comes to usage on specific device types. Therefore, we have provided a section dedicated to information on how you and your students go about gaining access to these tools. Please note that as a publisher, Wiley cannot provide any technology licenses.

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II. How to Access these Technologies

We recommend that you consider asking your college's IT staff for guidance and to know what functionalities are included in their virtual servers as well as when virtual server updates will happen.

A. Excel

Most students have all the functionalities needed through Office 365. To use the Power Query Excel tool, MAC users will need to use the Boot Camp Assistant to install the Microsoft Windows operating system. While operating in the Microsoft Windows operating system, they will have all the Power Query functionality. If they do not have Boot Camp, they will need access to a virtual server or a PC computer in the university computer labs.

Check your virtual server to make sure that it has Excel Pro 2019 or the current Office 365 version. These versions provide the needed Power Query functionality for viewing column statistics.

B. Power BI Desktop

It can be downloaded for free by both instructors and students, no license is required. Power BI Desktop runs in a Microsoft Windows operating system. MAC users will need to use the Boot Camp Assistant to install the Microsoft Windows operating system and then Power BI Desktop. An alternative is to have access to a virtual server or a PC computer in the university computer labs.

C. Tableau

Instructors can apply for a semester license and then pass the codes to their students, or students individually can apply for a license on their own for a year license. Instructors need to clarify which approach will be used in their syllabus. Getting the approval may take a few days, so start early, and work with your IT staff if it will be on a virtual server.

- Tableau: https://www.tableau.com/academic/teaching

D. Tableau Public

It is a possible solution but has the following significant restrictions: students' work is publicly shared, and they will not be able to download their solutions (they could take a screenshot which they could submit as evidence of their work). Tableau Online (now called Tableau Cloud) does not have the same functionality as a downloaded Tableau student license or a university server license.

E. Alteryx

Can be downloaded for free by both instructors and students. Like Power BI, Alteryx runs on a Windows Operating system. MAC users will need to have an alternative solution if they do not have Bootcamp to be able to run Alteryx, such as a college server, or a PC computer in a computer lab. Alteryx works great on a virtual server, and they are willing to work with your

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IT department to help with the installation. Alteryx is planning to trial a cloud version of their academic access to Alteryx within the next year.

- Alteryx: https://www.alteryx.com/sparked/educators

F. SQL Lite

Students can access the website here: https://sqliteonline.com/

G. MS Access

It can be downloaded for free by both instructors and students, no license is required. MS Access runs in a Microsoft Windows operating system.

G. Mac Users

The Power Query functionalities in Excel and using Power BI Desktop may be a challenge if you do not have a dual operating system (both Mac OS and Microsoft Windows). If your college has this software loaded on a virtual server or on PCs in the university labs, you will be able to access both the Power Query tools in Excel and Power BI Desktop. Another option for Mac users is to join Microsoft's Insider or Beta channel for access to the same Power Query functionality as Windows users.

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III. General Bootcamp Format

Each of the data analysis technology bootcamps follow the same general structure:

- Overview Video
- 10+ Topics ○ 1 How-To Video per Topic ○ 5-10 Multiple Choice questions per topic ○ 1 Application Exercise per topic
    - ○ 1-2 Follow up Questions to the Application Exercise ○ 1 Solution Walkthrough video per topic:
        - The solution walkthrough videos will only automatically appear to students as question feedback to the 1-2 follow up questions of the Application Exercise. If these questions are removed, the solution walkthrough videos will not be available to students without manual grading.

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IV. Where to Find and How to Assign

Wiley's Data Analysis Technology Bootcamps live within WileyPLUS. They can be found in the following US courses (represented below are the latest editions):

- Dzuranin, Data and Analytics in Accounting 1e
- Savage, Accounting Information Systems 1e
- Farmer, Cost Accounting 1e
- Johnson, Auditing 2e
- Kieso, Intermediate Accounting 19e
- Weygandt, Managerial 10e
- Weygandt, Financial 12e
- Weygandt, Financial and Managerial Accounting 5e
- Weygandt, Accounting Principles 15e
- Kimmel, Financial Accounting 10e
- Kimmel, Accounting 8e
- Kimmel, Survey of Accounting 3e
- Kimmel, Financial Accounting for Managers 1e
- Rainer, Introduction to Information Systems 10e

They can be found in the following Canadian courses:

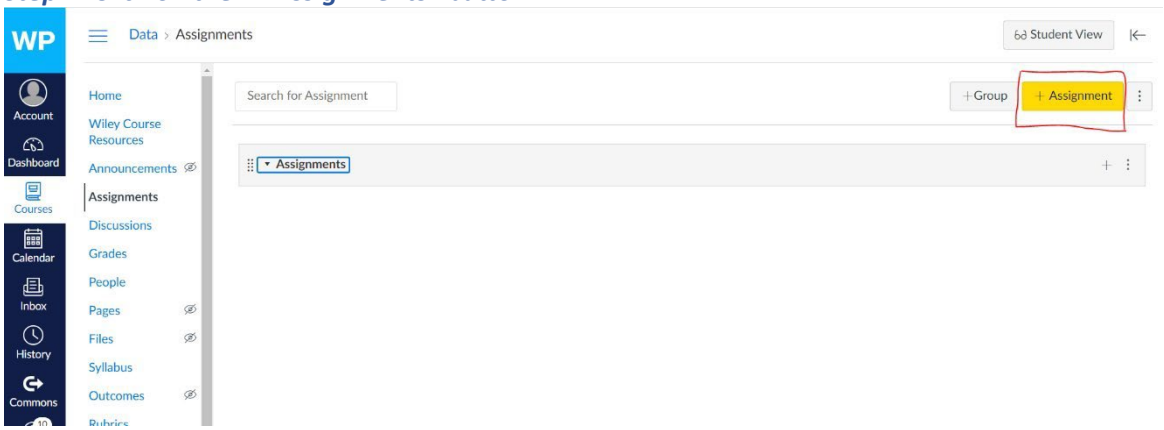
- Moroney, Auditing 4CE
- Kieso, Intermediate Accounting 14CE
- Burnley, Financial Accounting 3CE
- Weygandt, Managerial Accounting 6CE
- Kimmel, Financial Accounting 9CE
- Weygandt, Principles 9CE
- Rainer, Introduction to Information Systems 5CE
- Weygandt Managerial 6CE with Burnley, Understanding Financial Accounting 3CE

There are three ways you can access and assign the data analysis technology bootcamps. The following sections outline each of the three ways in detail.

A. Preset from Wiley Library

Within the Wiley Library of assignments, you can easily assign the full bootcamp. To access the Wiley Library, follow the steps below.

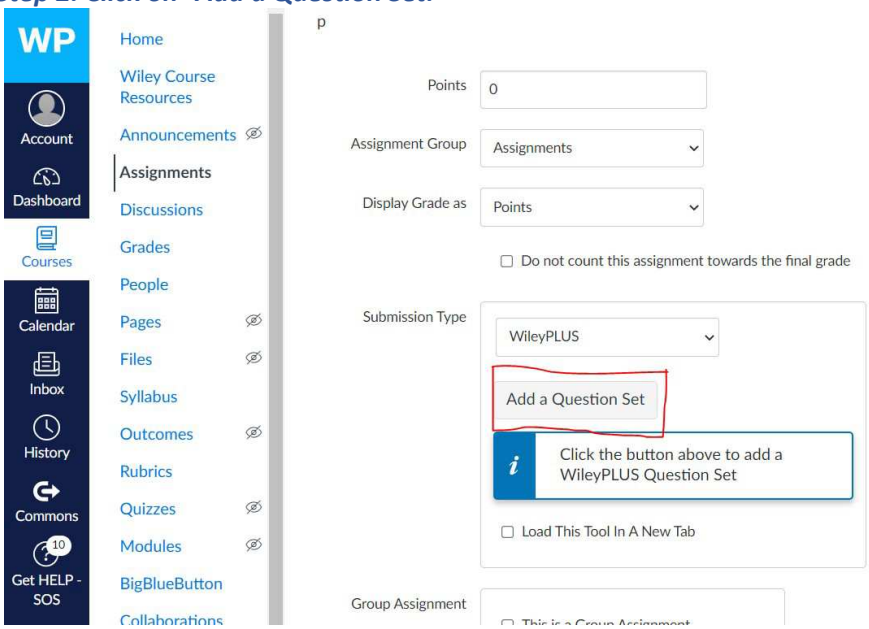
Step 1: Click on the "+ Assignments" button.



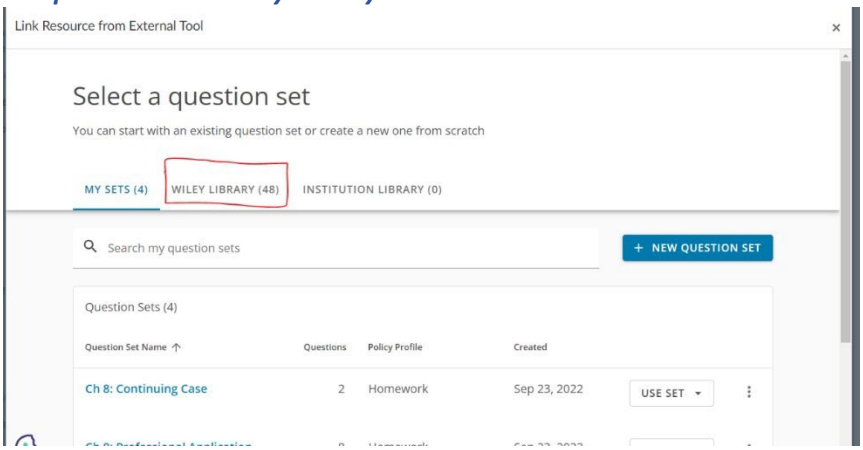
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Step 2: Click on "Add a Question Set. "



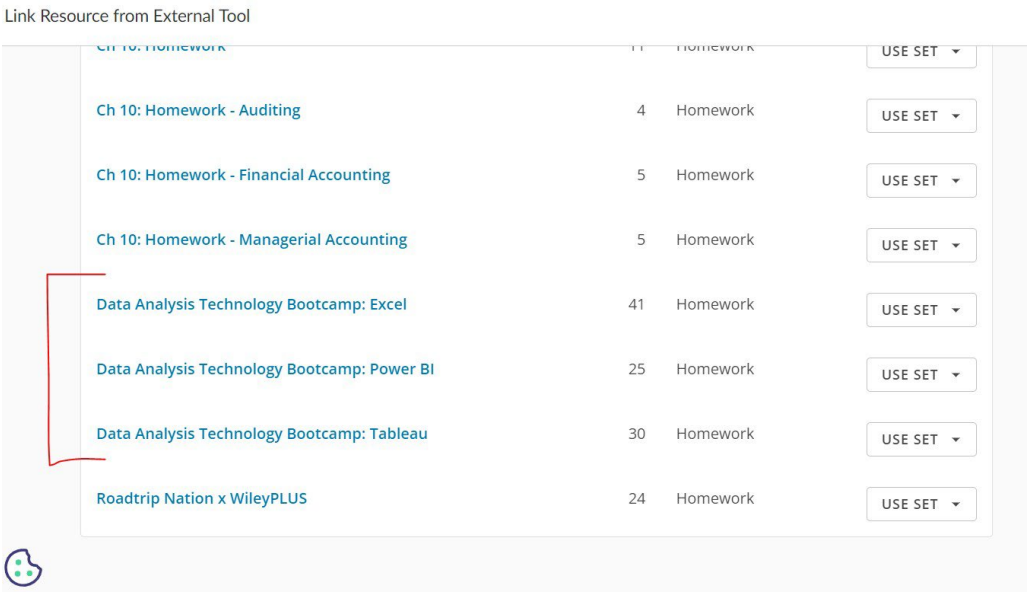
Step 3: Click on "Wiley Library"



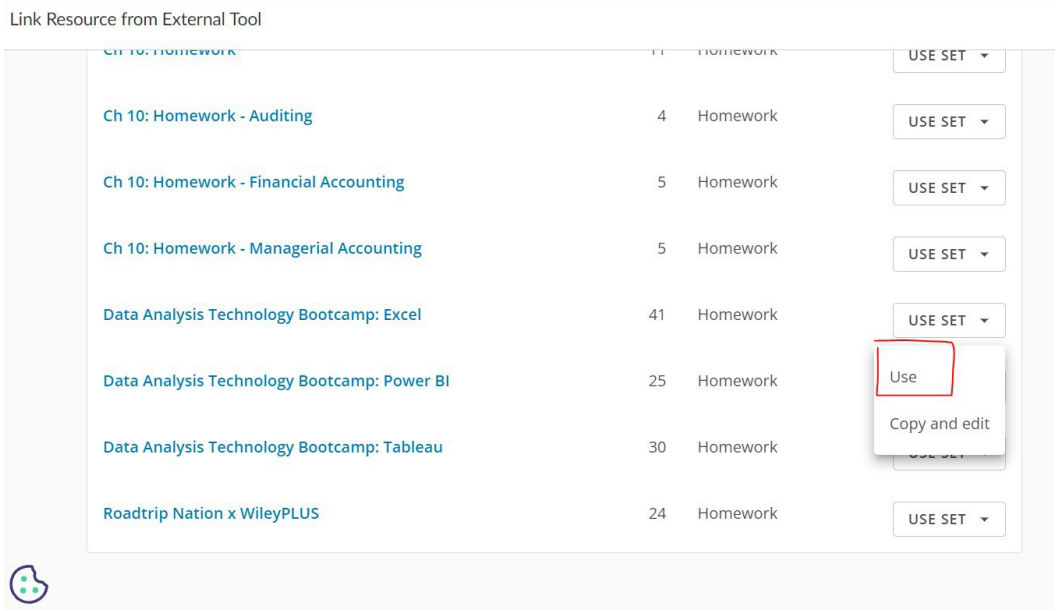
Step 4: Locate the Data Analysis Technology Bootcamps by scrolling all the way to the end of the list.

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Step 5: Click on "Use Set" and select "Use." This allows you to assign the full bootcamp and make your typical assignment adjustments like due dates, making it available and visible to your students, etc.



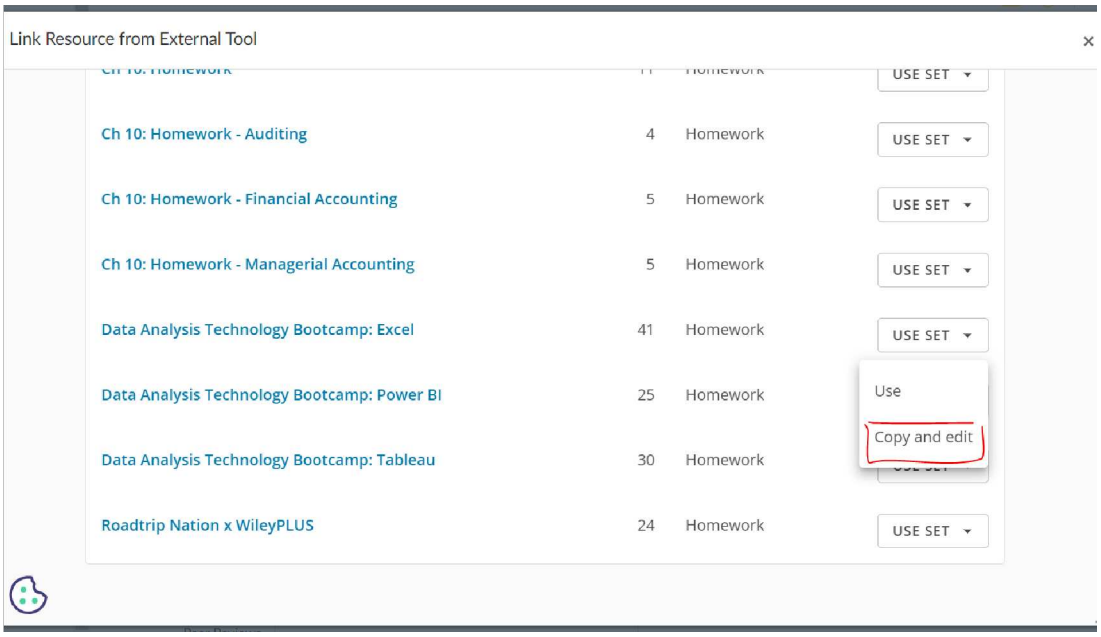
B. Editing

You may also want to use the Data Analysis Technology Bootcamps, but edit portions or parts to more align with your course objectives. Just like any other pre-created assignment in the Wiley Library, you are able to copy and edit the bootcamps as well following the steps below.

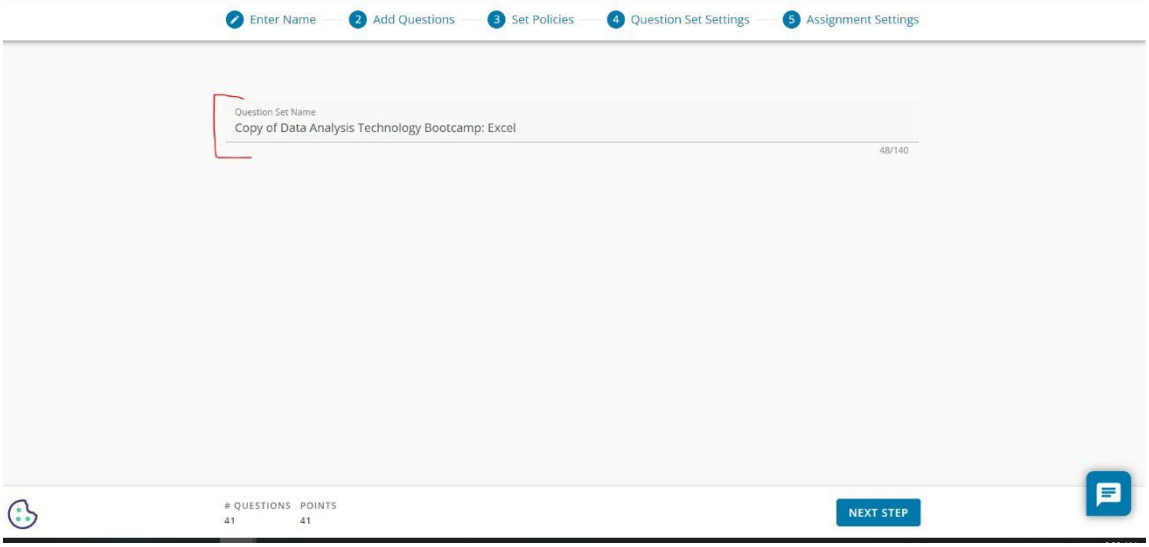
Step 1: When in the Wiley Library, after locating the Data Analysis Technology Bootcamp you want to assign, click on "Use Set" and "Copy and edit."

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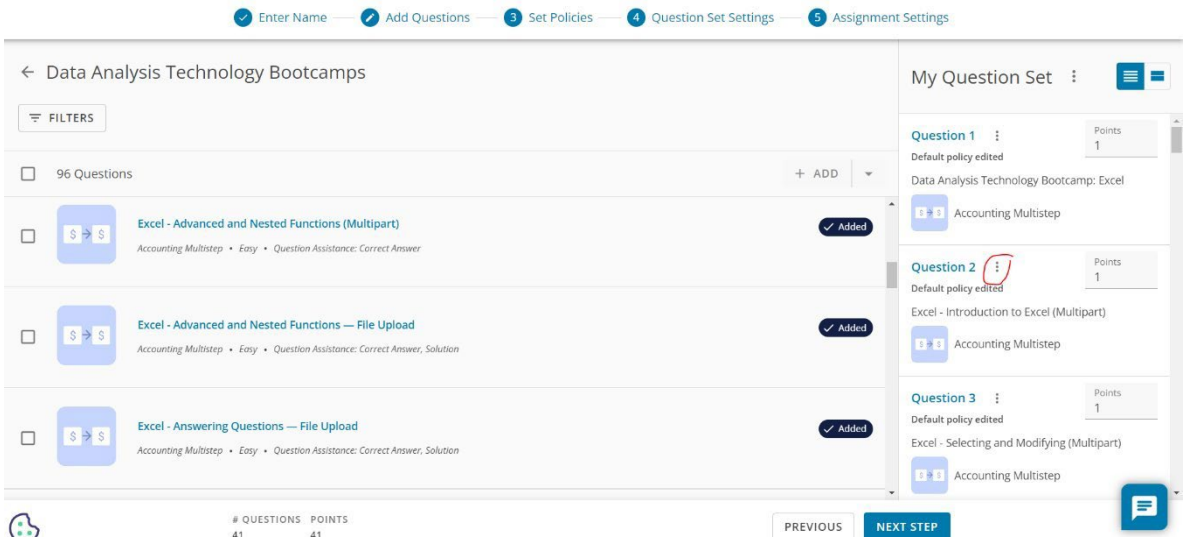
Step 2: You will be prompted to edit the name of the assignment if you choose and then click on "Next Step."



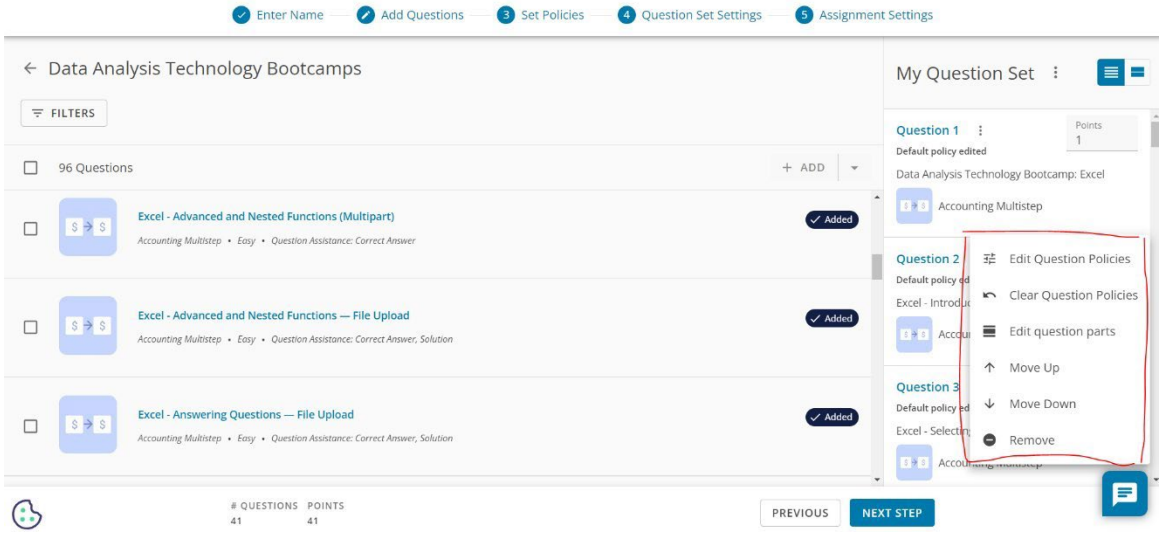
Step 3: Click on the three dots to access the question settings.

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Step 4: Upon clicking on the three dots, you will see a menu of options to further edit the question. You can edit question policies, clear policies, edit specific question parts (like removing specific multiple-choice questions within that set), move the questions, or completely remove the question altogether.



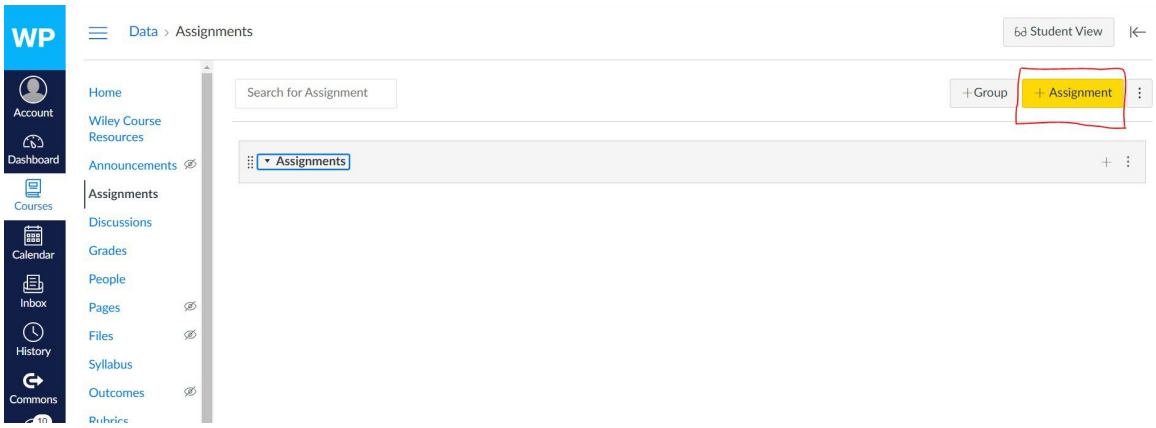
C. A la Carte (customizability of Interactive tutorial)

There may be instances where you want to assign a specific module (topic) within the bootcamp as opposed to assigning the full bootcamp. To do this, you would set up the bootcamp like any other assignment. Use the following steps as a guide.

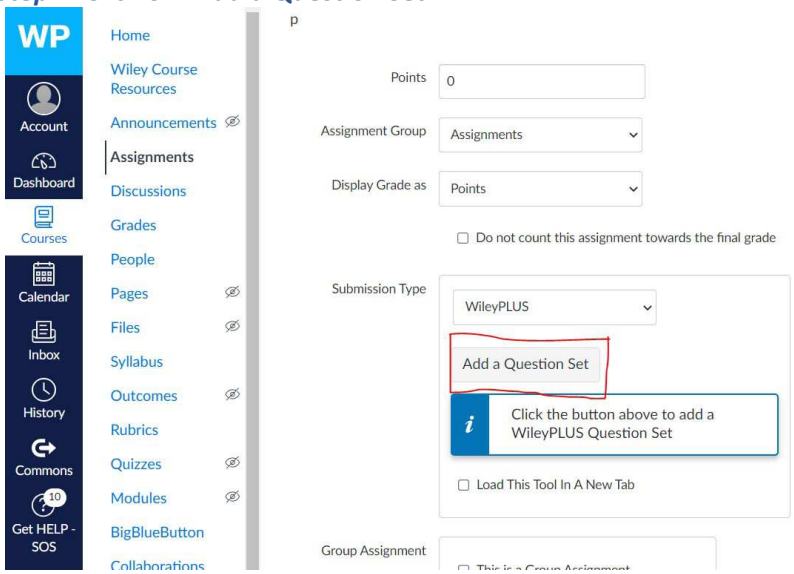
Step 1: Click on the "+ Assignments" button.

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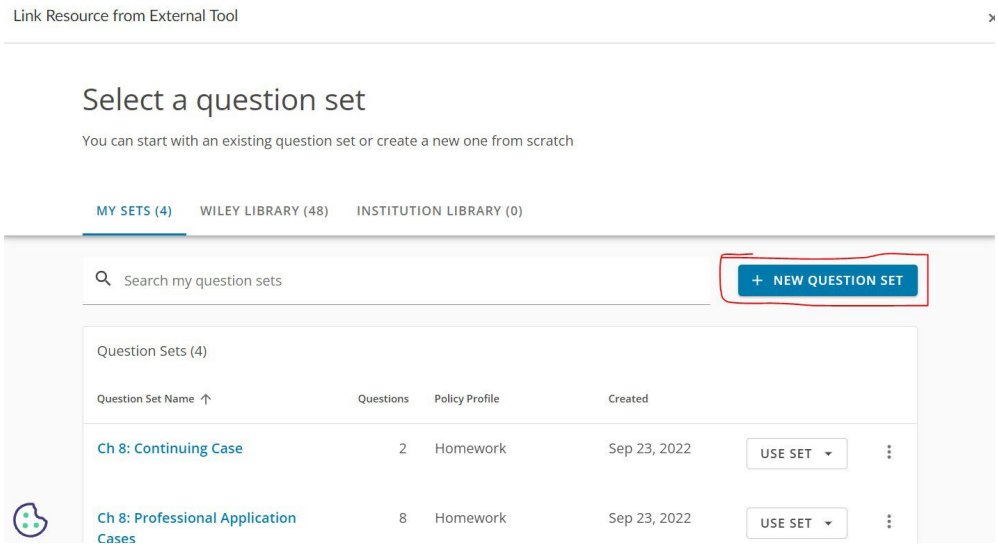
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Step 2: Click on "Add a Question Set. "



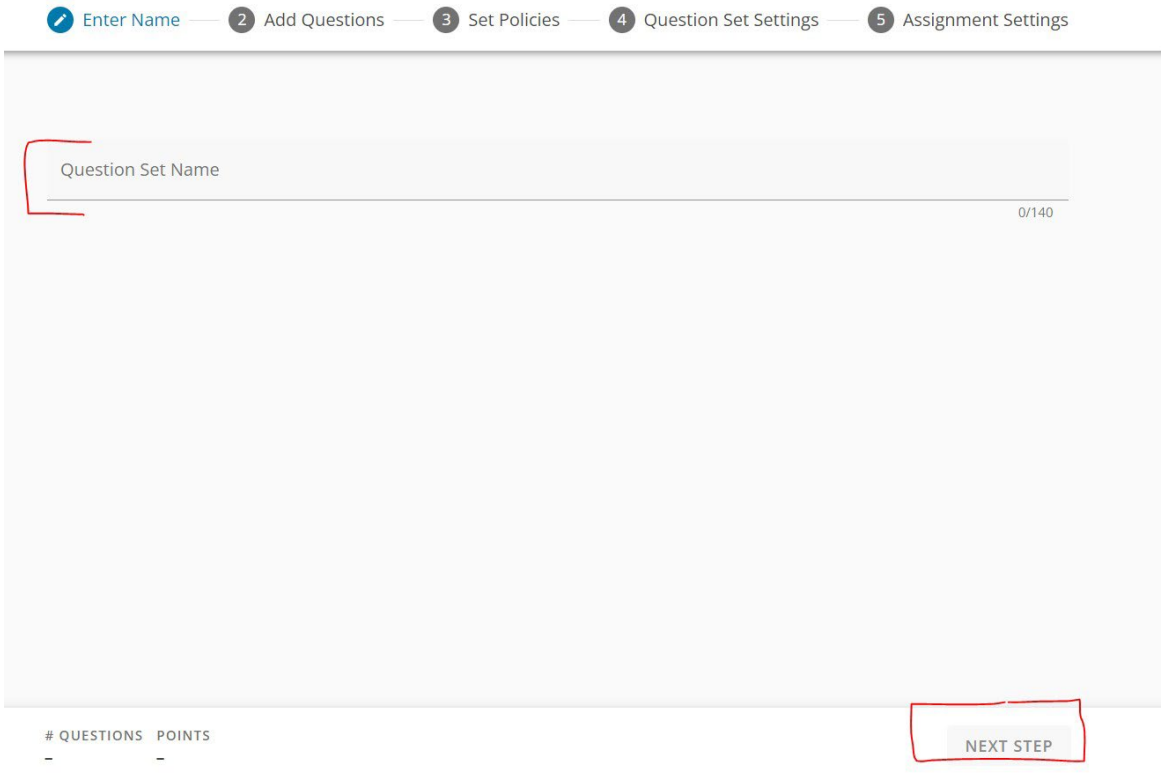
Step 3: Click on "+ New Question Set."



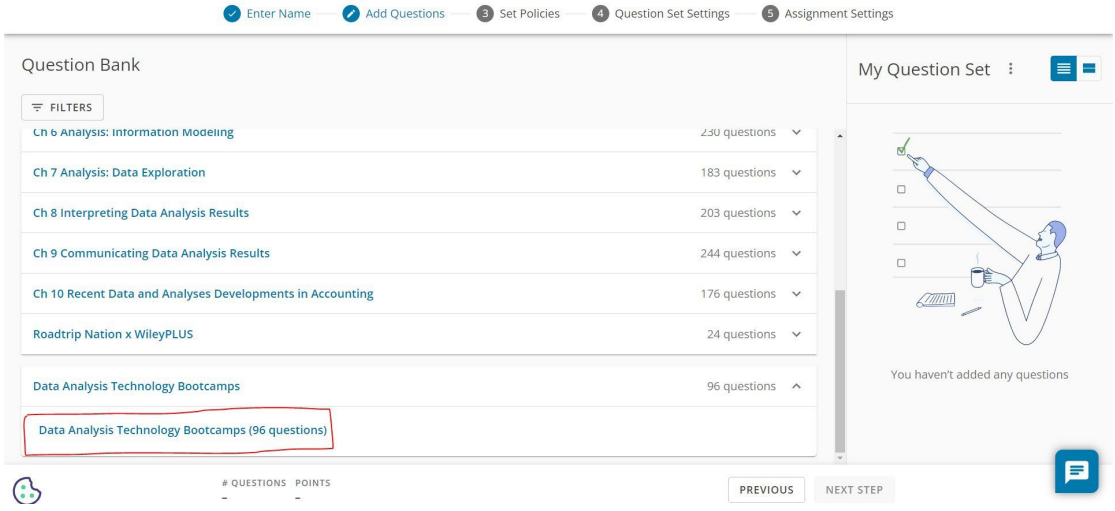
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Step 4: You will be prompted to provide an assignment name. Upon doing so, click on "Next Step."



Step 5: Scroll all the way to the bottom and locate the "Data Analysis Technology Bootcamps" section and click on the link.



Step 6: In order to see the questions associated to one specific technology, click on the "Filters" button.

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