



USING

Management Accounting Information ^{2e}

A DECISION CASE APPROACH

Adams * Pryor * Keller * Harston

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PREFACE

Many authoritative groups have called for different and expanded learning objectives in the first accounting courses. This preface presents the overall objectives for this book, which include decision making, accounting literacy, and business knowledge objectives, as well as problem-solving, interpersonal, and computer skill objectives. The objectives are followed by an explanation of why and how we designed the introductory texts. The preface concludes with a review of how to participate effectively in groups and the steps involved in decision making.

GLOBAL LEARNING OBJECTIVES

Individuals in today's society inevitably become members of many different organizations, including businesses, governmental units, social clubs, charities, etc. All such organizations share a common problem: *limited resources are available for pursuing organizational goals*. Consequently, individuals are continually confronted with the need to make important economic decisions. Accounting information generally will be a vital input to those decisions. Hence, individuals need to know how to use accounting information effectively in making economic decisions. In short, individuals in today's society need to become "accounting literate."

This text will provide students with exposure to a broad range of economic decision problems that arise in a variety of organizational contexts and with various types of accounting and other information that is relevant in addressing those problems. Specific objectives to be met regarding decision making, accounting, and business are as follows:

Economic Decision Making—Introduce students to a broad range of decision-making problems that arise in various organizational settings and to approaches for dealing with such problems, including their ethical considerations.

Accounting Literacy—Introduce students to the role of accounting in a global market economy and to fundamental accounting concepts that underlie the development and communication of information that supports economic decision making.

Business/Organization Literacy—Assist students in gaining a basic understanding of the business/organizational contexts in which economic decision making takes place.

To become effective economic decision makers in today's society, individuals not only need to meet the three "knowledge acquisition" objectives presented above, but also must develop skills in the following three key areas related to decision making:

Problem Solving—Assist students in enhancing their analytical/problem-solving skills by engaging them in a variety of real world, relatively unstructured cases that require problem definition and clarification, data collection, interpretation, analysis, and defense of proposed solutions.

Interpersonal—Assist students in improving their abilities to communicate and to work together with others by engaging them in frequent writing exercises, oral presentations, and group activities.

Computer—Assist students in becoming more adept in the use of computers by engaging them in frequent computer applications in business, accounting, and economic decision-making activities.

The relevance of these skills to decision making is clear and immediate. First, the possession of creative problem-solving skills is obviously desirable. In business, economic decision problems neither present themselves in nicely structured, clearly defined terms; nor do they typically lead to well-defined solutions with a single, correct answer. Instead, real problems are ill-structured and "messy," and solutions often involve several defensible positions. Students need to recognize these complexities and gain practice in dealing with them.

Second, most (if not all) significant economic decision-making activities involve interpersonal relationships. In real settings, problems are mostly addressed by teams rather than individuals. Problem analyses generally have to be communicated to others, both orally and in writing. Proposed courses of action may need to be vigorously defended in open debate or in position papers. Thus, it is clear that such interpersonal skills play a critical role in economic decision making. *Using Management Accounting Information* includes several extensions of case assignments which require a group solution.

Finally, it should also be clear that computers, particularly personal computers, play an increasing role in economic decision-making activities. *Using Management Accounting Information* is designed to enhance skills in using a computer for analysis and decision making.

Course Modules

Using Management Accounting Information is divided into the following five modules:

1. Transition from *Using Financial Accounting Information*
2. Traditional Product Costing and Pricing
3. Cost Management Systems
4. Planning and Performance Evaluation
5. Analysis of Financial Statements in a Global Economy

Each module focuses on decision scenarios that students must address as the module progresses. These decision problems provide the context and rationale for studying related accounting and business subjects. The authors extend a warm welcome to you with the hope that you have a successful academic experience.

SUPPLEMENTS

Faculty Supplements

Instructor's manual. This manual is a combination of an instructor's resource manual and a solutions manual. It is an excellent resource to help the instructor plan and teach the course. The manual includes a suggested syllabus and course schedule, an overview of each case, teaching notes for each reading and case, and PowerPoint transparency thumbnails. Suggested solutions to all cases and case reading exercises and problems are also a part of this package.

Test bank. This resource book contains a wide variety of questions and question formats. There are multiple choice questions, structured problems, unstructured problems, and written response problems. Many of the test bank questions are formatted similar to the materials in the text. There are quizzes for the end of each reading and sample test questions for each module. An electronic version of the test bank is available.

Web site. The web site for this book is an excellent resource for both faculty and students. The web site contains considerable information that is useful in teaching this course. Faculty will be able to visit the site to secure solutions to exercises and problems (in addition to the solutions in the instructor's manual).

PowerPoint Slides. PowerPoint presentations for each Reading are available for instructors at the web site.

WebCT Course. The authors have independently created a WebCT site as a supplement for their students. The authors will supply any instructors with a CD containing the content of this site. For more information, please contact Steve Adams at sjadams@csuchico.edu.

Student Supplements

Web site. Students find the web site (<http://adams.swcollege.com>) to be a very important resource for this book. The wide variety of items contained in the site include:

1. Helpful hints for completing the case assignments,
2. Solutions for selected problems and cases,
3. Accounting career information,
4. Links to corporation data,
5. Self-testing quizzes over the material in the book,
6. Audio and PowerPoint presentations covering topics in the book, and
7. A video showing student roles in the simulation.

Students should visit this site at least once a week to see what new materials may have been added.

Self-Grading Templates. Excel templates for the quantitative portions of most cases are provided. Numerous check figures in each case are compared to the solution and students receive instant feedback on whether their answer is correct. The instant feedback reinforces learning and encourages students to invest time in mastering the material.

Revisions for the Second Edition

The second edition maintains the same case-based pedagogy that provides a relevant decision context for students. The topical sequencing also remains the same as in the first edition. Major changes in the second edition follow.

- Significant expansion of text material. Discussions of topics including cost-volume-profit, performance evaluation, the balanced scorecard, and capital budgeting have been expanded. New topics, such as enterprise resource planning (ERP) systems, activity-based budgeting, and Six Sigma, have been added.

- The number of end-of-reading exercises and problems has been doubled. Existing exercises and problems have been revised.
- The California Car Company serial case has been completely revised with all new numbers, improved clarity, and more of a focus on solving mistakes made by the company.
- Sophisticated, color-coded, self-grading templates have been prepared for the quantitative portions of most cases. The instant feedback provided by these templates reinforces student learning and has been found to significantly increase student time on task.

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Steve Adams
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Don Keller
Mary Harston

AUTHORS' MESSAGE TO INTRODUCTORY ACCOUNTING STUDENTS

THE FIRST ACCOUNTING COURSE

For many of you (particularly those who have not worked with *Using Financial Accounting Information*), studying how accounting is used to support management decisions will be a new and different college learning experience. As a result, it may take you a couple of weeks to feel comfortable with the learning environment your instructor has developed. The authors believe strongly that you will find the experience more rewarding if you understand why this text is designed to parallel real-life business situations.

Change in Accounting Education

As a student, you are attending college at a time of revolutionary change in higher education. Nowhere is that change more pervasive than in business education in general and accounting education in particular. Most of the elite business schools are radically changing the curriculum and the way business courses are taught. Hundreds of other schools also are involved in reengineering their business programs. *Reengineering* is a common business term that means redesigning a process from scratch. This redesign is normally facilitated through the installation of computer hardware and software.

The Accounting Education Change Commission

The major impetus for accounting education change came from the formation of the Accounting Education Change Commission (AECC). The AECC was funded in the amount of \$4 million by several large certified public accounting (CPA) firms. The AECC's charge is to stimulate radical change in accounting education. The reason the CPA firms were willing to put up so much of their own money was that they were unhappy with the educational background of the students they were hiring. The AECC has issued a statement describing what the first-year accounting course should be like. *Using Management Accounting Information* closely follows the AECC's recommendations.

Employers of Business School Graduates

CPA firms are not the only employers concerned about the educational background of business graduates. Throughout the nation employers are demanding that business schools change the curriculum and the way courses are taught.

Employer demands typically include the following knowledge, skills, and personal attributes:

- Demonstrate a strong work ethic and the ability to take the initiative,
- Become financially literate so they can understand the business implications of what they do and changes they suggest,

- Learn group interaction skills, including the ability to work with employees in other functions and with diverse backgrounds, and
- Develop computer and analytical skills to use newly available information on their jobs.

Alumni Surveys

Alumni surveys of business school graduates who have worked from two to five years in professional jobs also indicate a need to change business education. When asked what should have been covered more extensively in college, alumni frequently cite:

- More writing integrated into the curriculum,
- More practical applications and examples,
- More exposure to information technology found in practice, and
- More unstructured, "real world" problems.

U.S. Department of Education

Because major changes in the introductory accounting courses are felt to be a critical step in improving business education, the U.S. Department of Education (DOE) awarded a \$200,000 grant that helped support development of the text you are now using. The grant was made through DOE's Fund for the Improvement of Post-Secondary Education (FIPSE) program.

Text Design

Real-life cases form the core learning experience in this course. The cases provide the business decision context in which accounting information is used. The cases have been carefully designed to promote active learning, emphasize decision uses of accounting information, stimulate collaborative learning, improve problem solving-skills, and integrate the use of computer software.

Active Learning

The philosophy behind active learning stems from the old, but true, adage:

Tell me and I will forget,
Show me and I will remember,
Involve me and I will understand.

Research shows (and common sense validates) that students retain information much better if they learn it for themselves, rather than passively receiving the information from the instructor. Although active learning places more of the responsibility on the students, we are convinced that you will retain the information much better. Better retention will help you in your future courses and in the business world. Please remember that the substantial work required to create an active learning environment was not done to create anxiety or frustration, but to improve your education. In addition, recall that the first employer demand of college graduates focuses on employee initiative and independence. Development of these critical "learning how to learn" skills is another key benefit of active learning.

Decision Uses of Accounting Information

The readings and cases in this text are built around important "real world" business decisions. Accounting concepts are presented as you need them to address a specific decision. By learning accounting in a relevant decision context normally found in businesses, accounting will make more sense and should be more interesting and meaningful.

The authors have experimented with many different approaches to introductory accounting. The design of the readings, cases, web page, and other supplementary materials is based upon successful results from several years of in-class testing. We found that typical college students gain a better mastery of introductory accounting concepts if they understand the relevant business context.

To illustrate the importance of context, consider the 2-point conversion strategy in football. Most coaches would agree that the 1-point conversion (kicking the ball through the goal posts) has a higher probability of success than the 2-point conversion (running or passing the ball into the end zone). Yet there are times when the coach will call for the 2-point conversion. To the observer who does not know the game of football, the 2-point strategy may not make sense due to a lack of context.

Suppose you were to describe to your friend, a football neophyte, a situation where Team A has just scored a touchdown and is one point ahead of Team B. There are two minutes left to play in the game and Team B has an excellent field goal kicker. Team A's coach must decide whether to go for the 1-point or 2-point conversion. You explain to your friend that if Team A makes the 1-point conversion followed by Team B making a field goal (three points) in the closing seconds of the game, Team A will lose by one point. Instead, if Team A makes the 2-point conversion followed by Team B's field goal, the score would be tied, giving Team A a chance to win in overtime. By providing the context, your friend is in a position to understand the rationale of the coach's decision to take the riskier 2-point strategy. Your friend would have a better understanding of the game of football than if you had just taught the rules.

Collaborative Learning

Research shows that students who participate extensively in study groups enjoy their college experience more and earn better grades. In addition, employers and alumni both believe that students should develop effective group interaction skills during college. *Using Management Accounting Information* is, therefore, structured to include group activities. Remember that groups are most effective when every member comes to every meeting prepared. Group members who don't pull their weight soon create undesirable tension within the group.

Problem-Solving Skills

Solving unstructured, "real world" problems is one of the most sought-after skills in business. It is also a skill that both employers and recent alumni believe is insufficiently developed in college. As a result, many of the cases in this course are somewhat unstructured and have no single "correct" answer. The football illustration is an example of an unstructured problem. With different assumptions, the 1-point strategy could be deemed the "correct" or "incorrect" decision.

Use of Computer Software

The cases in *Using Management Accounting Information* require you to use word processing and spreadsheet software. If you are not yet minimally proficient with these two types of software, you may have to spend some additional time this semester learning them. Remember, however, that you will need these skills in future courses and on the job once you graduate.

How to Succeed in This Course

Understanding the uses of accounting for decision making will require that you:

- Carefully read case readings,
- Complete all course assignments on time,
- Work diligently with members of your group,
- Take extensive notes of in-class discussion of lectures and case discussions,
- Ask questions when you do not understand a concept, and
- Make frequent visits to this book's web site.

How Will You Benefit From the Changes?

If we have been successful in developing this text and you are diligent in completing the assignments, you should:

- Retain the material better,
- Have a more realistic and positive view of what accountants do,
- Develop important job-market skills, and
- Find the course more interesting and relevant.

ECONOMIC DECISION MAKING

An economic decision-making process may be divided into the seven steps shown in Exhibit I-1 and described briefly below.

Exhibit I-1	
Economic Decision Making	
1.	Define the problem.
2.	Specify the goal(s).
3.	Identify feasible alternatives (mutually exclusive and exhaustive set).
4.	Predict possible outcomes (mutually exclusive and exhaustive set for each alternative).
5.	Collect additional relevant quantitative data.
6.	Identify relevant qualitative considerations.
7.	Make the decision.

Define the Problem

The economic decision-making process begins with a careful statement of the problem being addressed. What is the problem? That is, sales have declined, but why? Because prices are too high? Because quality has deteriorated? Due to ineffective advertising? Asking the right questions at this step clarifies the problem and removes some of the surrounding ambiguities.

Specify the Goal(s)

Goals (objectives) are statements of what an organization wants to achieve. Is the goal to maximize profit, minimize cost, or attain a particular quality level? If two or more goals are specified, the decision maker must determine which goals act as constraints—for example, maximize profit subject to a specified impact on the environment.

Identify Feasible Alternatives

A decision involves the choice among two or more mutually exclusive, feasible alternative courses of action. An alternative that might be infeasible would be a level of advertising that exceeds the company's current level of available resources.

Predict Possible Outcomes

For each particular alternative course of action, the decision maker must identify or predict a set of mutually exclusive and exhaustive outcomes that may occur and the nature of the costs and benefits associated with those outcomes. Because the future is uncertain, a particular alternative course of action may lead to two or more different outcomes. For example, the alternative of increasing advertising for a particular product may lead to competitors' retaliation, which in turn may lead to a reduction in sales volume.

Collect Additional Relevant Quantitative Data

Quantitative estimates (predictions) are needed for costs and benefits. In general, more effort should be devoted to obtaining accurate estimates of those costs or benefits that are most critical to the decision.

Identify Relevant Qualitative Considerations

Important economic decisions rarely depend solely on quantitative analysis. Significant qualitative considerations, which are factors that cannot be measured effectively in numerical terms, generally are important. For example, the effect of a decision on the morale of company employees is a qualitative consideration.

Make the Decision

The alternative is selected that appears to "best" satisfy the decision maker's specified goal(s), taking into account both quantitative and qualitative considerations. In this course we spend much of our time on steps five, six, and seven in the decision process. You should keep in mind, however, that decision makers must progress through the first four steps if

they are to make sound decisions. Note that the ability to address the first four steps well often requires experience in the industry for which the business decision is being made.

Auto Loan Example

These concepts may be illustrated by considering a decision problem involving a personal car loan. Exhibit I-2 presents an analysis of this problem from the perspectives of two different decision makers—the auto loan officer in a bank and the individual car buyer.

Exhibit I-2		
Steps in Decision Making		
Decision Elements/Steps	Loan Officer	Borrower
The Problem	<ul style="list-style-type: none"> • Must decide whether to approve the auto loan 	<ul style="list-style-type: none"> • Needs a car and related bank financing
The Goals	<ul style="list-style-type: none"> • Profit • Growth • Responsiveness to community funding needs 	<ul style="list-style-type: none"> • Minimize cost of the auto purchase
The Alternatives	<ul style="list-style-type: none"> • Do not lend • Lend money, but determine: <ul style="list-style-type: none"> --Interest rate --Repayment period --Default provisions 	<ul style="list-style-type: none"> • Bank A vs. Bank B • Don't purchase car
Possible Outcomes	<ul style="list-style-type: none"> • If money is not lent: <ul style="list-style-type: none"> --no profit, etc. • If money is lent: <ul style="list-style-type: none"> --Timely repayment --Default/repossession 	<ul style="list-style-type: none"> • Repay loan • Default: <ul style="list-style-type: none"> --Future credit --Lose car
Relevant Data	<ul style="list-style-type: none"> • Borrower's financial condition • Competitors' offerings • Bank funds available for lending 	<ul style="list-style-type: none"> • Financial condition • Bank A vs. Bank B deal
Qualitative Considerations	<ul style="list-style-type: none"> • Is the borrower a special case (e.g., granddaughter of the bank president)? 	<ul style="list-style-type: none"> • How "good" a car is needed?
Decision	<ul style="list-style-type: none"> • Lend? 	<ul style="list-style-type: none"> • Borrow?

GROUP ACTIVITIES

The ability to work effectively in groups has become one of the key skills employers are looking for when they recruit college graduates. In order to understand why, you should refer back to the "The First Accounting Courses" section of this introduction where recommendations of the AECC, business school alumni, and employers about the value of groups are discussed.

The "delaying" or flattening of the management structure that has swept the private sector in the United States has pushed much of the decision making traditionally done by individual managers down to groups of employees actually doing the work. A survey reported in *The Wall Street Journal* found that two-thirds of 1,811 employers nationwide are using formal teams to conduct work.¹ Also, the increased complexity of the business world has resulted in a situation where no single employee has the breadth of knowledge necessary to make many

¹ *The Wall Street Journal*, November 28, 1995, p. 1.

decisions. Therefore, a team with a diverse set of skills relevant to the problem at hand usually will arrive at better decisions than do individual managers.

You may have noticed the use of the terms "groups" and "teams" in the above discussion, and wondered how they differ. A commonly used distinction is that a group is a number of people assigned to a particular task. A team is a group that has learned to work together effectively on various projects. It is not easy for a group to become an effective team, and many groups never develop into a team.

Your instructor may ask you to complete the Student Information Sheet located at the end of this section. The information collected on this form will help your instructor create diverse groups. The diversity of background should allow you to learn from your group members, as well as from your instructor and the assigned materials. The amount you learn from your group depends on how well your group functions, and whether it becomes a true team.

An important outcome of this course is for you to learn how to build an effective team. The key to creating an effective team is to follow the guidelines for group participation presented in Exhibit I-3. As soon as possible after your group has been created, it should meet and discuss each of the points in Exhibit I-3 in detail. If your group is having difficulty working together, the group should ask your instructor for assistance immediately. Conflicts can escalate quickly and destroy your group.

SUMMARY

Major changes are occurring in the way introductory accounting is taught. The changes include the accounting topics covered, as well as the economic decision making and business knowledge a student is expected to acquire. The changes involve the better development of problem-solving, interpersonal, and computer skills. The basic problem-solving and group skills reviewed in this introduction will be used throughout the course.

Exhibit I-3
Group Assignments
Guidelines for Participation

1. Everyone must contribute to the group's consensus solutions of assigned problems. No sandbaggers (free riders) or dominators allowed.
 - To participate effectively in a group, each group member is individually responsible for doing the assigned advance preparation.
 - Each group member is responsible for making sure that everyone contributes.
 - Peer evaluation sheets will be completed by each group member to monitor individual contributions.
2. Each group member is responsible for all other team members' learning. Help each other to understand your group's solution.
 - Each group member is responsible for making sure that everyone understands the group's consensus solution.
 - The instructor will frequently call on group members at random to explain the group's solution.
 - The objective of each group assignment is not to finish first, but to have all group members master the materials.
3. You can criticize ideas, but not the person presenting the ideas. Keep disagreements at a professional level. Work hard to resolve conflicts in a "team spirit."
4. Each member brings unique knowledge and skills to group tasks, e.g., computer skills. Look for ways to create sharing opportunities through monitoring relationships, both before and during in-class group activities.
 - The group's computer consultant is "officially" responsible for assisting other group members on computer assignments.
5. You can't participate unless you attend class.
 - Bonus points will be given for good attendance in group activities, both in class and outside of class.
 - The group's "recorder" is responsible for recording attendance on each group assignment form before it is turned in to the instructor.

Using Management Accounting Information Student Information Sheet				Class Section
All requested information other than name and e-mail address is optional				
Name				Phone
E-mail address:				
Year (Freshman, Sophomore, Junior, Senior, Graduate)			Gender M <input type="checkbox"/> F <input type="checkbox"/>	
Other colleges attended:		From	To	
Proposed major or concentration (e.g., English, math, marketing, etc.):			Cumulative GPA:	
Is English your first language? Yes <input type="checkbox"/> No <input type="checkbox"/>				
Level of spreadsheet (Excel, etc.) proficiency? High <input type="checkbox"/> Moderate <input type="checkbox"/> Low <input type="checkbox"/>				
Prior Bookkeeping, Accounting, and Math Courses Taken				
Course title	Date Taken	Where Taken	Instructor	Grade

Is your commute to campus more than 10 miles? Yes No If yes, please indicate city or town from which you commute:

Briefly describe any prior business-related work experience that you have acquired (clerical, sales, warehousing, bookkeeping, etc.):

Briefly indicate any career plans that you intend to pursue or are thinking about pursuing:

Do you have a seating preference in this classroom? If so, where?
