

Mark G. Simkin

Jacob M. Rose

Carolyn S. Norman

Core Concepts of  
**ACCOUNTING  
INFORMATION SYSTEMS**

Thirteenth Edition

WILEY



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CORE CONCEPTS OF  
**Accounting  
Information  
Systems**

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Thirteenth Edition

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***In memory of my father, Edward R. Simkin (Mark G. Simkin)***  
***Chase your big dreams! (Jacob M. Rose)***  
***Thank you to my students –you're the best! (Carolyn S. Norman)***



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# ABOUT THE AUTHORS

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# PREFACE

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Information technologies affect every aspect of accounting, and as technologies advance, so does our accounting profession. For example, today's accountants use the many helpful features in spreadsheet software to build, analyze, and update spreadsheet models. Similarly, the Internet and mobile devices continue to change the way accountants work, communicate, obtain training, and access professional information.

Because most accounting systems are computerized, accountants must understand how hardware, software, and human procedures turn data into decision-useful financial information and also how to develop and evaluate internal controls. Business and auditing failures continue to force the profession to emphasize internal controls and to rethink the state of assurance services. As a result, the subject of accounting information systems (AIS) continues to be a vital component of the accounting profession.

The purpose of this book is to help students understand basic AIS concepts. Exactly what comprises these AIS concepts is subject to some interpretation, and it is certainly changing over time, but most accounting professionals believe that basic AIS concepts consist of the knowledge that accountants need for understanding and using information technologies and for knowing how an accounting information system gathers and transforms data into useful decision-making information. In this edition of our textbook, we include the core concepts of Accounting Information Systems. The book is flexible enough that instructors may choose to cover the chapters in any order.

## ACCOUNTING INFORMATION SYSTEMS COURSE CONTENT AREA COVERAGE

AIS Applications	10, 11, 12
IT Auditing	15
Database Concepts	7, 8, 9
Internal Control	13, 14
Management of Information Systems	4, 5, 6
Management Use of Information	1, 2, 5, 10, 11, 12
Systems Development Work	6
Technology of Information Systems	All chapters

### About This Book

The content of AIS courses varies widely from school to school. Some schools use their AIS courses to teach accounting students how to use computers. In other colleges and universities, the course focuses on business processes and data modeling. Yet other courses emphasize transaction processing and accounting as a communication system that has little to do with the technical aspects of how systems gather, process, or store underlying accounting data.

Given the variety of objectives for an AIS course and the different ways that instructors teach it, we developed a textbook that attempts to cover the core concepts of AIS. In writing the text, we assumed that students have completed basic courses in financial and managerial accounting and have a basic knowledge of computer hardware and software concepts. The text is designed for a one-semester course in AIS and may be used at the community college, baccalaureate, or graduate level.

Our hope is that individual instructors will use this book as a foundation for an AIS course, building upon it to meet their individual course objectives. Thus, we expect that many instructors will supplement this textbook with other books, cases, software, or readings. The arrangement and content of the chapters permits *flexibility* in covering subject materials and allows instructors to omit chapters that students have covered in prior courses.

## Special Features

This edition of our book uses a large number of special features to enhance the coverage of chapter material as well as to help students understand chapter concepts. Thus, each chapter begins with a list of learning objectives that emphasize the important subject matter of the chapter. This edition of the book also includes many new real world Cases-in-Point, which we include to illustrate a particular concept or procedure. Each chapter also includes a more-detailed real-world case as an end-of-chapter *AIS-at-Work* feature.

Each chapter ends with a summary and a list of key terms. To help students understand the material, each chapter includes multiple-choice questions for self-review with answers. There are also three types of end-of-chapter exercises: (1) discussion questions, (2) problems, and (3) case analyses. This wide variety of review material enables students to examine many different aspects of each chapter's subject matter and also enables instructors to vary the exercises they use each semester.

The end-of-chapter materials include references and other resources that allow interested students to explore the chapter material in greater depth. In addition, instructors may wish to assign one or a number of articles listed in each chapter reference section to supplement chapter discussions. These articles are also an important resource for instructors to encourage students to begin reading such professional journals as *Strategic Finance*, *The Journal of Accountancy*, and *The Internal Auditor*. We also included a selection of current videos at the end of each chapter.

## Supplements

There are a number of supplements that accompany this textbook. One is an instructor's manual containing suggested answers to the end-of-chapter discussion questions, problems, and case analyses. There is also a test bank consisting of true-false, multiple-choice, and matching-type questions, as well as short answer problems and fill-in-the-blank questions, so that instructors have a wide variety of choices. In addition, PowerPoint lecture slides accompany the text, and all of these materials can be accessed from the book's companion website at [www.wiley.com/college/simkin](http://www.wiley.com/college/simkin).

## What's New in the Thirteenth Edition?

This edition of our book includes a number of changes from prior editions.

- An expanded section in Chapter 1 describes career paths for accountants interested in predictive analytics, where acute shortages exist for qualified individuals.
- A new color—both inside and on the cover! This edition uses **red** to highlight information and to make the book more interesting to read.

- The book offers expanded coverage of important topics, such as big data, cloud computing, and the 2013 COSO Report, as well as updated information on the importance of XBRL and new uses of IT in the sales and purchasing processes.
- New material addresses topics such as e-accounting, accounting uses of social media, fraud detection with accounting data, virtual currencies, decision trees, and systems acquisition of small-scale ERP systems.
- Many new *Case-in-Points* illustrate the concepts discussed in the textbook and give students a better grasp of the material.
- New *AIS at Work* features at the end of many chapters help students better understand the impact of systems in a wide variety of contexts.
- More Test Yourself multiple choice questions help students assess their understanding of the chapter material.
- Many new discussion questions, problems, and cases at the end of chapters give instructors more choices of comprehensive assignments for students.
- New links to video clips and recommended readings highlight important topics.

The end of the book contains an updated glossary of AIS terms.

## Acknowledgements

We wish to thank the many people who helped us during the writing, editing, and production of our textbook. Our families and friends are first on our list of acknowledgments. We are grateful to them for their patience and understanding as we were revising this textbook. Next, we thank those instructors who read earlier drafts of this edition of our textbook and provided enormously valuable ideas and suggestions to improve the final version.

In addition, we are indebted to the many adopters of our book who frequently provide us with feedback. We'd also like to thank the following people who provided feedback for the Thirteenth Edition:

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Lastly we thank our many students for the insightful feedback and useful suggestions. We do listen!

Mark G. Simkin  
Jacob M. Rose  
Carolyn S. Norman

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# Chapter 1

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## Accounting Information Systems and the Accountant

*After reading this chapter, you will:*

1. *Better understand* the huge impact information technology (IT) has on the accounting profession and why you need to study accounting information systems.
2. *Be familiar with* career opportunities that combine accounting and IT knowledge and skills.
3. *Learn* how IT influences accounting systems.
4. *Understand* how financial reporting is changing with advances in IT, such as XBRL.
5. *Appreciate* how accountants use business intelligence for decision-making.
6. *Be aware of* what is new in the area of accounting information systems.
7. *Be able to* distinguish between such terms as “systems,” “information systems,” “information technology,” and “accounting information systems.”

*“Cloud computing ... It’s about reallocating the IT budget from maintenance—such as keeping servers running, performing upgrades, and making backups—to actually improving business processes and delivering innovation to the finance organization.”*

Gill, R. 2011. Why cloud computing matters to finance.  
*Strategic Finance* 92(7): 43–47.

### 1.1 INTRODUCTION: WHY STUDY ACCOUNTING INFORMATION SYSTEMS?

This chapter begins by answering the question “why should you study accounting information systems?” There are many reasons, but one of the most important is because of the special career opportunities that will enable you to combine your study of accounting subjects with your interest in computer systems. In today’s job market, accounting employers expect new hires to be computer savvy. A large number of specialized and highly compensated employment opportunities are only available to those students who possess an integrated understanding of accounting and information systems and can bring that understanding to bear on complicated business decisions.

Think about it. When is the last time you went into a bank, filled out a piece of paper to withdraw cash from your bank account, and then stood in line waiting for a teller to help you? When is the last time you went to a travel agency to ask someone to find you an airline ticket for your spring break vacation to Florida or the Virgin Islands?

Or when is the last time you stood in line to fill out paperwork for the courses you wanted to take for next semester? Most likely, the answer to each of these questions is “never.” And that is because of IT. Information technology is so pervasive today that it is nearly impossible to do anything that does not in some way involve technology. So ask yourself the question, “how can you possibly be a successful accountant if you do not have a basic understanding of how technology influences the profession?”

## 1.2 CAREERS IN ACCOUNTING INFORMATION SYSTEMS

Our introductory remarks to this chapter suggest a variety of reasons why you should study **accounting information systems (AISs)**. Of them, perhaps the most interesting to students is the employment opportunities available to those who understand both accounting and information systems.

### Traditional Accounting Career Opportunities

Certainly, a number of traditional accounting jobs are available to those who choose to study accounting as well as accounting information systems. Because technology plays such a strong role in internal auditing, public accounting, managerial accounting, auditing, and taxation, AIS majors enjoy the advantage of understanding both traditional accounting concepts and information systems concepts. Recognizing the importance to accountants of knowledge about information systems, the American Institute of Certified Public Accountants (AICPA) developed a new designation: **Certified Information Technology Professional (CITP)**, which accountants can earn if they have business experience and if they pass an examination.

### Systems Consulting

A consultant is an outside expert who helps an organization solve problems or who provides technical expertise on an issue. **Systems consultants** provide help with issues concerning information systems—for example, by helping an organization design a new information system, select computer hardware or software, or reengineer business processes so that they operate more effectively.

One of the most important assets a consultant brings to the job is an objective view of a client’s organization and its processes and goals. AIS students who are skilled in both accounting and information systems are particularly competent systems consultants because they understand how data flow through accounting systems as well as how business processes function. Systems consultants can help a variety of organizations, including professional service organizations, private corporations, and government agencies. This broad work experience, combined with technical knowledge about hardware and software, can be a valuable asset to CPA clients. Because it is likely that a newly designed system will include accounting-related information, a consultant who understands accounting is particularly helpful. Many systems consultants work for large professional service organizations, such as Accenture or Cap Gemini Ernst & Young. Others may work for specialized organizations that focus on the custom design of accounting information systems.

Consulting careers for students of accounting information systems also include jobs as **value-added resellers (VARs)**. Software vendors license VARs to sell a particular

software package and provide consulting services to companies, such as help with their software installation, training, and customization. That is, VARs are individuals who take a product and add value to the product for their customers, which might include such services as strategic planning, system design and implementation, technical support, database development, and other similar services. A VAR may set up a small one-person consulting business or may work with other VARs and consultants to provide alternative software solutions to clients.

**Case-in-Point 1.1** American Management Technology (AMT) is a locally owned computer business in Chesterton, Indiana and provides both computer products and services to small businesses. It is especially focuses on providing network systems and services to small and medium-sized businesses. Its services include design and installation of network systems, training, and support. The staff at AMT consists of several technicians with over a combined 70 years of experience serving the Northwest Indiana computing community.<sup>1</sup>

## Certified Fraud Examiner

Due to increased concerns about terrorism and corporate fraud, forensic accounting is an important area for accountants to study and develop their skills. An accountant can acquire the **Certified Fraud Examiner (CFE)** certification by meeting the qualifications of the Association of Certified Fraud Examiners. To become a Certified Fraud Examiner, an individual must first meet the following qualifications: have a bachelor's degree, at least two years of professional experience in a field either directly or indirectly related to the detection or deterrence of fraud, be of high moral character, and agree to abide by the bylaws and code of professional ethics of the ACFE. If these are met, then the individual may apply for the CFE examination.

You might be asking yourself what sort of professional experience might be useful if you wish to satisfy the two-year requirement for certification. Not surprisingly, these jobs may be located within CPA firms across the United States, as well as within international public accounting firms. Other such positions might include working within a for-profit organization as an internal auditor, with a valuation expert in a law firm, with an FBI or CIA agent, or as an auditor for Medicaid, Medicare, or many other government organizations.

The salary ranges and possible job locations are varied. Most positions will likely be located in larger metropolitan areas, but may also be found in mid-sized cities. From the chart below (Figure 1-1) you can see that the salary ranges include several levels of positions in the internal audit area. Why do you think that might be the case?

Job Title	Salary Range
Fraud Investigator	\$39,551–91,715
Senior Internal Auditor	\$53,424–90,613
Internal Auditing Manager	\$74,441–111,778
Internal Auditor	\$42,971–76,480
Senior Auditor	\$50,848–95,600

**FIGURE 1-1** Examples of job titles and pay range for CFEs. Source: PayScale.com, Average Salary for Certification: Certified Fraud Examiner (CFE), accessed March 2014.

<sup>1</sup> AMT Computers, Chesterton, Indiana, accessed from [www.amtcomputers.com](http://www.amtcomputers.com), March 2014.

**Assurance Services**

- Financial statement attestation
- Internal control reporting
- Assess procedures and controls concerning privacy and confidentiality, performance measurement, systems reliability, outsourced process controls, information security

**Business Risk Services****Fraud Investigation and Dispute Services****Technology and Security Risk Services****Specialty Advisory Services**

**FIGURE 1-2** A sample of the many types of services offered by Ernst & Young LLP, one of the largest international professional service organizations.

Essentially, fraud occurs where there are weak internal controls or when a manager or employee circumvents the internal controls that are in place. A more detailed explanation of internal controls is contained in Chapters 13 and 14.

## Information Technology Auditing and Security

**Information technology (IT) auditors** focus on the risks associated with computerized information systems. These individuals often work closely with financial auditors to assess the risks associated with automated AISs—a position in high demand because almost all systems are now computerized. Information systems auditors also help financial auditors decide how much time to devote to auditing each segment of a company's business. This assessment may lead to the conclusion that the controls within some portions of a client's information systems are reliable and that less time need be spent on them—or the opposite. Due to the growing need for this type of auditor, we devote an entire chapter to IT auditing—Chapter 15.

IT auditors are involved in a number of activities apart from assessing risk for financial audit purposes. Many of these auditors work for professional service organizations, such as Ernst & Young, PricewaterhouseCoopers, or KPMG. Figure 1-2 identifies a partial listing of the types of services offered by Ernst & Young.

IT auditors might be CPAs, or they might be licensed as **Certified Information Systems Auditors (CISAs)**—a certification given to professional information systems auditors by the **Information Systems Audit and Control Association (ISACA)**. To become a CISA, you must take an examination and obtain specialized work experience. Many CISAs have accounting and information systems backgrounds, although formal accounting education is not required for certification. IT auditors help in documenting and evaluating IT controls.

According to the ISACA website, there is a growing demand for employees who have IS audit, control, and security skills. The CISA certification is therefore in high demand worldwide because these individuals: (1) are qualified, experienced professionals; (2) provide the enterprise with a certification for IT assurance that is recognized by multinational clients, lending credibility to the enterprise; (3) have proficiency in technology controls; (4) demonstrate competence in five domains, including standards and practices; organization and management; processes; integrity, confidentiality, and availability; and software development, acquisition, and maintenance; (5) demonstrate a commitment to providing the enterprise with trust in and value from information

systems; and (6) maintain ongoing professional development for successful on-the-job performance.<sup>2</sup>

**Case-in-Point 1.2** According to Marios Damianides, a Partner at E&Y, LLP, USA, who is himself CISA certified, “the world of technology is ever-changing, and I need to know that my employees are prepared to face such challenges. The CISA designation is an excellent indicator of proficiency in technology controls.”<sup>3</sup>

Sometimes the best way to assess the risks associated with a computerized system is to try to penetrate the system, which is referred to as **penetration testing**. These tests are usually conducted within a systems security audit from which the organization attempts to determine the level of vulnerability of their information systems and the impact such weaknesses might have on the viability of the organization. If any security issues are discovered, the organization will typically work swiftly to correct the problems or at least mitigate the impact they might have on the company. But what if someone else penetrates an organization’s systems? That is commonly called “hacking” and is usually a very serious problem for any company. We cover hacking in more detail in Chapter 3.

**Case-in-Point 1.3** In December 2013, the Target company had their systems hacked, which affected customers who shopped at US Target stores between November 27 and December 15. The hacker(s) were able to steal customer names, credit or debit card numbers, expiration dates, and CVVs (the security code on the back of each card). The company said the hackers could use the data to make card replicas. To help mitigate the damage, Target management immediately notified the Secret Service, which safeguards the nation’s payment and financial systems.<sup>4</sup>

## Predictive Analytics

What you will soon learn from reading this book, and hopefully through reading professional accounting journals, is that the accounting profession is constantly changing. To be successful as an accounting professional you will need to stay abreast of these changes, or better yet—get out in front of some of the expected trends in the profession. One of those trends that we want to alert you to is the rapidly growing opportunities in the field of predictive analytics, which is the result of the tremendous amount of data that is now available within organizations (e.g., data warehouses which offer opportunities for data mining). In the future, this is the most likely area where you can add value—by being able to analyze that data and make useful business predictions for your clients.

You might be surprised to learn that a number of accounting jobs already require this type of skill set—for example, jobs such as client service analyst, quantitative analyst, risk analyst, and FP&A analyst (responsible for preparing the annual plan and long-range or five-year plan for a company and usually reports to the CFO).<sup>5</sup> So what exactly is predictive analytics, and what does this type of professional do? The **predictive analytics professional** uses a variety of skills and abilities, ranging from statistical analysis, data modeling, and data mining to make predictions about future events for management decision-making.

<sup>2</sup> ISACA ([www.isaca.org](http://www.isaca.org)).

<sup>3</sup> The Benefits of CISA, accessed from ISACA ([www.isaca.org](http://www.isaca.org)), March 2014.

<sup>4</sup> Wallace, G. “Target credit card hack: What you need to know,” December 23, 2013, CNN Money, accessed March 2014.

<sup>5</sup> [icrunchdata.com](http://icrunchdata.com), accessed March 2014.

This might require a mind shift for some accounting majors. Rather than seeking an MBA degree or an MS in Accounting, consider an MS degree in Analytics or Business Analytics. There are now at least 44 such degree programs in the United States, offering full-time, part-time, and online delivery. So that you can appreciate the strong demand for this new type of credential, the first MS in Analytics program was available in 2007, and 8 of the 44 programs just started in 2014.<sup>6</sup> If you go to the website at footnote 5, you can find the 44 universities that offer these programs, the length of each program, the cost, and the curriculum. You might also be interested in starting salaries (see Institute for Advanced Analytics, MSA Career Placement, Annual Employment Report, analytics.ncsu.edu, accessed March 2014).

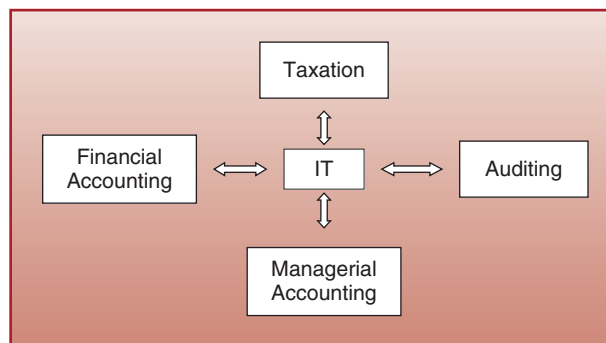
## 1.3 ACCOUNTING AND IT

Information technology is pervasive and impacts every area of accounting. Instantaneous access is available to the Internet via mobile communication devices such as cell phones, iPads, smart phones, and so on, which enable activities to take place anytime, anywhere. For example, managerial accountants can complete important work tasks while traveling in the field, auditors can communicate with each other from remote job sites (while auditing the same client), staff accountants can text message one another from various locations, and tax experts can download current information on tax rulings.

Figure 1-3 provides an overview of the major areas within the field of accounting that are impacted by information technology. This section of the chapter considers the influence of IT on each of them.

### Financial Accounting

The major objective of **financial accounting information system** is to provide relevant information to individuals and groups *outside* an organization's boundaries—for example, investors, federal and state tax agencies, and creditors. Accountants achieve



**FIGURE 1-3** Overview of the major areas of accounting that are impacted by information technology.

<sup>6</sup>“Survey of Graduate Degree Programs in Analytics,” Institute for Advanced Analytics, analytics.ncsu.edu, accessed March 2014.



these informational objectives by preparing such financial statements as income statements, balance sheets, and cash flow statements. Of course, managers *within* a company might also use financial reports for planning, decision-making, and control activities. However, for most decisions within the firm, managers likely use managerial accounting reports.

Recall from your financial accounting course, an organization's financial accounting cycle begins with analyzing and journalizing transactions (e.g., captured at the point of sale) and ends with its periodic financial statements. Accounting clerks, store cashiers, or even the customers themselves input relevant data into the system that stores these data for later use. In financial AISs, the processing function also includes posting these entries to general and subsidiary ledger accounts and preparing a trial balance from the general ledger account balances.

**Nonfinancial Data.** The basic inputs to, and outputs from, traditional financial accounting systems are usually expressed in monetary units. This can be a problem if the AIS ignores nonmonetary information that is also important to users. For example, an investor might like to know what the prospects are for the future sales of a company, but many financial AISs do not record such information as unfulfilled customer sales because such sales are not recognizable financial events—even though they are important ones. This is the basic premise behind **REA accounting**—the idea of also storing important nonfinancial information about resources, events, and agents in databases precisely because they are relevant to the decision-making processes of their users. We discuss the REA framework in greater detail in Chapter 5.

Inadequacies in financial performance measures have encouraged companies to consider nonfinancial measures when evaluating performance. Some of the advantages include: (1) nonfinancial measures can provide a closer link to long-term organizational strategies; (2) drivers of success in many industries are “intangible assets” such as intellectual capital and customer loyalty, rather than the “hard assets” that are recorded on balance sheets; (3) such measures can be better indicators of future financial performance; and (4) investments in customer satisfaction can improve subsequent economic performance by increasing revenues and loyalty of existing customers, attracting new customers, and reducing transaction costs.<sup>7</sup>

Several professional associations now formally recognize that nonfinancial performance measures enhance the value of purely financial information. For example, in 1994 a special committee of the American Institute of Certified Public Accountants (AICPA) recommended several ways that businesses could improve the information they were providing to external parties by including management-analysis data, forward-looking information such as opportunities and risks, information about management and shareholders, and background information about the reporting entity. Similarly, in 2002, the American Accounting Association (AAA) Financial Accounting Standards Committee recommended that the *Securities and Exchange Commission (SEC)* and the *Financial Accounting Standards Board (FASB)* encourage companies to voluntarily disclose more nonfinancial performance measures.

However, there are several suggestions that are important to keep in mind if a company chooses to collect metrics around nonfinancial performance measures. For example, keeping track of the information, such as using a dashboard is very helpful.

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<sup>7</sup> Source: Ittner, C. and D. Larcker, “Non-Financial Performance Measures: What Works and What Doesn't,” December 6, 2000, Knowledge@Wharton (knowledge.wharton.upenn.edu), accessed March 2015.

(We discuss dashboards in more depth in the next section of this chapter and in Chapter 12.) Also, limiting the number of measures is important so that a company remains focused on those that are truly critical to the performance of the company. And third, management should closely monitor the nonfinancial performance measures to be sure they use those that are relevant to the company's success.

**Case-in-Point 1.4** The ThyssenKrupp company uses nonfinancial performance indicators to monitor sustainability, innovations, employees, environment and climate, and corporate citizenship. The company summarizes their goal in the following statement. “Our performance is reflected not only in our financial results, but also in the sustainability of our actions. We develop efficient solutions that conserve resources and protect the climate and the environment. For this we need capable employees—so we place strong emphasis on training and development and health and safety.”<sup>8</sup>

**Real-Time Reporting.** Another impact of IT on financial accounting is the timing of inputs, processing, and outputs. Financial statements are periodic and most large companies traditionally issue them quarterly, with a comprehensive report produced annually. With advances in IT that allow transactions to be captured immediately, accountants and even the AIS itself can produce financial statements almost in real time. Of course, some of the adjustments that accountants must make to the records are not done minute-by-minute, but a business can certainly track sales and many of its expenses continuously. This is especially useful to retailing executives, many of whom now use dashboards.

**Interactive Data and XBRL.** A problem that accountants, investors, auditors, and other financial managers have often faced is that data used in one application are not easily transferable to another. This means that accountants may spend hours preparing spreadsheets and reports that require them to enter the same data in different formats over and over. **Interactive data** are data that can be reused and carried seamlessly among a variety of applications or reports. Consider, for example, a data item such as total assets. This number might need to be formatted and even calculated several different ways for reports such as filings with the Securities and Exchange Commission (SEC), banks, performance reports, and so on. With interactive data, the data are captured once and can be used wherever needed.

Interactive data require a language for standardization that “tags” the data at its most basic level. As an example, for total assets, this would be at the detail level for each asset. **Extensible business reporting language (XBRL)** is the language of choice for this purpose. As of 2010, the SEC requires public companies to file their financial reports in XBRL format. In addition, many companies, software programs, and industries are beginning to incorporate XBRL for creating, transforming, and communicating financial information.

We will discuss cloud computing later in this chapter, but at this point, we want to make you aware of this technology with respect to XBRL. XBRL Cloud made a viewer available that allows anyone to examine SEC XBRL financial filings, and it is called the XBRL Cloud EDGAR Dashboard.<sup>9</sup> When a filing is posted on the SEC website, XBRL Cloud takes the information and adds a new line to the Dashboard that indicates the name of the filing company, the form type filed, the percent of extended elements,

<sup>8</sup> ThyssenKrupp, A.G., “Non-financial Performance Indicators,” Online Annual Report 2010/2011, accessed March 2014.

<sup>9</sup> Rivet Software (rivetsoftware.com). “The Sadistic EDGAR Filer Manual—Sections 6.6.6 and 6.(1)6.6,” posted May 22, 2012.



the creation software that was used to prepare the filing, and free validation checking. A description of some of the Dashboard's features can be found at [xbrl.squarespace.com](http://xbrl.squarespace.com). We discuss XBRL in more detail in Chapter 2, and you can learn about the current status of XBRL at [www.XBRL.org](http://www.XBRL.org).

**Case-in-Point 1.5** The Federal Deposit Insurance Corporation (FDIC) insures bank deposits over a specific amount. FDIC wanted to create an Internet-based Central Data Repository that stored all the call (quarterly) data they received from more than 7,000 banks. They convinced their software vendors to incorporate XBRL language to standardize the data. The tagged data the FDIC receives from banks now has improved accuracy and can be published and made available to users much more quickly than before.<sup>10</sup>

## Managerial Accounting

The principal objective of managerial accounting is to provide relevant information to organizational managers—that is, users who are internal to a company or government agency. Cost accounting and budgeting are two typical parts of a company's managerial accounting system. Let us examine each of them in turn.

**Cost Accounting.** Due to globalization, decentralization, deregulation, and other factors, companies continue to face stiff competition. The result is that companies must be more efficient and be more adept at controlling costs. The **cost accounting** part of managerial accounting specifically assists management in measuring and controlling the costs associated with an organization's various acquisition, processing, distribution, and selling activities. In the broadest sense, these tasks focus on the *value added* by an organization to its goods or services, and this concept remains constant whether the organization is a manufacturer, a bank, a hospital, or a police department.

Take health care for an example. Although much controversy surrounded the health care legislation that was signed into law in 2010, there is one fact that most currently agree upon—that the health care industry is a very large portion of the US economy and that it is growing rapidly as the “baby boomer generation” reaches retirement age. These facts, coupled with increased regulatory demands on health care providers and hospitals, suggest the need for sophisticated accounting systems to maintain critical data, as well as the need for up-to-date reports for decision-making.

**Case-in-Point 1.6** Survey data from more than 100 hospital CFOs suggests five major themes regarding the evolution of financial practices in health care. Two of those themes are (1) a greater focus on internal controls (supported by information and management systems) and (2) an increased reliance on business analysis (requirement to develop and measure business performance).<sup>11</sup>

**Activity-Based Costing.** One example of an AIS in the area of cost accounting is an **activity-based costing (ABC) system**. Traditionally, cost accountants assigned overhead (i.e., indirect production costs) on the basis of direct labor hours because the number of labor hours was usually directly related to the volume of production. The problem with this traditional system is that, over time, increased reliance on automation has caused manufacturers to use less and less direct labor. Thus, managers became frustrated using this one method of assigning overhead costs when a clear

<sup>10</sup> Improved Business Process through XBRL: A Use Case for Business Reporting, Federal Financial Institutions Examination Council, White Paper, February 2, 2006. Accessed from [XBRL.org](http://XBRL.org) on March 2014.

<sup>11</sup> Langabeer, J., J. DelliFraine, and J. Helton. 2010. Mixing finance and medicine. *Strategic Finance* 92(6): 27–34.