Accounting and information technology have been constant companions since the
days of tabulating machines. Accounting — an art and science of financial information
— has evolved in tandem with information technology. The distinctions between the
accounting message and information technology medium are blurring faster and faster.
The advent of the Internet and enterprise resource planning (ERP) has not only contin-
ued but accelerated the trend. The rise and fall of the e-revolution has been spectacu-
lar; however, the promised work goes on. The changes are fast and furious, even in the
e-bust period. This book is an attempt to capture these changes in accounting workflows,
internal controls, and tools due to the e-age, e-era, and e-confusion!

What is Digital Accounting?

The term digital refers to digits or numbers; however, in the computer science lexicon,
this term refers to the representation of the information in 0s and 1s, which can be read,
written and stored using machines. The prefix “e” refers to electronic, meaning the use
of electricity in powering machines such as computers. Digital accounting, or e-ac-
counting, as a corresponding analog, refers to the representation of accounting inform-
ation in the digital format, which can then be electronically manipulated and transmit-
ted. Digital accounting does not have a standard definition, but merely refers to the
changes in accounting due to computing and networking technologies. The term digi-
tal accounting is used in this book to capture the changes in the accounting cycles,
processes, and functions due to the Internet and ERP systems. The primary focus is on
accounting, and the secondary focus is on related finance functions. The level of
coverage in financial functions is primarily restricted to intra-business, and topics such
as Web-based stock investments and portfolio management are excluded.

The terminology, jargon, and lingo spawned by the computer era are unprecedented,
and the title and the subject matter of the book has been debated and questioned
repeatedly. In covering various topics, I have erred on the side of caution. I have
covered a number of technologies and topics that may only be peripherally related to
the main theme of the book. This book is still version 1.0, and I am sure topics will be found that escaped me. I welcome your comments and criticisms.

What Makes This Book Different?

Integrating e-commerce/e-business in the accounting literature has been a challenge. Neither the pervasive effects of e-commerce on internal and external accounting processes are clearly articulated nor a conceptual approach for handling these changes has been formulated. There is no consensus in the coverage of underlying networking technologies, changes in accounting software, and new xRM (relationship management) tools.

This book, though by no means definitive, presents a way to understand these developments. This book provides a foundation in digital accounting by covering developments in accounting software, Web-based financial reporting languages and Electronic data interchange (EDI). Then the effects of the Internet and ERP on accounting are classified and presented for each accounting cycle. Such an approach in handling the e-developments in the accounting context allows us a comprehensive examination of the changes in the established accounting cycle framework.

Chapter I expands on this theme and provides a framework for developments in accounting due to the Internet and ERP. This chapter also deals with the description and history of digital accounting. The next three chapters are the foundations of digital accounting. These chapters cover the evolution of accounting software, XML (eXtensible Markup Language) and XBRL (eXtensible Business Reporting Language), and EDI, respectively. Accounting software is no longer accounting software, but is being sold even by mid-level vendors as business software. Accounting software not only integrates the internal functions but comes pre-packaged with a number of e-commerce/e-business functionalities. XML directly affects data transfer and data analysis. The most famous XML-based language for accountants is XBRL. XBRL is discussed in-depth to get a better understanding of changes in financial reporting. EDI, the forerunner of e-commerce, is not dead but is going strong and is getting adopted for XML and the Internet. A large installed base and heavy monetary investment characterize EDI; this important technology needs to be properly understood by accountants. I believe an in-depth understanding of these three areas is necessary to understand the effects of the Internet and ERP on accounting and finance functions.

The next four chapters focus on chronicling and analyzing digital developments in the context of accounting cycles. Chapter V deals with the revenue cycle. Here, Web-based sales orders, effects of customer relationship management (CRM) software on sales orders and accounting data, online credit approvals and its connection with the accounting system, Web-based tracking of goods and its implications for accounting, electronic invoice/bill presentment and payment, electronic payment mechanisms, and online automated receivables management are discussed. Chapter VI deals with the expenditure cycle. Topics such as Web-based purchase orders, electronic procurement of goods and services, and consequent posting and payment activities are discussed here. These activities are increasingly handled by supplier relationship management
(SRM) and e-procurement tools, which are extensively covered with an emphasis on accounting processes. Additionally, the areas of procurement cards, online management of expenses and payroll, and online travel centers are covered. Chapter VII deals with the conversion cycle. The focus in this chapter is not on production activities but on supply chain management. The production function is now part of an extended collaborative enterprise in many organizations. Cost accounting is not merely assessing product costs but also striving to identify and optimize costs across the supply chain. Basic principles of supply chain management, software tools for supply chain management, and changes in cost accounting are covered here. Finally, Chapter VIII considers the general ledger cycle. This chapter discusses the evolution of the general ledger and financial reporting. First, managerial and information technology tools for Web-enabled virtual close of the books are discussed. The rest of the chapter primarily focuses on reporting software, business intelligence tools, executive dashboards, enterprise portals and its interaction with accounting data. I have primarily used SAP tools to illustrate the functionalities; however, these are supplemented with the latest software tools from other vendors.

Chapter IX deals with the role of digital accounting in financial and strategic management. Developments such as financial supply chain and corporate performance management that integrate e-developments in comprehensive managerial philosophies are covered. Finally, Chapter X discusses controls, security, and audit in the online-networked world. This chapter first presents a conceptual framework for internal controls in the online world. Then, various standard control techniques are discussed. The new Web-based anti-fraud and anti-money laundering software is also covered. The discussion of privacy and assurance issues concludes the chapter and rounds off the book.

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To Whom is This Book Addressed?

This book provides a broad introduction to the effects of the Internet and ERP on accounting workflows, processes and controls. Specifically, this book is useful to practicing accountants and auditors who want to familiarize themselves with the latest developments in this area. This book can be used as a supplement in introductory accounting information systems or auditing courses. The accounting cycle approach will fit perfectly with current approaches of teaching accounting information systems. The book can also be used as a stand-alone book in advanced accounting information systems or e-commerce course at the undergraduate or graduate level. If you wish to use this book for classroom purposes, an end-of-chapter questions and solutions manual is available on request from the author.

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