Preface

Technology is pervasive—invading all areas of our personal and business lives. In our personal lives, we have some control over how much technology we will tolerate, but not so in our professional lives. Every aspect of modern organizations involves technology, to the extent that auditors can no longer audit around the computer as they did from 1960 until recently. Technology is an important element of a majority of the controls that are, or should be, in place. In addition, not only is technology a necessary tool of auditors, but it can also improve the efficiency and effectiveness of the audit process.

The ease of access and the myriad types of audit software has taken technology out of the hands of IT auditors and made it readily available to all auditors. The key to harnessing the power of technology and increasing audit efficiency is to ask the question "How can technology be used to support the audit function?" Furthermore, too many auditors are simply automating what was done manually before. Instead, auditors should be asking, "What else will technology allow me to do?" This demands that all auditors have access to, and an understanding of, the technology and underlying data, and that technology be employed in all phases of the audit from the initial development of the risk-based annual audit plan to the planning, conducting, reporting, and follow-up phases of individual audits.

Technology as an audit tool is not a new concept, but it has gained considerable ground in the last five to ten years. Part of the recent drive to incorporate technology in both business and audit has been a result of legislation such as Sarbanes-Oxley (SOX). The cost of compliance—millions of dollars on average—drove organizations to employ technology to reduce the people-intensive manual testing of financial controls that was overly time consuming. In particular, data analysis techniques offered much-needed efficiencies—reducing overall SOX compliance costs and expanding the scope and reliability of audit tests. The use of data analytics also gives auditors an independent view of the business systems, the individual financial transactions, and the key financial controls. Through continuous auditing, auditors can highlight anomalies, control deficiencies, and unusual trends.

This means that errors, fraud, and other problems can be identified in a timely manner—supporting the compliance requirements of SOX Section 409.

Increased globalization of businesses, market pressure to improve operations, and rapidly changing business conditions are providing additional encouragement for technology-enabled auditing (TEA). These forces are creating the demand for more timely and ongoing assurance that controls are working effectively and risk is properly mitigated. To meet this need, many internal auditors are implementing continuous auditing. This book will help auditors learn what continuous auditing does and how it can help auditors make better use of data analytics, while maintaining their independence and objectivity in evaluating the effectiveness of risk management and control assessment processes.

Continuous auditing has two main components. The first is continuous risk assessment: audit activities that identify and evaluate companywide risk levels by examining trends in the data-driven risk indicators within a single process or system. These processes are then compared to their past performance and other business systems. For example, product line performance is compared to the performance of the previous year, but it is also assessed within the context of its performance compared the other plants.

The second component of continuous auditing is continuous control assessment: audit activities that identify whether key controls are working properly. Through continuous control assessments, individual transactions are monitored against a set of control rules to determine if the internal controls are functioning as designed and to highlight exceptions. Assessing a well-defined set of control rules allows auditors to warn the organization when process or system controls are not working as intended or when the controls are compromised. By identifying control weaknesses and violations, auditors can provide independent assurance to the audit committee and senior management.

A more recent catalyst for the use of technology in audit is governance, risk management, and compliance (GRC). High-performing companies are integrating their GRC activities to make them more efficient, effective, dependable, and legally sound. Internal audit can use technology to perform independent assessments of the management GRC processes—to determine whether there is reasonable assurance that the overall goals and objectives of the organization will be met. To do this, internal auditors must consider emerging areas of risk, the effectiveness of management's monitoring programs, and the adequacy of management's response to identified risks. This requires a systematic approach to the evaluation of risk management, control, compliance, and governance processes. Auditors can assist management by performing analytical reviews of the GRC processes, by testing

compliance with general and application controls, and by performing trend analysis to identify emerging areas of risk.

The key to effectively using TEA is to develop a good understanding of the main business processes and the associated information systems and infrastructure (i.e., their controls and the data contained therein). However, the adoption of TEA will require all auditors to have knowledge not only of information systems, but also the tools and techniques supporting the data analysis.

The chief audit executive and all auditors must realize that TEA will change the way audits are conducted, including the procedures and level of effort required. This will place new demands on the audit department and possibly on the work performed by IT auditors. Historically, the only auditors who even dared to look at the application controls were IT auditors; however, the audit world has changed significantly in the past few years. No longer are IT and business risks considered as separate entities. All auditors are encouraged to consider IT risks as business risks and to develop a more integrated approach to auditing. The role of the IT audit specialist has expanded to include supporting general audit by arranging for access, downloading the data, dealing with disparate data structures and data normalization issues, and assisting with the more complex analyses. The IT audit specialists can also be used in the quality assurance process— reviewing analyses performed by the auditors to ensure the results can be relied upon and developing standard routines that can ensure consistency and bring additional efficiencies to the analysis activities.

Everyone has heard the phrases "if it ain't broke, don't fix it" and "don't reinvent the wheel." These adages are useful to remember, but too often we find ourselves constrained by mental barriers that we create for ourselves. Methods that worked well in the past become entrenched in our way of thinking. Sometimes this is good, because past experiences can help us avoid pitfalls and maximize the use of our time. But strict reliance on past experiences can result in trying to force familiar solutions onto different problems, or can cause us to overlook new or more efficient approaches to old problems. Even when we utilize our standard tools, such as data analysis and audit software, we must try to find new approaches to address new situations. Data analysis and audit software provide us with many opportunities to be more creative in our approaches to problem solving.

This book describes many facets of TEA. It also presents numerous case studies that illustrate the power and flexibility of standard and audit-specific software packages. Internal auditors cannot stand by and watch as the business world embraces new technology. The tools and techniques used in the past are no longer adequate; we need to check our toolboxes to ensure that we have the tools needed to meet the challenges of auditing in today's business environment.