

chapter

The Audit and Assurance Service Process

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major topics discussed in this chapter are the:

- Audit process, including client strategies, the decision to accept an engagement, establishing an understanding with management, planning, and interim and year-end audit work.
- Assurance service process for a performance-measurement engagement, including the selection of comparison groups and measures, and the collection and display of evidence.

Chapter 4 introduced the means to acquire, evaluate, and document evidence. However, the evidence a practitioner chooses to acquire in an audit or assurance service engagement depends in part on a client's industry, since industry-specific risks drive client-specific strategies to cope with risk. For example, in the retail apparel industry, J. Crew's market share depends on clothing lines that appeal to target consumers and, in the pharmaceutical industry, Pfizer's survival depends on a pipeline of breakthrough drugs. The two industries differ, risk-coping strategies differ, and, correspondingly, a practitioner's evidence-acquisition decisions depend on how a client's strategies bear on risk. This chapter explains the steps in the audit process and in the assurance service process, including how practitioners come to understand what drives a business *before* designing a professional service engagement.

The chapter begins by summarizing the audit process, including the steps an auditor undertakes to achieve the standards (and control the risks) introduced in Chapter 2 and to issue the reports illustrated in Chapter 3. For example, the chapter introduces client strategy templates, a tool practitioners use to summarize a client's industry, business, and strategies; to assess audit risk; and to identify assurance service opportunities. The template is similar in approach to the tools firms use commonly in practice today, among them Ernst & Young's *Business Process Analysis* and KPMG's *Business Measurement Process*. To add both context and reality, part of the discussion emphasizes one industry (pharmaceuticals) and one Dow Jones Industrial company (Merck & Co., Inc.). In turn, the chapter introduces the assurance process in a performance-measurement benchmarking

service, including planning, selecting relevant performance measures, collecting evidence, and displaying evidence in vision charts and reliability indices.

the audit process

A financial statement audit proceeds in general from planning, to analysis, to integration in the form of a deliverable report. Figure 5-1 lists the major steps in the audit process, including representative dates, assuming a December 31 fiscal year end, and either a continuing or initial engagement accepted early in the year. In practice, the audit process may vary somewhat from engagement to engagement, depending on an entity's industry and size, among other things. However, most financial statement audits are similar both in logic and in breadth—similar in logic because they are based on the scientific method of inquiry, and similar in breadth because they are all driven by the same set of guidelines: GAAS. The following discusses each step in the audit process, although the discussion is weighted this way: the steps before interim and year-end work (for example, communicating with the audit committee, establishing an understanding with the client, and audit planning) are discussed in detail, and interim and year-end work are discussed briefly as an introduction to Chapters 6 through 16, which discuss and illustrate those issues completely.

Figure 5-1: The Audit Process

<i>Approximate Dates</i>	<i>Activity</i>
March	Communicate with the audit committee. Decide whether to accept or continue the engagement. Establish an understanding with the client. Establish an understanding of the client's strategies and characteristics of the business.
April–May	Consider the risk of misstatements arising from fraud. First-quarter planning (Figure 5-6).
July–August	Consider potential adverse influences, threats to the business, and audit risk. Second-quarter planning (Figure 5-6).
September–November	Interim audit work (Figure 5-8).
December–February	Year-end audit work (Figure 5-9). Subsequent events.
Last day of field work	Management representation and legal letters. Reports.

Communicate with the Audit Committee

Auditors commonly propose audit service engagements to the **audit committee** of a potential (or continuing) client's board of directors. For example, seven of Merck & Co., Inc.'s, sixteen directors serve on the audit committee, including a health care consultant, a professor of medicine, the CEOs of Chase Manhattan

Corporation and NCR Corporation, and a former president of Massachusetts General Hospital and Brandeis University, all of whom are *outside directors* (board members not otherwise employed by the entity). The committee generally meets four times annually and, among other things, serves as an intermediary between the company's independent auditor and the full board of directors in matters relating to:

- Selecting an independent auditor,
- The scope and timing of the audit,
- Internal control,
- Internal audit,
- Accounting changes,
- The results of the audit,
- Disclosures within management's financial statements, and
- The quality of reported earnings (i.e., core earnings from operations, rather than from accounting gimmicks).

Although not common until the 1970s, audit committees were first encouraged as early as 1940 in SEC *Accounting Series Release No. 19*, which recommended that registrants establish committees composed of nonofficer board members; again in the AICPA's 1967 *Statement on Audit Committees of Boards of Directors*; and then again in the SEC's 1972 *Accounting Series Release No. 123*, "Standing Audit Committees Composed of Outside Directors." However, the first authoritative mandate for audit committees came in 1978 when the New York Stock Exchange required that all listed companies appoint audit committees consisting of outside directors only. Audit committees are common today, even in nonpublic companies. For example, audit committees are required of all NASDAQ companies, all Federal Deposit Insurance Corporation (FDIC) insured depository institutions, and many governmental entities, such as municipalities, town boards, and port authorities.

The Effectiveness of Audit Committees. Research in the early 1990s offered two findings about the resolve and effect of audit committees. One study reported that effective audit committees require a strong organizational mandate—for example, through a written charter and recognition by management and the independent auditor.¹ A second study showed that audit committees reduce the frequency of shareholder lawsuits alleging management fraud, quarterly earnings restatements, SEC enforcement actions, illegal acts, and auditor turnover when management disagrees with an accounting principle.² However, in the late 1990s, the SEC criticized audit committees. For example, in a well-publicized 1998 speech at New York University's Center for Law and Business, "The Numbers Game," Arthur Levitt, SEC chairman, said "Sadly, stories abound of audit committees whose members lack expertise in the basic principles of financial reporting as well as the mandate to ask probing questions."³

1 L. P. Kalbers and T. J. Fogarty, "Audit Committee Effectiveness: An Empirical Investigation of the Contribution of Power," *Auditing: A Journal of Practice & Theory* (Spring 1993), pp. 24–49.

2 D. A. McMullen, "Audit Committee Performance: An Investigation of the Consequences Associated with Audit Committees," *Auditing: A Journal of Practice & Theory* (Spring 1996), pp. 87–103.

3 Arthur Levitt, Jr., "The 'Numbers Game'," Speech at New York University Center for Law and Business, September 28, 1998.

Levitt offered two initiatives directed toward audit quality and audit committee effectiveness: a proposal that the Public Oversight Board form a group of constituents to review the audit process, and an announcement that the New York Stock Exchange and the National Association of Securities Dealers would sponsor an 11-member Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees. In 1999, the committee made ten recommendations, among them that:

- Audit committees be required not only to monitor whether a public company's financial statements comply with GAAP, but also whether management uses "the best accounting principles" in the circumstances.
- Committee members not have any family or other financial ties to the company.
- At least three committee members be "financially literate" and at least one have accounting or financial management expertise.
- The committee report to shareholders.

One of the Blue Ribbon Committee's members, John H. Biggs, Chairman and CEO of TIAA-CREF, one of the nation's largest pension funds, stated that the financial community should have confidence that an audit committee's sign-off on a company's financial statements is "not just a rubber stamp, but the assurance of an oversight process."⁴

The Quality of Earnings. Responding to the Blue Ribbon Committee's recommendations, the Auditing Standards Board in 2000 issued *SAS No. 89*, "Audit Committee Communications," which requires that an auditor discuss with the audit committee "the quality, not just the acceptability" of management's accounting principles and earnings. The discussions should be open and frank and should include matters such as:

- The consistency of management's accounting principles, and
- The clarity and completeness of management's financial statements.

Consistent with language in FASB *Statement of Financial Concepts No. 2*, "Qualitative Characteristics of Accounting Information," the auditor's discussion with the audit committee should include items that have a significant impact on the "representational faithfulness, verifiability, and neutrality of accounting information" included in financial statements. Stated another way, disclosures should offer the reader a transparent view of the transactions and events that underlie the financial statements. For example, in an effort to meet analysts' expectations for reported operating earnings, some companies have netted nonoperating gains against exposures such as environmental liabilities (*Dr Nonoperating Gains, Cr Environmental Liabilities*), thereby avoiding the recognition of environmental expenses, overstating operating earnings, and masking the nonoperating gain as operating. Netting is neither representationally faithful to the company's environmental exposures nor, for that matter, altogether transparent.

⁴ "Panel: Give Audit Committees Teeth," *The Detroit News*, February 9, 1999, p. B4.

Decide Whether to Accept or Continue the Engagement

Because an auditor cannot audit a client that lacks integrity, *Statement on Quality Control Standards No. 1*, “System of Quality Control for a CPA Firm,” recommends that public accounting firms establish policies and procedures for deciding whether to accept (or continue) an engagement, thereby minimizing the likelihood of associating with an untrustworthy or an unduly risky client. For example, the Big Five public accounting firms exercise considerable caution in deciding whether to accept (or continue auditing) a risky client, although the responsibility for the decision varies across firms. In some firms, the decision is made by individual partners, in others by office managing or regional partners, and in others by national office partners.⁵

A public accounting firm may use a variety of sources in deciding whether to accept or continue an engagement. For example, when considering a new client, an auditor could:

- Review the proposed client’s financial statements,
- Inquire of third parties, such as bankers and lawyers, about a proposed client’s reputation, and
- Evaluate the firm’s ability to service the proposed client properly.

The firm should also consider whether the predecessor auditor’s resignation or replacement was linked to a disagreement between the predecessor and management about the application of accounting principles. Research reveals that auditor changes after a disagreement are associated with clients that have poorer earnings performance, more debt, fewer current assets, and poorer stock price performance than changes without a disagreement.⁶ In practice, firms resign from audit engagements for a variety of reasons—among them a deteriorating control environment, management turnover, or earnings management—and the incidence of resignation has increased in recent years. For example, based on data compiled by Auditor+Trak from SEC filings, the *Public Accounting Report* found that the Big Five firms resigned from 137 audit engagements in 1998, up from 82 in 1997. Responding to the increase, Jay Brodish, a PwC partner, stated that, “One of the keys to good risk management is better selection of clients.”⁷

When a new engagement involves replacing a predecessor auditor, the successor should communicate with the predecessor before accepting the engagement. In fact, when more than one potential successor proposes on a new engagement, the successor typically accepts the engagement conditional on communicating with the predecessor, since the communication may reveal circumstances unacceptable to the successor. For example, the predecessor may reveal to the successor that management lacks integrity. *Statement on Auditing Standards (SAS) No. 84*, “Communications Between Predecessor and Successor Auditors,” places the initiative for communication on the successor auditor. Since

5 H. F. Huss and F. A. Jacobs, “Risk Containment: Exploring Auditor Decisions in the Engagement Process,” *Auditing: A Journal of Practice & Theory* (Fall 1991), pp. 16–32.

6 D. S. Dhaliwal, J. W. Schatzberg, and M. A. Trombley, “An Analysis of the Economic Factors Related to Auditor-Client Disagreements Preceding Auditor Changes,” *Auditing: A Journal of Practice & Theory* (Fall, 1993), pp. 22–38.

7 “Is Auditing Becoming Risky Business?” *Public Accounting Report* (February 15, 1999), pp. 1, 7.

Rule 301 of the Code of Professional Conduct precludes an auditor from disclosing confidential information without a client's permission (Chapter 19), the successor asks the prospective client to authorize the predecessor auditor to respond fully to the successor's inquiries. If the prospective client refuses, or limits the information a predecessor may disclose, the successor determines the reason for refusal and the impact on the decision to accept the engagement.

Under *SAS No. 84*, the successor makes specific and reasonable inquiries that bear on his or her decision to accept the engagement. For example, the successor may make inquiries about management's integrity, disagreements with management, and the reason management is changing auditors. In response, the predecessor auditor should reply fully and promptly, although the predecessor may alert the successor that his or her response is limited due to circumstances such as pending or threatened litigation. Interestingly, research reveals that, despite the responsibility to communicate with predecessors, some successor auditors do not. For example, one study found that fully one-fourth of 550 successor auditors did not communicate with predecessors (and that the extent of noncommunication was higher in smaller firms),⁸ and another found that a startling three-fourths of 151 successors did not communicate.⁹ Unless asked by the successor, the predecessor is under no obligation to communicate information to the successor auditor, even if the predecessor is aware of facts that would bear on the successor's decision to accept the new engagement, such as repeated violations of authoritative accounting pronouncements.

Establish an Understanding with the Client

After a decision is made to accept (or continue) an engagement, *SAS No. 83* (and *SSAE No. 7*), "Establishing an Understanding with the Client," requires that the practitioner establish an understanding with his or her client about the objective and limitations of the engagement and management's responsibilities. For example, the objective of a financial statement audit is to express an opinion about whether management's financial statements present fairly, in all material respects, the financial position, results of operations, and cash flows in conformity with GAAP. However, consider the objective of a financial statement service other than an audit. For example, the objective of an agreed-upon procedures engagement to issue a report about a bank's compliance with the Federal Depository Insurance Corporation's (FDIC) "safety and soundness" regulations is quite different from the objective of a financial statement audit, driving an important limitation in the engagement: The bank, among other parties such as the FDIC, can rely on the practitioner's report for no purpose other than assurance about the bank's compliance with the FDIC regulations, not, for example, about management's compliance with GAAP.

In a financial statement audit, management is responsible for:

- The financial statements,
- Establishing and maintaining effective internal control over financial reporting,

⁸ J. C. Lambert, S. J. Lambert III, and T. G. Calderon, "Communication Between Successor and Predecessor Auditors," *Auditing: A Journal of Practice & Theory* (Spring 1991), pp. 97–109.

⁹ G. W. Glezen and M. B. Elser, "The Auditor Change Process," *Journal of Accountancy* (June 1996), pp. 73–77.

- Assuring compliance with applicable laws and regulations,
- Making all financial records and information available to the auditor, and
- Providing the auditor with a letter confirming representations management made during the engagement.

Depending on arrangements negotiated between the auditor and the client, management's responsibilities might also include, for example, compiling spreadsheets and retrieving evidence.

Engagement Letters. SAS No. 84, "Communications Between Predecessor and Successor Auditors," requires that an auditor document his or her understanding in the working papers, preferably through a written communication called an **engagement letter**. The engagement letter is drafted by the auditor for the chief executive officer's signature and, as illustrated in Figure 5-2, is a written agreement between the auditor and the client that serves to minimize misunderstandings, alert the client to the purpose of the engagement and role of the auditor, and help minimize legal liability for services neither contracted nor performed. Engagement letters are recommended, though not required, by SAS No. 84. However, practitioners have every reason to prepare an engagement letter for every professional engagement, since the risk of misunderstanding can, and sometimes does, result in serious legal judgments against the independent auditor. For example, consider *1136 Tenants' Corp. v. Max Rothenberg & Co.*, a prominent and precedent-setting case regarding engagement letters. 1136 Tenants' Corporation was an apartment cooperative that engaged Max Rothenberg & Co., without an engagement letter, to conduct nonaudit accounting services. Rothenberg provided services from 1963 to 1965, when it was discovered that a former manager had absconded with funds from the corporation. 1136 Tenants sued Max Rothenberg, arguing that an audit should have been performed. In defense, Rothenberg unsuccessfully argued that an audit was not agreed to. The professional fees for the engagement amounted to only \$600 per year, but Rothenberg was ordered to pay \$230,000 in damages and, as a result, engagement letters have become common in practice.

Although *1136 Tenants'* suggested that engagement letters could limit an accountant's liability to services included in the letter, *Congregation of the Passion, Holy Cross Province v. Touche Ross & Co.*, an Illinois Supreme Court case, suggests otherwise. The Congregation, a Roman Catholic religious order, engaged Touche Ross to prepare unaudited financial statements in 1973. Beginning in 1976, the Congregation entrusted full responsibility for a \$2 million investment portfolio to an investment advisor who entered into a leveraged arbitrage strategy that exposed the Congregation to losses far beyond the amount invested. The Congregation was fully informed by transaction confirmations from securities dealers, but sued Touche Ross in federal court for securities laws violations and then in Illinois state court for breach of contract and negligence. Federal charges were dismissed but the Illinois Supreme Court ruled in favor of the Congregation, arguing that an accountant's duty to clients is defined both by the engagement letter and by *extracontractual* responsibilities, suggesting that an engagement letter is necessary but not always sufficient to define the limits of an accountant's responsibility to clients. The majority opinion did not define "extracontractual" responsibilities, prompting a dissenting justice to write, "What are these extracontractual duties? If these duties cannot be articulated in a contract, how is it that the

Figure 5-2: Engagement Letter

Cheever & Yates, LLP
Suite 2600
650 Madison Avenue
New York, NY 10022

March 24, 2005

Mr. Raymond Carver, President
The Wilson Company
15 Artubus Drive
Stony Brook, NY 11790

Dear Mr. Carver:

This will confirm our understanding of the arrangements for our audit of the financial statements of The Wilson Company for the year ended December 31, 2005.

We will audit the company's balance sheet at December 31, 2005, and the related statements of income, retained earnings, and cash flows for the year then ended for the purpose of expressing an opinion on them. Our audit will be made in accordance with generally accepted auditing standards. Our procedures will include tests of documentary evidence supporting the transactions recorded in the accounts, tests of the physical existence of inventories, and direct confirmation of receivables and certain other assets and liabilities by correspondence with selected customers, creditors, legal counsel, and banks. At the conclusion of our audit, we will request certain written representations from management about the financial statements and related matters.

Management is responsible for the fair presentation of financial statements in conformity with generally accepted accounting principles and for the development, implementation, and maintenance of adequate internal controls.

Management is responsible for adjusting the financial statements to correct material misstatements and for affirming to the auditor in the representation letter that the effects of any uncorrected misstatements aggregated by the auditor during the current engagement and pertaining to the latest period presented are immaterial, both individually and in the aggregate, to the financial statements taken as a whole.

Although we may consult with you about accounting principles, management is responsible for their selection and application. Our engagement is subject to the risk that material errors, frauds, or illegal acts, if they exist, will not be detected. However, we will inform you of any such matters that come to our attention.

We will review the company's federal and state income tax returns for the fiscal year ended December 31, 2005. These returns, we understand, will be prepared by the controller. Further, we will be available during the year to consult with you on the tax effects of any proposed transactions or contemplated change in business policies.

Our fee for these services will be at our regular per diem rates, plus travel and other out-of-pocket costs. We expect fees to aggregate approximately \$125,000. Invoices will be rendered monthly and are payable on presentation.

We are pleased to have this opportunity to serve you.

If this letter expresses your understanding, please sign the enclosed copy where indicated and return it to us.

Sincerely,

Cheever & Yates, LLP

Arrangements accepted:

President
The Wilson Company

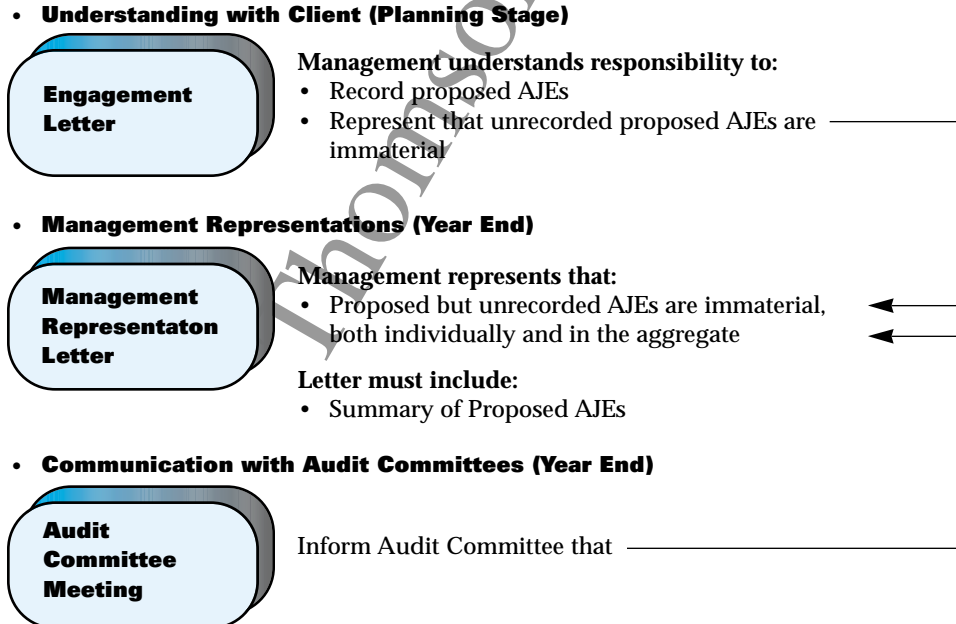
Date

client is able to articulate that they have been breached in a complaint?”¹⁰ The boundary of an accountant’s extracontractual responsibilities remains an open question.

Proposed Adjusting Journal Entries. Prior to completing a financial statement audit, an auditor proposes to management what are often called *proposed adjusting journal entries*—adjusting journal entries that, if recorded, would conform management’s financial statements to GAAP. However, in the 1990s, the chairman and the chief accountant of the SEC each expressed concerns that some auditors had “waived” known potential misstatements on the grounds of immateriality.¹¹ Although appropriate in some circumstances (for example, when a misstatement is immaterial, unintentional, and unlikely to affect the decisions of users), waiving adjusting journal entries runs the risk that management could invoke the waiver as prima facie evidence that alleged misstatements weren’t material misstatements at all, an argument that runs counter to the third paragraph in the engagement letter illustrated in Figure 5-2: Management (not the auditor) is responsible for the fair presentation of financial statements in conformity with GAAP.

To emphasize management’s responsibility for the fair presentation of financial statements, the Auditing Standards Board issued *SAS No. 88*, “Audit Adjustments,” which imposes the three responsibilities outlined in Figure 5-3. First, in

Figure 5-3: Management’s Responsibility for Proposed Adjusting Journal Entries (AJEs)



¹⁰ D. Crawford, D. Franz, R. A. Zimmerman, and P. R. Fink, “Exposure to the Extracontractual,” *Journal of Accountancy* (December 1995), pp. 90–91.

¹¹ Panel on Audit Effectiveness, *Report and Recommendations* (2000), pp. 55–56.

the planning stage of an engagement, management's engagement letter includes a statement that management understands their responsibility to record material proposed adjusting journal entries and to confirm in a representation letter at the end of the engagement that unrecorded adjusting journal entries are immaterial, both individually and in the aggregate. (The engagement letter in Figure 5-2 illustrates relevant language in the fourth paragraph.) Second, at year end, management is responsible to confirm in a representation letter the responsibility represented in the engagement letter: The proposed but unrecorded adjusting journal entries summarized in the letter are immaterial, both individually and in the aggregate. And third, at year end, the auditor informs the audit committee about management's representation, usually at a regularly scheduled audit committee meeting.

Establish an Understanding of the Client's Strategies and Business

In practice, much of what an auditor does during an engagement—stated another way, much of what you'd see if you observed an auditor in the field—is preoccupied with acquiring, evaluating, and documenting evidence about transactions that bear on management's financial statement assertions. However, to think that an auditor ventures no further than financial transactions wholly overlooks the range of relevant evidence that auditors seek about:

- Management's *risks*,
- The *strategies* management undertakes to overcome risk, and
- The *transactions and events* that are the product of management's strategies.

Transactions alone don't drive a business. Rather, management's mission, strategies, and capacity to innovate drive the transactions that a business enters into. In short, the unit of analysis in a financial statement audit is not necessarily transactions. Transactions alone are far too myopic to capture the complex web of truths that preoccupy management—for example, truths about market share, competition, backorders, stockouts, patent infringements, product development, and the market's acceptance of the products developed. An auditor's line of vision is pitched to the risks management endures and the strategies management enacts to overcome risk.

One way an auditor can document management's strategies is a **client strategy template**, illustrated in Figure 5-4 for Merck.¹² Compiled during the planning stage of an engagement, the template summarizes the following client strategies and characteristics:

Strategies

- Growth strategy
- Financial goals and operating priorities

Characteristics of the Business

- Major business units
- Markets
- Products

¹² Another example from the auditing literature appears in T. Bell et al., *Auditing Organizations Through a Strategic-Systems Lens*, KPMG Peat Marwick, 1997.

Figure 5-4: Client Strategy Template: Merck & Co., Inc.

Strategies

Growth Strategy: Demonstrate the value of medicines to patients, payers, and providers. Discover new medicines through breakthrough research.

Financial Goals and Operating Priorities: Remain in the top quartile of leading health care companies. Maximize revenue growth. Preserve the profitability of core pharmaceutical business through continuous improvements in productivity and organizational effectiveness. Achieve the full potential of managed pharmaceutical care.

Characteristics of the Business

Major Business Units: The Americas, Europe/Middle East/Africa, Asia Pacific, Merck-Medco Managed Care, Vaccines

Markets: Elevated cholesterol, Hypertension/heart failure, Anti-ulcerants, Antibiotics, Ophthalmologicals, Vaccines/Biologicals, Human immunodeficiency virus (HIV), Osteoporosis, Animal health/crop protection

Products: Cozaar (high blood pressure), Zocor (elevated cholesterol), Fosamax (postmenopausal osteoporosis), Proscar (symptomatic benign prostate enlargement), Pepcid (ulcers and gastroesophageal reflux disease), Mefoxin (antibiotic), Dolobid (arthritis and pain), Indocin (arthritis), Chibroxin (conjunctivitis), Timoptic (glaucoma), Singulair (asthma), Pneumovax 23 (adult pneumonia), Recombivax HB (hepatitis B), Ivermectin (animal parasites), Thiabendazole (crop fungal infestation), Maxalt (migraine headaches)

Customers: End users (human, animal), Health care providers, Insurance companies, Center for Disease Control

Competitors: American Home Products, Bayer, Bristol-Myers Squibb, Eli Lilly, GlaxoSmithKline, Pfizer, Pharmacia, Schering, Plough

Strategic Alliances/Joint Ventures: Astra, DuPont, Johnson & Johnson, Chugai, Pasteur Merieux, Merial

Potential Adverse Influences: Managed care, Generics, Declining exclusivity periods, Federal Drug Administration, Patent expiration, Market acceptance and demand, Global and domestic politics, Interest rates, Currency fluctuations, Knowledge transmission

- Customers
- Competitors
- Strategic alliances and joint ventures
- Potential adverse influences

The following introduces the pharmaceutical industry and illustrates a client strategy template for Merck.

The Industry. The Pharmaceutical Research and Manufacturers of America (PhRMA) Foundation reports that pharmaceutical companies spend \$25 billion annually on research and development, and that the cost to discover and develop a new drug averages \$500 million, an amount more than three times the cost of a Boeing 747 jumbo jet. Equally daunting, the time span from research to market ranges roughly from ten to fifteen years, and is complicated further by the need for U.S. Food and Drug Administration (FDA) approval. For example, Merck's Pepcid AC, a nonprescription stomach acid controller, received FDA approval for U.S. distribution in 1995, 32 years after industry research had begun on a competing drug, GlaxcoSmithKline's Tagamet, the first prescription drug to exceed \$1 billion in sales.

Complicating the relationship between risk and return, the U.S. market for health care services has witnessed unprecedented change in the way that care is delivered and providers are compensated. Today 4 out of 5 employed Americans are covered by managed care organizations (MCOs) that deploy a number of cost containment strategies targeted specifically to prescription drugs. For example, about 90 percent of the people enrolled in MCOs are constrained in drug purchases by what the industry calls "formularies," a list of prescription drugs that an MCO approves for coverage. Managed care organizations work tirelessly to reduce health care costs, driving a friction unwelcome to pharmaceutical companies: downward pressure on revenues.

Pharmaceutical companies once recouped research and development costs by monopolizing product sales, since patent laws forbid competition by rival companies. However, the *Drug Price Competition and Patent Term Restoration Act* of 1984 enabled rivals to seek approval quickly for generic copies, thereby reducing a brand-name drug's "exclusivity period," the time that a newly introduced drug stands alone in a therapeutic class. For example, although prescription Tagamet enjoyed exclusivity for six years, Invirase, the first in a new class of anti-viral protease inhibitors, was exclusive for only three months. Declining exclusivity periods reduce significantly the profitable life span of a new drug and, like managed care organizations, threaten the profitability of research-based pharmaceutical companies.

Business Units, Markets, Products, and Customers. As outlined in Figure 5-4, Merck operates in five autonomous business units to serve health care providers, insurance companies, and consumers worldwide. In most years, the company manages roughly 50 development-stage product candidates and FDA-approved products.

Merck's mission, "improving and preserving human lives," translates into two strategies for growth (Figure 5-4):

- Demonstrate the value of medicines to patients, payers, and providers.
- Discover new medicines through breakthrough research.

Merck has enjoyed exceptional sales on four drugs in decidedly different product-cycle stages: Zocar, an established cholesterol drug; Cozaar, a relatively new high blood pressure drug; Fosomax, a bone deterioration deterrent; and Singulair, the company's asthma drug. However, despite an acknowledged commitment to state-of-the-art research, Merck has suffered setbacks. For example, in the late 1990s, Merck stunned the industry with news that the company had begun large-scale human testing on an experimental antidepressant that targeted a mysterious brain chemical called "substance P." The drug was expected to dominate the \$7 billion antidepressant market, but Merck reported one year later that tests on several hundred patients had produced similar results among patients that had received the drug and patients that had received a placebo. The news was disappointing for two reasons: First, the drug was scheduled to reach market by late 2001, the date patents expired on several Merck products. Second, the bad news added pressure to another development stage drug, Vioxx, a pain medicine that represented Merck's other expected blockbuster and that the FDA approved in Spring 1999.

News about patent expirations and threats to new product development prompted warnings about Merck's growth strategy. For example, the Dow Jones News Service reported that "there is concern in the market about its future growth . . . because the company faces a number of upcoming patent expirations."¹³ And Deutsche Bank Securities analyst, Mariola Haggar, speculated that Merck may need to "consider a significant merger to boost its growth prospects."¹⁴ On the other hand, some analysts were more forgiving about Merck's negative report. For example, Merrill Lynch commented that, "We believe that the market overreacted to the news . . ."

Financial Goal and Operating Priorities. Merck reports one financial goal and three operating priorities (Figure 5-4):

- Remain in the top quartile of leading health care companies.
- Maximize revenue growth.
- Preserve the profitability of core pharmaceutical business.
- Achieve the full potential of managed pharmaceutical care.

Evidence over the past half decade reveals that the company more than accomplished the goal of remaining in the top quartile of leading health care companies, and achieved both revenue growth and profitability in core pharmaceutical products. For example, Merck enjoyed over 15 percent annual earnings per share growth for the five-year period ended in 2000 (compared to average negative returns for the industry at large), revenues that represented approximately 15 percent of all pharmaceutical revenues, and planned annual cost savings approximating \$250 to \$350 million. The consensus view among some observers is that Merck can remain in the top quartile, continue revenue growth, and preserve core profits. For example, one major investment house estimates sales and income growth approximating 12 and 6 percent, respectively, beyond the turn of the century.

13 M. Trotman, "Drug Makers 4Q: Analysts Look to Sources of Growth," *Dow Jones News Service* (January 26, 1999).

14 R. Langreth, "Merck & Co. Hits a Stumbling Block in Testing Experimental Antidepressant," *The Wall Street Journal* (January 25, 1999), p. B6.

Competitors and Strategic Alliances. Merck faces competition from a number of high-profile rivals, including American Home Products, Bayer AG, Bristol-Myers Squibb, Eli Lilly, GlaxoSmithKline, Pfizer, Pharmacia, and Schering-Plough. Keen competition among rival companies does, on balance, constrain profit for those rivals that lose the first-mover's race to market. On the other hand, consumers benefit through lower-cost medicines that would linger in development absent competition. For example, in 1998 alone the FDA approved medicines affecting more than 180 million people, including:

- The first medicine to treat Crohn's disease, a chronic and debilitating gastrointestinal disorder.
- The first new tuberculosis drug in 25 years.
- The first in a class of drugs for Parkinson's disease, a progressive neurological disorder affecting 1.5 million Americans.
- The first in a class of once-daily use drugs for asthma.

In the 1990s, pharmaceutical companies developed over 300 new medicines, helping to reduce deaths from heart disease, cancer, infection, and AIDS.

To overcome the long lead time to market and low risk/return ratios, Merck, among other pharmaceutical companies, has entered into strategic alliances to bypass research and to share risk. For example, Merck entered into a strategic alliance with Astra AB, a German pharmaceutical company, to develop and market Astra products in the U.S., thereby allowing Merck to bypass developing the products and Astra to penetrate U.S. markets. Merck entered into alliances with DuPont for radiopharmaceutical imaging agents and with Johnson & Johnson for nonprescription medicines, the intent of both alliances being to share risk. Strategic alliances are, for want of a better term, "leverage assets" that complement Merck's core business by offering revenue sources not otherwise available.

The information in Merck's client strategy template (Figure 5-4) approaches the company at a level far removed from the transactions summarized in Merck's financial statements, thereby offering insights into potential adverse influences, threats to the business, and risks that are not otherwise apparent from recorded transactions alone. These issues are discussed below as part of audit planning.

Planning

Nothing in an orderly, well-done audit could be that way without planning, although the extent of planning depends on the auditor's understanding and experience with the client's strategies, business, size, and complexity. For example, more planning would be required on a new engagement for a large client in an industry the auditor had not served previously.

Consider the Risk of Misstatements Arising from Fraud. The scope paragraph of a standard audit report (Chapter 3) states that an auditor obtains ". . . reasonable assurance about whether the financial statements are free of material misstatement." In practice, misstatements occur most often because of errors client personnel may make unintentionally when recording, classifying, and summarizing transactions and events. But sometimes misstatement is intentional. Two examples: First, in *Cedars of Lebanon Hospital Corp. v. Touche Ross* (1982), management and the board of directors brought suit against Touche Ross for failing to detect an embezzlement perpetrated by the hospital's administrator. A Circuit Court of

Dade County, Florida, not only found Touche Ross not guilty, but also awarded the firm legal and accounting fees and punitive damages from Cedars of Lebanon. And second, in *Cenco, Inc. v. Seidman & Seidman* (1982), new management at Cenco, a Chicago medical products firm, sued Seidman for failing to uncover a \$25 million inventory fraud perpetrated by Cenco's former management. In a three-judge decision, the U.S. Court of Appeals for the Seventh Circuit in Chicago upheld a lower federal court, ruling that Seidman was not negligent for failing to uncover the fraud, since "auditors aren't detectives hired to ferret out fraud," and the fraud was quite difficult to detect because former management turned the company "into an engine of theft against outsiders." In both cases, the auditors were found not legally liable for failing to detect fraud. Rather, the courts concluded that an audit designed to obtain reasonable assurance about material misstatements does not impose a legal obligation to detect cleverly concealed fraud.

Coincident with hearings conducted by the House Subcommittee on Oversight and Investigations, the AICPA and the Institute of Internal Auditors, among others, reached agreement in 1985 to form an independent National Commission on Fraudulent Financial Reporting, chaired by James C. Treadway, Jr., a former SEC commissioner. Over a two-year existence, the Treadway Commission considered the extent to which management fraud undermines the integrity of financial reporting, the extent to which fraud can be prevented, the role of independent auditors in detecting management fraud, and whether changes in auditing standards were necessary. Although the Commission appreciated that an auditor cannot be held responsible for detecting all frauds (for example, the Cedars of Lebanon and Cenco cases above), particularly those involving a carefully concealed forgery or collusion, they recommended that auditors be held responsible to assess the likelihood of fraud in every audit, to design tests that would provide reasonable assurance of detection, and to be professionally skeptical of management, rather than assume unilaterally that management has integrity. *SAS No. 53, "The Auditor's Responsibility To Detect and Report Errors and Irregularities,"* issued in 1988, responded to all three recommendations. However, over the next half decade, the actions of the Public Oversight Board and Congress made plain the profession's need to again address fraud. For example, the POB recommended strongly in a 1993 report, *In the Public Interest*, that auditors exercise more professional skepticism. And Congress, in a provision of *The Private Securities Litigation Reform Act of 1995*, required that auditors report fraud to management and to the audit committee and, failing immediate reaction, report in writing to the full board of directors and to the SEC within one business day. In response, the Auditing Standards Board issued *SAS No. 82, "Consideration of Fraud in a Financial Statement Audit,"* the standard today, which distinguishes between errors and fraud and provides expanded guidance on a practitioner's responsibility.

An Auditor's Responsibility. **Errors** are unintentional misstatements or omissions in financial statements. Examples include mistakes in gathering or processing accounting data, mistakes in applying accounting principles, and incorrect accounting estimates, such as allowances for uncollectible receivables, that arise from oversight or misinterpretation of facts. **Fraud**, in contrast, arises from fraudulent financial reporting and from misappropriation of assets:

Fraudulent financial reporting	An intentional misstatement or omission of an amount or disclosure in financial statements. Examples include the manipulation, falsification, or alteration of records or documents; the misrepresentation or omission of transactions or events; and the intentional misapplication of an accounting principle.
Misappropriation of assets	A theft of assets. Examples include embezzling cash, stealing inventory, or causing payment for services not received.

Fraudulent financial reporting and misappropriation of assets differ in this way. The former is usually committed by management to deceive financial statement users, whereas the latter is usually committed by employees and deceives management.

As indicated by the definitions and examples, *intent* is the primary difference between an error and a fraud. In practice, however, intent is often difficult to measure. For example, an unreasonably low estimate of the allowance for uncollectible accounts receivable could result from an unintentional bias, which would constitute an error, or from an intentional attempt to misstate the financial statements, a fraud. An auditor's responsibility for detecting errors and fraud is identical because both misstate the financial statements. However, distinguishing between the two in practice is important nevertheless, because fraud is intentional and, as a result, raises concerns about management's integrity.

In a financial statement audit, an auditor is responsible to obtain reasonable assurance about whether the financial statements are free of material misstatement, and whether any misstatement is caused by unintentional error or intentional fraud. However, fraud may occur on any audit, even those for which the unsuspecting auditor has no reason to believe it may. For example, Touche Ross did not suspect that an administrator had embezzled from Cedars of Lebanon Hospital and Seidman & Seidman did not suspect inventory mismanagement at Cenco. As a result, generally accepted auditing standards require that:

The auditor should specifically assess the risk of material misstatement of the financial statements due to fraud and should consider that assessment in designing the audit procedures to be performed.

Despite the profession's heightened awareness of fraud, a properly planned and executed audit may still fail to detect a cleverly concealed fraud, particularly one involving forgery or collusion among employees or management. For example, auditors are neither trained nor expected under generally accepted auditing standards to judge the authenticity of forged documents. An auditor is not an insurer and an audit report is not a guarantee, because an audit opinion and audit procedures are based on the concept of reasonable, not absolute, assurance. Nevertheless, an auditor should exercise both due care and professional skepticism to provide reasonable assurance that material errors and fraud will be detected.

Factors Affecting the Risk of Misstatements Arising from Fraud. Audit risk, introduced in Chapter 2, is the likelihood that an auditor may unknowingly fail to

modify an opinion on materially misstated financial statements. For example, there is a risk that material error or fraud in accounts receivable may go undetected, leading the unknowing auditor to issue an unqualified opinion on the financial statements even though the statements are materially misstated because of the undetected error or fraud. To assess the risk that errors or fraud may cause material misstatements, an auditor, while planning an engagement, considers factors that influence audit risk both at the overall financial statement level and at the account balance level.

At the financial statement level, the auditor considers factors such as those in Figure 5-5 and judges whether the assessed level of audit risk may affect the overall strategy of the audit. Although the presence of one of the factors from Figure 5-5 would not necessarily indicate increased risk, the presence of several could affect the auditor's strategy. For example, if management is committed to achieving analysts' earnings forecasts and there are unusual or highly complex transactions close to year end, an auditor would likely assess inherent risk at the maximum level and assess allowable detection risk at a relatively low level. As a result, the auditor would alter his or her overall strategy by expanding the extent of planned audit procedures, engaging experienced staff, and encouraging assigned staff to exercise more than the usual level of professional skepticism. At the account balance level, an auditor considers the effects of the financial statement level risk factors (Figure 5-5) on the specific financial statement accounts or classes of transactions affected. For example, if the rate of technological change in an industry is rapid, an auditor should consider whether any inventory is obsolete and therefore reported at inflated carrying values. In addition, the auditor should consider other factors that may influence the risk of material misstatements, such as complex calculations related to pension and warranty liabilities, imputed interest rates on receivables and payables, and loan loss reserves in the banking industry.

Professional Skepticism. An auditor should not presume without reason that management is dishonest, since a presumption of dishonesty in all cases would be contrary to the accumulated experience of practicing auditors. In fact, in considering the risk of material misstatements from errors and fraud, honesty is not necessarily the issue. Rather, the issue is that an audit should be planned and performed with professional skepticism, an attitude which recognizes that, honesty

Figure 5-5: Factors Affecting the Risk of Material Misstatement Arising from Fraud

Risk of Fraudulent Financial Reporting

Management's Characteristics and Influence Over the Control Environment

- Management is unduly aggressive about maintaining stock prices or earnings trends
- Management's incentive compensation is contingent on earnings performance or stock prices
- Management is committed to achieving analysts' forecasts
- Tax evasion
- Inappropriate disregard for ethics
- Management is dominated by a single person or small group
- Inadequate monitoring of controls
- Disrespect for regulatory authorities
- Continued employment of key accounting or technology staff

Figure 5-5: (continued)

- Nonfinancial management participates excessively in the selection of accounting principles
- Management turnover is high, particularly among senior financial personnel
- Strained relations between management and the current or predecessor auditor (e.g., frequent disclosure disputes, unreasonable time constraints, restricted access to evidence or personnel, attempts to influence audit scope)
- Prior securities laws violations

Industry Conditions

- New accounting, statutory, or regulatory requirements impair profitability
- Declining industry with increasing business failures
- Highly competitive industry, market saturation, or inadequate earnings relative to others in the industry
- Operating results are highly sensitive to technological change, inflation, unemployment, etc.
- Significant declines in customer demand, rapid product obsolescence

Operating Characteristics and Financial Stability

- Inability to generate cash flow from operations
- Accounting estimates based on significant uncertainties
- Significant related-party transactions
- Pressure to obtain additional capital
- Unusual or highly complex transactions close to year end
- Numerous or unusual legal entities, lines of authority, or contractual arrangements
- Unusual profitability relative to competing companies
- High dependence on debt or constraining debt covenants
- Vulnerability to interest rate changes
- Aggressive sales incentive programs
- Threat of foreclosure, bankruptcy, or hostile takeover
- Consequences of pending contract awards or business combinations
- Deteriorating financial condition guaranteed personally by management

Risk of Misappropriation of Assets*Susceptibility of Assets to Misappropriation*

- Large amounts of cash processed or on hand
- Small size, high-value, high-demand inventory
- Easily convertible bearer bonds, diamonds, computer chips
- Small, untraceable, marketable fixed assets

Employee Relationships or Pressures

- Well-known future employee layoffs
- Disgruntled employees who can access assets
- Unusual behavior by employees who can access assets
- Employees with known personal financial pressures

Controls

- Inadequate segregation of duties or independent checks
- Lack of management oversight
- Inadequate screening of job applicants
- Inadequate record keeping of assets susceptible to misappropriation
- Inadequate system of transaction authorization and approval
- Inadequate or untimely documentation for transactions
- Poor physical safeguards over cash, investments, inventory, or fixed assets
- No mandatory vacation policy for employees who handle cash

aside, management may have incentives to intentionally misstate amounts or disclosures in the financial statements—incentives, for example, that derive from the factors in Figure 5-5.

Professional skepticism should be exercised both at the planning stage of an engagement and while performing audit procedures and gathering evidence. If an auditor concludes during the planning stage that there is significant risk of material misstatement, audit strategy should be altered by assigning sufficiently experienced audit staff and by altering the nature, timing, and extent of audit procedures. The “nature” of procedures might be altered by obtaining more evidence from independent sources, “timing” might be altered by performing tests at or near the balance sheet date, and “extent” might be altered by increasing sample size or performing more extensive analytical procedures. However, auditors often confront troublesome scenarios while performing audit procedures that had not been foreseen during the planning stage of the engagement, among them discrepancies in accounting records and conflicting (or missing) evidence.

Discrepancies in Accounting Records. Although seemingly benign, transactions recorded incompletely could be symptomatic of fraudulent financial reporting (notice that the language is *could be*, not *is*). For example, management could inappropriately fail to record the companion cost-of-sales entry to a recorded sales entry, thereby enabling a 100 percent profit margin on the sale and overstating earnings by the historical cost of the product sold. In turn, management could postpone recording the cost-of-sales entry until after the balance sheet date, thereby recording the sales and cost-of-sales entries properly, albeit in the wrong period. Other symptoms include unsupported balances (e.g., lack of documentation to support a recorded sales transaction), unauthorized transactions (e.g., earnings-enhancing price terms on land purchases from a related party), misclassified accounting entries (e.g., repair expenses charged to the assets repaired rather than to period expenses), or last-minute adjustments that affect reported earnings significantly (e.g., reversal of a previously recorded accrued expense).

Conflicting or Missing Evidence. There is a presumption in practice that audit evidence is both valid and reliable, absent a reason to suspect otherwise. Sometimes, however, there *is* reason to suspect otherwise, such as vague, inconsistent, or implausible responses from management about unusual fluctuations in account balances. For example, imagine that, in response to a question about significant declines in gold inventory, the management of a major manufacturer of college rings says, “Students just aren’t buying rings these days.” The response is at once both vague and unverifiable. Who can say for sure what college students are thinking? However, consider this response: “We’ve lost market share.” Now the response is both diagnostic and verifiable: diagnostic because the auditor has a plausible hypothesis (i.e., it’s reasonable that management would reduce gold inventory, since orders are declining and gold is used in the manufacture of rings), and verifiable because the auditor can review sales contracts to calibrate the loss of market share. Other suspicious examples include the consistent unavailability of original hard-copy documents, unusual discrepancies between recorded balances and confirmation replies, and recorded assets that cannot be located.

First-Quarter Planning. Initial first-quarter planning, usually performed soon after the first quarter of an audit client’s fiscal year, is intended to identify early the

important accounting, auditing, or reporting issues that are apparent from financial or nonfinancial sources. An auditor's typical first-quarter planning activities, summarized in Figure 5-6, begin with reviews of prior-year audit work and current-year first quarter financial information.

Figure 5-6: Audit Planning

<i>Approximate Dates</i>	<i>Activity</i>
April–May	First-quarter planning Review prior-year audit work. Review first quarter financial results. Prepare preliminary audit time budget.
July–August	Second-quarter planning Review second quarter financial results. Prepare final audit time budget. Perform analytical procedures. Prepare preliminary audit planning memorandum. Coordinate with assigned staff. Coordinate with client. Prepare interim audit programs.

The *review of prior-year audit work* is designed to assess potentially risky audit areas, identify audit areas to be emphasized during the engagement, and consider improvements for the current year. For example, an unusually large number of adjusting journal entries and unexpectedly high actual hours in the audit of receivables last year may prompt the auditor this year to reallocate budgeted audit hours from a low-risk account to receivables. The *review of first-quarter financial results* is similarly motivated: The auditor attempts to isolate unexpected fluctuations or inconsistencies from prior-year statements that may signal potentially risky audit areas this year. For example, an intensive January advertising campaign followed by poor first-quarter sales may have implications for the valuation assertion, since the carrying value of inventory may exceed net realizable value. The review of first-quarter results also includes newspaper and magazine accounts that offer insights about product lines that support expected earnings. For example, a *Wall Street Journal* account about Merck's first-quarter results revealed that "Fosomax, the company's new osteoporosis therapy, had sales of \$44 million, surpassing [an analyst's] estimate," and that "Zocor and another of Merck's cholesterol-lowering drugs together command about 40% of the worldwide market." Both pieces of information are helpful to the auditor's understanding of Merck's business and to the company's competitive standing in the industry.

As part of first-quarter planning, an auditor also prepares a *preliminary audit time budget*, an estimate of total planned audit time by staff level and audit activity. For example, a preliminary time budget for cash, marketable securities, and receivables might appear in part as follows:

Partial Preliminary Time Budget

<i>Total Audit Area</i>	<i>Interim</i>	<i>Estimated Hours</i>		<i>Estimated Hours by Staff Level</i>		
		<i>Year End</i>	<i>Assistant</i>	<i>Senior</i>	<i>Manager</i>	<i>Partner</i>
Cash	40	(35)	36 (31)	2 (2)	1 (1)	1 (1)
Marketable securities	20	(15)	17 (12)	1 (1)	1 (1)	1 (1)
Accounts receivable	40	(30)	34 (25)	4 (3)	1 (1)	1 (1)

Audit time budgets should be realistic to the risks expected but respectful of the experience of assigned staff, since tight audit budgets can affect audit quality. For example, a considerable amount of research literature has addressed tight time budgets and the propensity for audit staff to shirk. One study in three offices of two firms revealed that time pressure drove over one-half of 152 responding staff auditors to sign off audit program steps prematurely, to reduce audit effort below levels they considered appropriate, to overlook researching an accounting principle, to review client documents superficially, and to accept weak oral explanations from management.¹⁵ Although the study did not address the cause of shirking, the effect is clear: an inexcusable absence of due care that seriously undermines audit quality.

Consider Potential Adverse Influences, Threats to the Business, and Audit Risk.

Research-based pharmaceutical companies endure pressure from stakeholders, among other external influences, much of which is beyond the companies' control. Stakeholders include managed care groups and elected legislatures that exert pressure for cost containment, stockholders who demand share value, physicians and consumers who judge the acceptance of new medicines, and employers burdened with the rising costs of employee and retiree health care costs. For example, General Motors, the largest private purchaser of health care in the U.S., spends annually over \$1 billion on prescription drugs, \$37 million alone on Merck's Zocor, a cholesterol prescription drug.¹⁶ Other influences include legislation, interest rates, the transmission of proprietary knowledge to competitors, and competition from generic suppliers. However, the key question facing Merck and their auditors is how industry-wide adverse influences, among other matters specific to a company, add threats to the business and risk to the auditor.

Merck is quite large: The company enjoys annual revenues in excess of \$30 billion and a market capitalization in excess of \$160 billion, largest among research-based pharmaceutical companies. Size offers advantages, including accessibility to financing and the reach of a well-armed sales force. However, size also raises the bar, since earnings growth depends crucially on trumping the competition with sought-after, breakthrough products sure to create widespread demand. Small markets and limited demand do not pay off for large companies.

15 T. Kelly and L. Margheim, "The Impact of Time Budget Pressure, Personality, and Leadership Variables on Dysfunctional Auditor Behavior," *Auditing: A Journal of Practice & Theory* (Spring 1990), pp. 21–42.

16 "GM's War on Drug Costs," *Newsweek* (February 26, 2001), pp. 46–48.

For Merck, like other large pharmaceutical companies, the question is, “Who can do for AIDS and cancer what Jonas Salk did for polio?” This one observation is at the core of two threats to Merck’s strategies, goals, and priorities:

- At-risk growth strategy.
- Competitive pricing.

Figure 5-7 summarizes evidence bearing on both threats.

Figure 5-7: Threats to Client Strategies

<i>Threat</i>	<i>Evidence</i>
At-risk growth strategy	<p><i>Deutsche Bank Securities analyst’s report:</i> Company may need to “. . . consider a significant merger to boost its growth prospects.”</p> <p><i>Dow Jones News Service:</i> “. . . there is concern in the market about its future growth . . . because the company faces a number of upcoming patent expirations.”</p>
Competitive pricing	<p>Discount demands from managed care groups.</p> <p>Federal and state legislative proposals to reduce health care costs.</p> <p>Increased patient co-payments for prescription drugs.</p> <p>Physician incentives to prescribe generics.</p> <p>Employer pressures to curb increases in health care costs.</p>

Evidence in the public press suggests that Merck’s *growth strategy may be at risk*. For example, as illustrated in Figure 5-7, a report in the Dow Jones News Service warns that growth is threatened by patent expirations, and an analyst from Deutsche Bank Securities believes that growth may depend on merger. Patent expiration is a constant threat in the industry, and merger between drug companies is not uncommon, having accelerated in 2000 when Glaxo Wellcome merged with SmithKline-Beecham, creating the world’s largest pharmaceutical company. In turn, there is abundant evidence that stakeholders are exerting considerable pressure on Merck to *contain costs and price competitively* and others are seeking low-cost alternatives, all of which may serve to constrain Merck’s profitability. For example, managed care groups and employers are demanding discounts and curbs to health care cost increases, federal and state legislatures are drafting proposals to reduce health care costs, physicians have incentives to prescribe lower cost generics, and patients in some health care plans are required to make out-of-pocket, unreimbursed co-payments for prescription drugs.

Judging the predictive ability of any of these claims is not the auditor’s concern, and seeking contradictory information is not necessarily the auditor’s responsibility. Rather, the auditor considers the reliability of the source of each attributed claim and the reasonableness of each unattributed claim. For example, absent evidence to the contrary, an auditor would have no reason to believe that reputable securities companies and a well-known news service have incentives to make prejudicial claims about a company’s growth strategy. And, on the face of it, although unattributed to any particular source, the claims about competitive

pricing appear eminently reasonable. Who among us can offer evidence contradicting the claim that health care costs are rising? In this case, an auditor would have every reason to believe that the information is reliable and, therefore, would have a due diligence obligation to impound the information into his or her assessment of risk. Specifically, an at-risk growth strategy and a competitive pricing strategy would bear on the company's ability to invoke sustainable profits and, in the extreme, on the auditor's professional skepticism about management motivation to engage in fraudulent financial reporting.

Growth strategies and pricing practices could bear explicitly on an auditor's assessment of risk. Two examples: First, an unrealistic earnings growth target could motivate management to manipulate earnings, thereby increasing the risk of fraudulent financial reporting. Second, an auditor's motivation to probe a company's ability to continue as a going concern beyond what's required by SAS No. 59 (Chapter 3) depends in part on his or her professional skepticism about financial distress, which could go unprovoked if the auditor were unaware of a reputable securities analyst's resolve about a growth strategy at risk. Interestingly, motivated by the insights often included in analysts' reports, some firms partner with investment companies to factor analysts' reports into the firms' assessments of risk and financial distress for publicly traded audit clients. Analysts synthesize large volumes of data, offer reasoned predictions for high-end stakeholders, and have insights that auditors have no reason to ignore.

Second-Quarter Planning. First-quarter planning focuses on preliminary evaluations—first pass, first thoughts—based on the auditor's general understanding of a client's business, industry, and other relevant factors. However, the informativeness of first-quarter planning is constrained, particularly in cyclical companies, since only one-fourth of the fiscal year has transpired. Second-quarter planning, also summarized in Figure 5-6, is usually performed after the second quarter, and begins with updates to the results of first-quarter planning by *reviewing second-quarter financial results and finalizing the audit time budget*. During second-quarter planning, the auditor also *performs analytical procedures* that are used to assist in planning the nature, timing, and extent of anticipated auditing procedures and in drafting the preliminary audit planning memorandum. For example, consistent with SAS No. 56, "Analytical Procedures," an auditor might compare on-time delivery rates, price (and quantity) variances, capacity utilization, and selected financial ratios between the first and second quarters and between the prior- and current-year's second quarters. Planning stage analytical procedures typically focus on improving the auditor's understanding of the entity's transactions and on identifying risky audit areas, and vary in sophistication from firm to firm depending on the engagement. For example, some auditors use simple comparisons and ratios of account balances between the current and prior year(s), and investigate those accounts that deviate from expectations beyond a significant threshold, called by some an "investigation threshold." However, the economic significance of a threshold is difficult to interpret unaided (that is, how large need a threshold be to reveal a deviation worth testing?). As a result, some auditors use statistical decision aids designed to optimize audit effectiveness by predicting and overlooking unproductive thresholds.¹⁷

17 For example, see R. M. Harper, Jr., J. R. Strawser, and K. Tang, "Establishing Investigation Thresholds for Preliminary Analytical Review," *Auditing: A Journal of Practice & Theory* (Fall 1990), pp. 115–133.

The auditor then prepares a *preliminary audit planning memorandum*, an overview of planned audit activity by staff level that includes the final audit time budget. Typically, the planning memorandum describes in general terms the audit approach intended for each audit area. For example, the memorandum might state the following for a client's income tax-related transactions and accounts:

Income Taxes

A tax department representative will participate with the audit staff at interim, completing a tax-planning checklist designed to identify specific tax-planning and disclosure problems. The tax department representative will prepare a memorandum of findings for distribution to and discussion with the audit partner, manager, and if necessary, the client. At year end, the audit staff will review the client's calculation of accumulated income tax prepayments, deferred income taxes, and income tax expense, consulting the tax department when necessary. A tax department representative will review year-end audit working papers and prepare a memorandum on the adequacy of related tax accounts. The audit supervisor will reach a conclusion as to whether all tax accounts are fairly stated at the balance sheet date.

The planning memorandum includes similar paragraphs for each audit area and is distributed to each professional staff member assigned to the engagement.

After completing and approving the planning memorandum, an auditor schedules available staff members for the audit and plans a meeting to *coordinate with professional staff assigned to the engagement*. The purpose of the meeting is to introduce each staff member to the engagement and discuss the planned audit approach. Since the meeting is ideally held in advance of interim and year-end field work, the assigned staff should have sufficient time to prepare for the engagement—for example, by reviewing the planning memorandum, the correspondence and permanent files, and prior-year working papers. The auditor needs also to *coordinate with the client* about the scheduled audit dates and anticipated client assistance in preparing working paper schedules, retrieving documents, and providing administrative help.

The final second-quarter planning activity involves drafting *interim audit programs* for tests of controls. Illustrated in Chapter 4 (Figure 4-7), an audit program is a detailed list of procedures to be performed for a particular aspect of an engagement. Individually, each audit program assists an auditor in estimating the time required for a particular audit area, in determining staff requirements, and in scheduling audit work. Collectively, all of the programs prepared for an engagement assist in maintaining control as the audit progresses. For initial engagements, interim audit programs are not usually prepared until the client's internal controls have been reviewed and documented, since the auditor has no prior information about the controls. However, in continuing engagements, interim audit programs can be drafted in advance of field work, since the auditor has prior knowledge of the client's controls and prior information about the results of previous assessments of control risk. Of course, if necessary, the programs may be revised when actually used, although the reasons for revision should be justified (e.g., unreliable information during second-quarter planning, information system changes).

Importantly, audit planning does not end with second-quarter planning. In fact, planning continues throughout an engagement, since a plan is subject to revision as more current information becomes available.

Interim Audit Work

Figure 5-8 summarizes an auditor's typical interim audit activities. The objective of interim work is to assess control risk (and inherent risk), thereby lending insight into the level of year-end detection risk necessary to hold audit risk to a relatively low level. For example, assume an auditor's combined assessment of control and inherent risk is 30 percent and that he or she wishes to hold audit risk to 6 percent. The audit risk model, introduced in Chapter 2, is:

$$AR = IR \times CR \times DR$$

Where: AR = Audit risk for an account

IR = Inherent risk

CR = Control risk

DR = Detection risk

Rearranging the audit risk model reveals that the acceptable level of detection risk would be 20 percent, calculated as follows:

$$\begin{aligned} DR &= \frac{AR}{IR \times CR} \\ &= \frac{.06}{.30} \\ &= .20 \end{aligned}$$

As discussed more fully in Chapter 6, a thorough assessment of control risk usually requires that an auditor perform two tasks. First, the auditor *obtains an understanding of an entity's internal controls* by documenting the controls through questionnaires, flowcharts, and narrative memoranda. An auditor uses his or her understanding to help predict the types of misstatements that may occur in an entity's financial statement assertions. For example, poor controls over the receipt and shipment of goods could drive a company to record purchase or sales transactions in the wrong accounting period at year end, called a "cutoff" problem, thereby affecting the occurrence or the completeness assertions. Second, after obtaining an understanding, the auditor *performs tests of controls*, often the most time-consuming part of interim work, focusing on the misstatements that could

Figure 5-8: Interim Audit Work

<i>Approximate Dates</i>	<i>Activity</i>
September–October	Obtain an understanding of internal controls. Perform tests of controls. Assess control risk.
November	Prepare preliminary year-end audit programs.

occur and the procedures management used to control against misstatements. For example, tests of controls over purchase and sales transactions would give the auditor insight into the risk of misstatements related to the occurrence or completeness assertions. That is, tests of controls lend insight about whether poor controls identified when documenting internal control are likely to cause material misstatements. The auditor then *assesses control risk* from his or her understanding of internal control and from the results of tests of controls. The assessment may be quantitative (e.g., 30 percent) or qualitative (e.g., medium).

The final interim audit activity involves drafting *preliminary year-end audit programs*. Year-end programs are heavily dependent upon the engagement's objectives, risky audit areas, audit areas to be emphasized and, most important, results of the auditor's assessment of control risk. Thus, year-end audit programs cannot be drafted during the planning stages of an audit, since a critical determinant of year-end detection risk—control risk—is not yet known.

Interim audit work is discussed and illustrated in detail in Chapters 6, 9, 11, 13, 14, and 15.

Year-End Audit Work

Figure 5-9 summarizes an auditor's typical year-end audit activities. Consistent with the third standard of field work, the objective of year-end audit work is to obtain sufficient competent evidential matter to afford a reasonable basis for an opinion on management's financial statements.

Figure 5-9: Year-End Audit Activities

<i>Approximate Dates</i>	<i>Activity</i>
December	Coordinate with client. Finalize year-end audit programs.
January–February	Perform substantive tests and analytical procedures. Evaluate audit test results. Perform subsequent events review. Obtain representation letters. Review working papers. Draft and sign reports.

Because the fiscal year for many companies corresponds with the calendar year, December 31 year-end audit engagements typically impose significant staff-assignment and time-pressure constraints for public accounting firms. Many audits need be completed at the same time. As a result, firms carefully *coordinate with the client* before beginning audit work, focusing particularly on dates that are critical to the client. For example, for publicly traded companies, when does management expect to announce earnings publicly? The auditor should meet with the client, usually well before year end, to confirm audit dates, finalize a list of working paper schedules the client will prepare, and arrange for banks to mail statements directly to the auditor. Coordination is much more critical at year end than at interim, since year-end work must be completed early enough to afford a timely audit report. For example, audit work for publicly traded corporations

must be completed in sufficient time to allow timely filing of Form 10-K to the SEC. Interim audit work, in contrast, can be conducted at almost any time during the year under audit (although interim work is usually done during the second half of the client's fiscal year).

Prior to performing year-end audit procedures, the auditor should *finalize year-end audit programs* prepared initially at interim. The auditor reviews and evaluates any significant system changes or other circumstances occurring since interim and updates the audit programs. Finally, an auditor undertakes the most time-consuming year-end audit activity: *performing year-end substantive tests* that include tests of details and analytical procedures. The purpose of substantive tests is to detect material misstatements that had not been prevented or detected by the entity's internal controls. The nature, timing, and extent of substantive tests map to the assessed level of detection risk and will vary depending on the client's industry. For example, a study of 368 adjusting journal entries for 171 engagements in six different industries found that, compared to companies in nonregulated industries (e.g., manufacturing, merchandising), companies in regulated industries (e.g., banks, insurance companies) have fewer total financial statement errors. However, the errors are more likely to be nonroutine (e.g., judgments about uncollectible accounts) than routine (e.g., miscalculations) and more likely to be detected using internal evidence (e.g., documentation) than external evidence (e.g., confirmations).¹⁸

Evaluate Audit Test Results. Material errors detected by applying audit procedures should be corrected through adjusting journal entries. Material fraud, in contrast, has additional implications because they are intentional. If an auditor detects fraud, but has also determined that the effect on the financial statements could not be material (for example, if there have been misappropriations of small amounts of cash from a small imprest fund), the auditor should:

- Refer the matter to an appropriate level of management that is at least one level above those involved, and
- Be satisfied that, given the position of the likely perpetrator, the fraud has no implications for other aspects of the audit or that those implications have been adequately considered.

However, if the auditor detects a material fraud or has been unable to evaluate materiality, he or she should:

- Consider the implications for other aspects of the audit,
- Discuss the matter and the approach to further investigation with an appropriate level of management that is at least one level above those involved,
- Attempt to obtain evidence to determine whether in fact material frauds exist and, if so, their effect, and
- If appropriate, suggest that the client consult with legal counsel about questions of law.

If an auditor concludes that an entity's financial statements are affected materially by a fraud, he or she should insist that the statements be revised. If

18 M. Maletta and A. Wright, "Audit Evidence Planning: An Examination of Industry Error Characteristics," *Auditing: A Journal of Practice & Theory* (Spring 1996), pp. 71–86.

management agrees, the statements would be revised by management, and the auditor should issue an unqualified opinion. But if management refuses, the auditor should express a qualified or an adverse opinion because, as discussed in Chapter 3, the financial statements will have departed from GAAP. In turn, if the auditor is precluded from applying necessary audit procedures or is unable to reach a conclusion about materiality, he or she should issue a qualified opinion or disclaim an opinion on the basis of a scope limitation, as explained in Chapter 3. Further, the auditor should report his or her findings to the board of directors or its audit committee. Disclosing fraud to parties other than senior management and the audit committee of the board of directors is not ordinarily part of an auditor's responsibility but may be necessary in some circumstances, such as disclosure in response to a court-ordered subpoena, an auditor change (SEC Form 8-K), an inquiry from a successor auditor, or a federal funding agency.

Year-end audit work is discussed and illustrated in detail in Chapters 10, 12, 13, 14, and 15.

Subsequent Events. An audit report is usually dated as of the last day of field work—for example, February 14, 2006 for a December 31, 2005 fiscal year end. For public companies, the last day of field work usually coincides with the date that management releases earnings to the public. Although the audit report and audit work relate to the period January 1 through December 31, 2005, the auditor is also responsible for transactions and events occurring between January 1 and February 14, 2006, called the “subsequent period,” that have an effect on the December 31, 2005 financial statements. For example, if an auditor learns on January 21, 2006 that a customer of an audit client is unable to pay a debt that arose in 2005, adjustment of the December 31, 2005 account receivable may be necessary depending on the circumstances. An auditor is responsible for, and must plan to search for, subsequent events, as discussed more fully in Chapter 16.

Management Representations. During the course of an audit, management and other parties make many representations to an auditor, both oral and written. For example, management represents that all material transactions have been recorded in the accounting records and that the entity has title to all owned assets. SAS No. 85, “Client Representations,” requires that an auditor obtain written representations from management in the form of a *management representation letter*. The representations an auditor obtains from management depend on the circumstances of the engagement but, at a minimum, management is required to represent that the financial statements are presented fairly in conformity with GAAP. Auditors also request written representations from other parties, such as *legal letters* from a client's lawyer, as required by SAS No. 12, “Inquiry of a Client's Lawyer Concerning Litigation, Claims, and Assessments.” Management representation letters and legal letters are discussed more fully in Chapter 16.

Working Paper Review

In practice, supervisory staff typically review the audit work performed by subordinate staff. For example, in an audit of a commercial bank, an audit senior might review an audit staff member's loan-loss reserve working papers and, thereafter, an audit manager might review both the staff member's work and the senior's conclusions. Not surprisingly, research has found that the review process

reduces the variance in judgments between supervisory and subordinate staff, and increases the accuracy of the working papers.¹⁹

In some firms, some engagement partners believe that seniors and managers may vary in their capability to detect errors made by subordinate staff, and therefore review (all or most of the) audit working papers on or about the last day of field work. Consistent with this practice, research suggests that audit managers may be more accurate than seniors in detecting conceptual errors (e.g., an undocumented audit procedure), and that audit seniors may be more accurate than managers at detecting mechanical errors (e.g., disagreement between a working paper account balance and a financial statement balance).²⁰ However, other firms and partners forgo the detailed review of working papers, preferring instead to rely on one of three other approaches: review by interview, review by presentation, or an overriding review. In *review by interview*, the engagement partner interviews assigned staff about the work accomplished and, based on the discussions and his or her experience, reviews detailed working papers as necessary. For example, an audit partner might interview a staff member about detailed work on loan-loss reserves and then review in part evidence bearing on the valuation of real property pledged as collateral. In *review by presentation*, assigned staff present their approach and findings, often to the entire audit team rather than to the engagement partner only, thereby encouraging interaction and exposing less experienced staff to challenging audit issues. In an *overriding review*, an engagement partner reviews selected detailed working papers that the partner judges most critical to his or her opinion on the financial statements. Regardless of the approach—detailed review, review by interview, review by presentation, or overriding review—the purpose of the partner’s review is to judge compliance with GAAS and with the firm’s quality control and performance standards.

Reports

As discussed more fully in Chapters 3 and 6, respectively, auditors conclude the audit process by preparing and issuing an audit report and a report on internal control-related matters noted during the audit. The audit report expresses the auditor’s opinion on the financial statements, and the report on internal control reveals significant deficiencies (called *reportable conditions*) in the design or operation of an entity’s internal controls. The auditor’s opinion on financial statements and report on deficiencies in internal control should be documented clearly in the working papers and communicated on a timely basis. The audit report, required by the fourth standard of reporting, is dated generally as of the last day of field work. The report on internal control is required by *SAS No. 60*, “The Communication of Internal Control Structure Related Matters Noted in an Audit,” although only if reportable conditions are detected, as discussed in Chapter 6.

19 K. T. Trotman, “The Review Process and the Accuracy of Auditor Judgments,” *Journal of Accounting Research* (Autumn 1985), pp. 740–752; K. T. Trotman and P. W. Yetton, “The Effect of the Review Process on Auditor Judgments,” *Journal of Accounting Research* (Spring 1985), pp. 256–267.

20 R. J. Ramsey, “Senior/Manager Differences in Audit Workpaper Performance,” *Journal of Accounting Research* (Spring 1994), pp. 127–135.

the assurance service process

Although both audit services and assurance services improve the quality of information, each service defines quality differently. In auditing, quality means the *reliability* of reported financial information relative to GAAP, and in assurance services quality means *relevance*. For example, an assurance service that assesses the relevance of Merck's operational measures might benchmark Merck to best practices in research-based pharmaceutical companies and in leading companies from other industries. In short, the service would benchmark Merck on a set of measures that are most relevant to Merck alone, not on a common set of measures that are generally accepted for all U.S. companies, such as GAAP in a financial statement audit. This section illustrates the assurance service process using one means of performance measurement,²¹ benchmarking.

Benchmarking

Benchmarking is one of a number of tools that underlie the principles of *total quality management (TQM)*, an approach to process management that holds quality as management's most important pursuit. The Xerox Corporation, a pioneer in performance measurement, defines **benchmarking** as the "process of measuring our products, services and practices against our toughest competitors or those companies known as leaders."²² Benchmarking allows Xerox to address three questions that bear on the company's strengths and weaknesses:

<u>Key Question</u>	<u>Type of Benchmarking</u>
• How do we compare within the industry?	Competitive
• How do our divisions/ departments compare?	Internal
• How do we compare outside the industry?	Functional

Interestingly, functional benchmarking has offered Xerox insights for improvement that were otherwise unavailable from competitive benchmarking in the office products industry. For example, although a manufacturer and supplier of office equipment, Xerox benchmarks product distribution against L.L. Bean, a retail clothing and outdoor equipment supplier long recognized for a distribution system that is efficient, reliable, and cost effective.

Benchmarking has been used in some companies to measure performance, but in other companies to rethink the organization. For example, GTE claims that "Benchmarking has been the major driving force that has allowed us to reinvent how we do business and how we are organized—from the front line to the front office."²³ Like GTE, many organizations benchmark in-house, among them BP Amoco, Chevron, Compaq Computer, Deere, Lucent Technologies, Shell International, the State of Texas, and the U.S. Treasury Department. However, others elect to outsource the service in much the same way that some companies outsource internal auditing. Outsourced performance measurement and benchmark-

21 Other performance measurement services offered by public accounting firms include, for example, international quality standards such as ISO 9000 (the International Organization for Standardization's standards for product quality) and ISO 14000 (standards for environmental management systems).

22 R. C. Camp, *Business Process Benchmarking: Finding and Implementing the Best Practices*, Milwaukee: Quality Press, 1995.

23 Interview with S. Hertzberger, Director/Program Leader, Benchmarking Initiative, GTE Telephone Operations, "Q&A," *Continuous Journey*, Summer 1995.

ing are important potential service offerings for CPAs that the AICPA's Special Committee on Assurance Services (the Elliott Committee, Chapter 1) encouraged in the late 1990s and the AICPA's Special Committee on Financial Reporting (the Jenkins Committee) recommended in the mid-1990s. For example, the Jenkins Committee concluded that "Business reporting must . . . focus on factors that create longer term value, including non-financial measures indicating how key business processes are performing."²⁴

Figure 5-10 lists the major steps, activities, and methods a practitioner uses to assess the relevance of benchmarking measures. Of course, the assurance process will vary somewhat depending on the nature of the service offered. For example, an electronic commerce assurance service (Chapter 17) will likely focus less on the collection of evidence and more on integration.

Figure 5-10: The Assurance Process: An Application to Performance Benchmarking

<i>Step</i>	<i>Activity</i>	<i>Method</i>
Planning	Establish an understanding of the client's strategies and characteristics of the business	Client strategy template
	Identify the client's mission and goals	Interviews
Analysis	Identify comparison group and performance measures	Literature search Interviews
	Collect evidence	<i>Original Sources:</i> Face-to-face and phone interviews Surveys Focus groups <i>Archived Sources:</i> Service organizations Periodicals Online databases Commercial archival and search services Archived client and industry data
	Display evidence	Balanced scorecards Vision charts Descriptive statistics Histograms and bar charts Pareto charts Scatter diagrams Cause and effect diagrams Graphs
Deliverable	Integration	Communicate report Suggest action plan

²⁴ AICPA, *Report of the Special Committee on Financial Reporting*, "Improving Business Reporting: A Customer Focus: Meeting the Information Needs of Investors and Creditors," 1994, p. 5.

Planning

Done well, benchmarking services can add significant value. For example, a study conducted by the American Productivity & Quality Center's *International Benchmarking Clearinghouse* reported that more than 30 organizations realized an average \$76 million payback in the first year of benchmarking and that the most experienced benchmarkers averaged \$189 million. However, research²⁵ also confirms that the service can add value only if senior management adopts an attitude shared by companies such as Xerox, GTE, Motorola, and Chrysler:

- A mandate to integrate performance measures into an *action plan*, and
- A commitment to a *culture of continuous improvement*.

Absent management's resolve to embrace this mandate and commitment up front, benchmarking services are unlikely to be rewarding either to the client or to the CPA.

Establish an Understanding of the Client's Business and Industry. Assurance services demand that practitioners think of a client on two levels: First, to fully understand a client's *business and industry*, practitioners invest sufficient effort to document—and to hold in memory—the level of detail presented earlier in the chapter for Merck. A tall order to hold in memory that level of detail, but management will expect nothing less. In fact, management will expect more, since one purpose of the engagement is to bring to bear a means for the company to gauge performance and to transform past performance into an action plan of continuous improvement.

Second, to fully appreciate *management's style*, practitioners focus on a client's leadership, strategic objectives, economic constraints, organizational structure, goals, and sources of value. For example:

<i>Does management view</i>	<i>Or</i>	<i>As the principle</i>
Articulation of vision	Command and control	Form of leadership?
Continuous improvement	Consistency	Strategic objective?
Creativity	Capital	Economic constraint?
Self-organizing teams	Hierarchies	Organizational structure?
Synthesis of minds	Divisions of labor	Means to accomplish goals?
Information and knowledge	Land and materials	Sources of value?

Companies whose management favors the left-most captions are the companies most likely to benefit from benchmarking.

Identify the Client's Mission and Goals. In a performance measurement assurance service, a CPA interviews senior management to understand the company's mission and goals. For example, consider the mission statement for Chevron, a publicly held, worldwide producer of oil and chemical products:

We are an international company providing energy and chemical products vital to the growth of the world's economies. Our mission is to create superior value for our stockholders, our customers and our employees.

²⁵ *Organizing and Managing Benchmarking Final Report*, International Benchmarking Clearinghouse, American Productivity & Quality Center, 1995.

The mission statement identifies three major audiences and translates for the company into six explicit goals: delighted customers, public favorability, competitive operating advantage, superior financial performance, superior stockholder return, and committed team. For Chevron, the objective is to identify comparison groups and performance measures that converge on each goal.

Analysis

Identify Comparison Groups and Performance Measures. Practitioners identify comparison groups and performance measures through literature searches and interviews with management. Literature searches include service organization publications and other periodicals that focus wholly or in part on quality and performance measurement. Relevant service organizations include the American Productivity & Quality Center (APQC), the American Society for Quality Control, the Association for Quality and Participation, and the American Management Association. For example, the APQC offers a number of hardcopy and online (www.apqc.org) publications on benchmarking, including best-practices white papers for senior management, practice papers covering individual member companies (e.g., Sprint, North American Coal), and a subscription-based international benchmarking clearinghouse. Relevant periodicals include *Quality Progress*, *Target*, *National Productivity Review*, the *Journal on Quality Improvement (JQI)* and, to a lesser extent, *Business Week* and the *Harvard Business Review*. For example, *JQI* publishes benchmarking articles on health care units, such as inpatient surgical care, outpatient emergency care, and health care maintenance education.

Driven in part by technology, consumers have replaced producers as the principle source of economic authority in the 21st century. For example, customer satisfaction is one of only three principles in total quality management (the others being employee involvement and continuous improvement). A CPA interviews management to understand how customers (not managers) define quality and to identify relevant performance measures that mimic customer satisfaction. Although evidence of quality may vary across products, services, and customer demographics, several dimensions of quality are common, among them:

<u>Dimension</u>	<u>Example Question</u>
• Expectations	Does the product conform to expected life?
• Value	Does the product perform at a level commensurate with price?
• Support	Is product-support service commensurate with warranty claims?
• Impressions	Is the product presented and packaged well?

For these questions, customer satisfaction might be measured as obsolescence rates, failure rates, and support time or with customer surveys, comment cards, and focus groups.

Collect Evidence. The collection of evidence in an assurance service engagement is similar to the collection of audit evidence in at least two ways: First, as discussed in Chapter 4, practitioners rely on Montague's *Ways of Knowing* (Figure 4-1) in the sense that evidence may be obtained from testimony (e.g., surveys), intuitively (e.g., product comparisons), from accepted assumptions (e.g., product safety varies inversely with injury rates), from perceptual experience (e.g.,

quality ratings), and from practical results (e.g., product warranty claims). Second, as discussed in Chapter 4, evidence consists of underlying data (e.g., product quality ratings) and corroborating information (e.g., defect rates). However, evidence collection in assurance services differs markedly from audit evidence in one critical way: While auditors are armed with generally accepted criteria for measurement and reporting—that is, GAAP—assurers are not. For example, there are no generally accepted criteria for measuring a company’s value-creating activities in a performance measurement engagement. Rather, CPAs rely on their understanding of the client’s business and their information-search skills to identify relevant performance measures.

Although CPAs have no generally accepted measurement criteria for benchmarking services, the literature does include guidelines for judging the mix of financial and nonfinancial measures appropriate for a company. For example, Lynch and Cross, in *Measure Up! Yardsticks for Continuous Improvement*, a popular book on continuous improvement and performance measurement, propose a method to translate strategic goals into performance measures across a variety of core business processes, such as new product development and distribution channels. A practitioner’s search for measures also includes both original and archived sources. *Original sources* include face-to-face and telephone interviews, surveys, and focus groups. For example, a well-designed, sharply focused survey could offer useful insights into why loyal customers may value a product and why potential customers may not. *Archived sources* include service organization web sites and publications, online databases, commercial search services, and archived client and industry data. For example, APQC’s *International Benchmarking Clearinghouse*, introduced earlier, offers a benchmarking database for a number of industries and companies worldwide.

Display Evidence. Unlike financial statements, benchmarked performance measures have no generally accepted form of display. A CPA could display measures in a number of ways, including descriptive statistics and vision charts, among others.

Descriptive Statistics. The Midwest Benchmarking Alliance Group, an emergency medicine benchmarking consortium, consists of nine member hospitals that meet quarterly to address cost containment and service improvement. The Group offers several measures that illustrate descriptive statistics relevant to emergency care benchmarking:

<u>Dimension</u>	<u>Example Measure</u>
• Clinical protocols	Post-treatment recovery time.
• Productivity	Time physicians/nurses spend in each phase of a treatment protocol (e.g., diagnosis, treatment delivery).
• Patient satisfaction	Patients rate response time.
• Patient discharge	Time patients spend in each phase of discharge (e.g., physician clearance, administrative clearance).
• Operational issues	Throughput cycle time.

To be useful, a measure need be relevant and, like the measures above, worthy of an entity’s effort to achieve.

Vision Charts. Similar to balanced scorecards, which offer financial and nonfinancial measures across four drivers—an entity’s financial, customer, internal business, and internal learning activities²⁶—*vision charts* offer measures across a different set of drivers: the goals that map to management’s mission. Figure 5-11, a vision chart for Chevron, includes measures for each of the company’s six goals listed earlier. For example, the two metrics for *committed team* are worldwide employee survey results and safety performance. The choice between a balanced scorecard or a vision chart can be simple. For example, does management view the driver of the company to be the four generic activities common to a balanced scorecard or the goals that management has set for the company? However, balanced scorecards have an advantage: The four drivers in a balanced scorecard are well accepted in the financial community, thereby allowing for comparability with other companies that use a balanced scorecard. In contrast, vision charts are driven by goals that may not be wholly comparable across companies. For example, the *financial perspective* in a balanced scorecard is comparable to the *superior financial performance* and *superior stockholder return* goals in Chevron’s vision chart (Figure 5-11). But Chevron’s measure of *public favorability* (the “public favorability index”) does not have a readily comparable metric in a balanced scorecard, making direct benchmarking between companies problematic.

Other Displays. In practice, CPAs use a variety of other means to arrange evidence in performance measurement engagements. Two examples: *Reliability indices* measure the probability that merchandise will operate properly as a product of the reliability of each subsystem within the product. For example, consider an electric garage door opener with three subsystems:

<u>Subsystem</u>	<u># of Defects per 100</u>	<u>Reliability</u>	<u>Failure Rates</u>
• Motor housing	4	0.96	0.04
• Battery-operated remote unit	2	0.98	0.02
• Aluminum track assembly	1	0.99	0.01
	7		

In this case, the reliability of the garage door opener is:

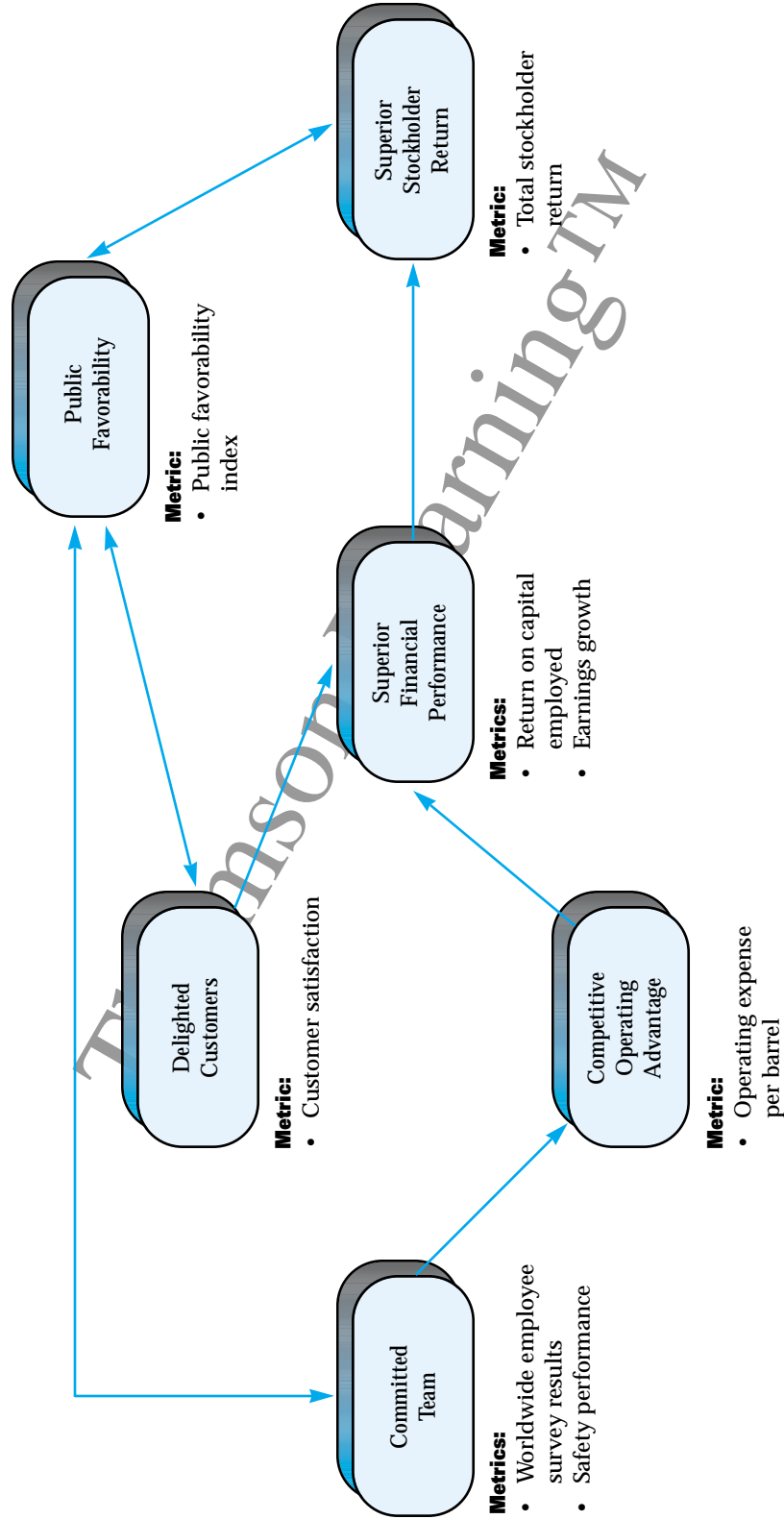
$$\begin{aligned}
 r_g &= (r_1)(r_2) \dots (r_n) \\
 &= (0.96)(0.98)(0.99) \\
 &= 0.93
 \end{aligned}$$

Reliability indices are rather useful in benchmarking, since they offer a means to compare one dimension of quality—reliability—across products within a company’s product line (e.g., low-end vs. high-end garage door openers) and within products across competitors (e.g., high end vs. high end).

Pareto charts, another means to benchmark product quality, leverage off of Pareto’s 80-20 rule. In the garage door opener illustration, the rule translates to

26 See, for example: R. S. Kaplan and D. P. Norton, “The Balanced Scorecard: Measures That Drive Performance,” *Harvard Business Review* (January–February 1992), pp. 71–79; R. S. Kaplan and D. P. Norton, “Putting the Balanced Scorecard to Work,” *Harvard Business Review* (September–October 1993), pp. 134–147; R. S. Kaplan and D. P. Norton, *The Balanced Scorecard*, Boston: Harvard Business School Press, 1996.

Figure 5-11: Chevron's Vision Chart



Source: K. Derr, "The Chevron Way to a Strong Board," Directors & Boards, (Fall 1998), p. 31.

this: 80 percent of the operation of the opener is likely attributed to only 20 percent of the electrical and mechanical tasks that the opener completes on each trail. Many more tasks are at work, but Pareto's rule predicts that product failures will result from only 20 percent of the tasks. A Pareto chart depicts the defect rate and the cumulative defect percentage across subsystems.

Deliverable

In an assurance service to assess the relevance of benchmarking measures, the deliverable is an open-ended, nonstandardized report to senior management and the board of directors. The report could conclude whether management's performance measures are relevant to the company's mission and goals, and whether management's information systems offer reliable measures. Alternatively, senior management could engage the CPA as a consultant to perform any of the following, among other related services:

- Design relevant performance measures.
- Design and implement a performance measurement system.
- Advise management how to improve the performance measures or the performance measurement system.

The steps listed in Figure 5-10 would likely apply to any of these services, although the deliverable may vary. For example, as a value enhancement to financial statement audits, Ernst & Young offers selected audit clients an industry analysis and benchmarking scorecard, called a business intelligence memo (BIM), as part of a financial statement audit.

Quality measurement is at once both well regarded and well rewarded within the financial community. For example, in 1987 Congress enacted the prestigious Malcolm Baldrige National Quality Award, named for a former secretary of commerce long a proponent of product and service quality. Each year a maximum of two awards are made in three categories (large manufacturers, large service providers, and small manufacturers and service providers), and recipients have included IBM, Federal Express, Merrill Lynch, and Motorola. Interestingly, ". . . *benchmarking* and competitive comparisons are the management concepts with the single greatest influence . . . in a Baldrige assessment" (ital added).²⁷ CPAs have long held the core competencies necessary to perform performance measurement services, largely because the service requires roughly the same skill set and mimics the same process used in the profession's core service, financial statement auditing.

summary

The audit process is logical, systematic, and designed to gather and evaluate evidence. The process begins with communication between auditors and the audit committee, a decision to accept or continue an engagement, and preparation of an engagement letter. An auditor then proceeds to establish an understanding with the client and about the client's strategies, and conducts planning activities over the next few months. Interim audit work, designed to assess control risk, begins

27 C. Bogan and M. J. English, *Benchmarking for Best Practices*, New York: McGraw Hill, 1995, p. 30.

after the planning stages, though usually well before year end. Year-end audit work, designed to control detection risk through substantive tests of account balances and disclosures, begins near the end of the fiscal year and includes a review for subsequent events. Obtaining representation letters and preparing reports is the final activity of the audit process. Applied to business performance measurement and benchmarking, the assurance process includes establishing an understanding of management's strategies, identifying comparison groups and performance measures, collecting and displaying evidence, and integrating the evidence into a deliverable.

key terms

Audit committee	150	Engagement letter	155
Benchmarking	178	Errors	163
Client strategy template	158	Fraud	163

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questions

1. What strategies and business characteristics are included in a client strategy template, and how can the template be used in practice?
2. How is quality defined in an audit service and in an assurance service?
3. What questions can benchmarking potentially address that historical financial statements alone cannot?
4. What does a reliability index measure?
5. What is a Pareto chart?
6. Explain the nature and purpose of an audit committee.
7. Briefly describe an auditor's decision process when deciding to accept or continue an engagement.
8. What are the purposes of an engagement letter?
9. Why does an auditor obtain an understanding of a client's business and industry before beginning an audit engagement?
10. What are the purpose and typical contents of a preliminary audit planning memorandum?
11. Distinguish between client errors and fraud.
12. In light of material undetected errors or fraud, what inherent risk does an auditor sustain by not auditing all of an entity's transactions and events during a financial statement audit? How do current auditing standards deal with that risk?
13. What is the objective of the interim phase of an audit engagement?
14. Why is coordination with the client prior to beginning year-end audit work especially important?
15. Subsequent events occur after the last day of a client's fiscal year and on or before the report date. Why would an auditor be concerned about transactions and events subsequent to the period reported on?

multiple choice questions

1. In the pharmaceutical industry:
 - a. The cost to develop a prescription drug is less than the cost of a 747 jumbo jet.
 - b. Managed care organizations insure less than 75 percent of U.S. employees.
 - c. The *Drug Price Competition and Patent Term Restoration Act* has reduced the exclusivity period of brand-name drugs.
 - d. Research reveals that formularies reduce patients' use of hospital emergency rooms.
2. Merck & Co., Inc., a research-based pharmaceutical company:
 - a. Dominates the market for generic substitutes.
 - b. Offers a full line of prosthetic replacement limbs.
 - c. Shares risk through strategic alliances.
 - d. Relies only on clinical trials from company-sponsored research.

3. Among other things, client strategy templates address:
 - a. The relevance of management's growth strategy and financial and operating goals.
 - b. The reliability of management's strategic alliances and joint ventures.
 - c. The auditor's assessment of audit risk.
 - d. The assurer's assessment of management's performance measures.
4. A public company's audit committee should consist of:
 - a. Representatives of management, shareholders, suppliers, and customers.
 - b. The audit partner, chief financial officer, legal counsel, and at least one outsider.
 - c. Representatives of the major equity interests (bonds, preferred stock, common stock).
 - d. Board members who are not officers or employees.

(AICPA Adapted)
5. An independent auditor has been approached to perform an audit. Research suggests that the auditor may fail to:
 - a. Distinguish between a regulated and nonregulated industry.
 - b. Coordinate audit dates with the client.
 - c. Initiate discussion with the predecessor auditor.
 - d. Establish investigation thresholds for analytical procedures.
6. To avoid misunderstandings between a practitioner and client, engagement arrangements are written in:
 - a. A legal letter.
 - b. An engagement letter.
 - c. A client representation letter.
 - d. A letter on reportable conditions.
7. Which of the following procedures would an auditor most likely perform when planning an audit?
 - a. Review prior-year audit working papers.
 - b. Inquire about potential litigation, claims, and assessments.
 - c. Obtain a representation letter from management.
 - d. Determine whether internal controls are being applied as prescribed.

(AICPA Adapted)
8. Which of the following, if material, would be a fraud?
 - a. Errors in the application of accounting principles.
 - b. Clerical errors in accounting data underlying the financial statements.
 - c. Misinterpretation of facts that existed when the financial statements were prepared.
 - d. Misappropriation of an asset or groups of assets.
9. Which of the following is an inappropriate reaction to a material fraud detected in a publicly traded company?
 - a. Report the matter to the SEC.
 - b. Discuss the matter with at least one level of management above the perpetrator.
 - c. Obtain further evidence.
 - d. Suggest that the client consult with legal counsel about questions of law.
10. Which of the following statements best describes an auditor's responsibility to detect fraud?

- a. The auditor is responsible for failing to detect fraud when the failure clearly results from not performing audit procedures described in the engagement letter.
 - b. The auditor must extend auditing procedures to search actively for fraud.
 - c. The auditor must assess the risk that material fraud may exist.
 - d. The auditor is responsible for failing to detect fraud only when an unqualified opinion is issued.
11. A purpose of reviewing first-quarter financial results during audit planning is to:
- a. Identify unexpected fluctuations occurring in account balances since the prior-year financial statements.
 - b. Become familiar with accounts likely to appear in the financial statements.
 - c. Plan evidence to be gathered in auditing accounts that are new to the first-quarter financial statements.
 - d. Assess first-quarter financial position, results of operations, and cash flows.
12. Compared to financial statement audits, an assurance service on the relevance of performance measures:
- a. Leverages off of benchmarking.
 - b. Leverages off of a different skill set.
 - c. Ignores measures of financial performance.
 - d. Delivers an open-ended report.

problems and discussion cases

5-1 Client Strategy Template: EMC Corp. (<http://www.emc.com>)

EMC Corp., the world's leading supplier of intelligent enterprise storage and retrieval technology, has pioneered two breakthrough developments in stand-alone digital storage. In the 1980s, when many companies stored data in large dedicated hard drives, the company essentially strapped together dozens of small, off-the-shelf disk drives into closet-size storage boxes, an innovation that stored more data more quickly. In the 1990s, the company again redefined the storage industry by introducing open systems storage that linked together two otherwise incompatible systems: mainframe computers and operating system networks, such as Microsoft's Windows NT. The company's largest unit stores over nine terabytes of data. In 2001, EMC held over 30 percent of the stand-alone storage market, and IBM held 20 percent.

Required: Using online and other public sources of information, prepare a client strategy template for EMC Corp. that summarizes the company's mission and the characteristics of the business.

5-2 Client Strategy Template: Exxon Corporation (<http://www.exxon.com>)

Headquartered in Houston, Exxon Corporation enjoys earnings approaching \$5 billion dollars, a return on equity exceeding 20 percent, proven reserves over 1 billion gallons, and a market capitalization of \$175 million—the fifth largest among U.S. multinational corporations and the largest by far among major integrated oil companies. The company conducts upstream exploration and/or production in 30 countries worldwide and global downstream business in over 75 countries.

Required: Using online and other public sources of information, prepare a client strategy template for Exxon that summarizes the company's financial goals and operating strategies and the characteristics of the business.

5-3 Client Strategy Template: The Gillette Company (<http://www.gillette.com>)

The Gillette Company, a Boston-based global manufacturer and marketer of consumer products, has a \$50 billion market capitalization, among the 50 largest in the U.S. Annual

sales exceed \$10 billion and an estimated 1.2 billion people use Gillette products daily. Products launched in the last half of the 1990s represent almost half of the company's sales, and most of that came from well-recognized products that led all rivals in volume, among them the Gillette Mach 3 shaving systems launched in 1998.

Required: Using online and other public sources of information, prepare a client strategy template for The Gillette Company that summarizes the company's mission statement, values, and characteristics of the business.

5-4 *Client Strategy Template: The Coca-Cola Company* (<http://www.coca-cola.com>)

Coca-Cola, the world's largest manufacturer, distributor, and marketer of soft drink concentrates and syrups, has a market capitalization of \$165 billion. Rather than produce finished soft drinks, Coca-Cola distributes roughly one-third of the concentrate and syrup to fountain retailers and wholesalers, and two-thirds to authorized bottling and canning operations that either combine the syrup with carbonated water or combine the concentrate with sweetener, water, and carbonated water to produce finished soft drinks. The company employs 30,000 people worldwide, and realizes approximately 70 percent of worldwide earnings from sources outside of the U.S.

Required: Using online and other public sources of information, prepare a client strategy template for Coca-Cola that summarizes the company's mission and the characteristics of the business.

5-5 *Nonfinancial Measures and Professional Skepticism*

Stable & Platt, Co., Inc., (S & P) manufactures and markets low-priced lines of consumer products in three main business segments: Soap, Detergent, and Household Cleaning Agents. All three product lines are sold in highly competitive, price-sensitive markets, whose participants include industry leaders such as Procter & Gamble, SC Johnson, and Dow Chemical. A small company, S&P has succeeded with a strategy that forgoes research in favor of developing low-cost competitors to market-dominant products developed by industry leaders. For example, S&P marketed products within two years after Procter & Gamble introduced Comet (1956), the first scouring cleanser, and Dawn (1972), the first effective grease-cutting liquid. Not unlike generic alternatives to brand-name pharmaceuticals, S&P's products capture the most price-sensitive consumers in a high-demand market, offering a return that is small by Procter & Gamble standards but large by S&P standards.

While planning S&P's 2005 financial statement audit, you compile nonfinancial measures. You learn that compared to the prior year, retailer-returned cases increased from 340 to 495, cases shipped increased from 17,000 to 17,900, and no brand-name manufacturer had introduced a high-demand product. Although privately owned, S&P anticipates an initial public offering of equity securities, and employs approximately 1,000 people in one Midwestern plant.

Required: Discuss how S&P's strategy and performance would raise your professional skepticism about sales, receivables, inventory, and management's plan to offer securities publicly.

5-6 *Audit Planning*

In late spring of 2005, you are assigned as the in-charge auditor of your firm's recurring annual audit of a major client, Lancer Company. You are given the engagement letter for the audit covering the calendar year ending December 31, 2005, and a list of personnel assigned to the engagement. Your responsibility is to plan and supervise field work for the engagement.

Required: Discuss the sources you should consult in preparing and planning the Lancer Company engagement, the type of information you would seek, the preliminary plans and preparations you would make for field work, and the agenda you would plan for a preliminary meeting with staff assigned to the engagement.

(AICPA Adapted)

5-7 Responding to the Warning Signs of Fraudulent Financial Reporting

You are auditing Balforoni Waste, Inc., a publicly traded, solid waste disposal company that dominates the household and commercial hauling markets in the upper Midwest. In conversations with management following an analysts' conference-call meeting, management makes clear that, despite pricing pressures from local municipalities, unlikely success in renewing the permit on a major dump site, significant environmental remediation on closed landfills, and competition from national haulers, the company is committed to meeting First Call's consensus annual earnings estimate of \$1.10 per share, an amount that exceeds the prior year's actual earnings by \$0.08 per share. Consistent with their commitment, management reminds you that an industrial-cleaning subsidiary will be sold at a gain and that a new landfill is under construction in Michigan.

Management's incentive compensation is contingent both on earnings and on Balforoni's December 31 stock prices. For example, over the five years you have audited Balforoni, both the chief executive officer and the chief financial officer have earned about one-third of their compensation from salary and about two-thirds from incentives. You have no reason to expect that management necessarily has a disregard either for ethics or for the representational faithfulness that shareholders expect from financial statements. However, you learn that, in a study published in the October 1999 *Journal of Accountancy*, Heiman-Hoffman, Morgon, and Patton report that, of the warning signs of fraudulent financial reporting listed in SAS No. 82, "Consideration of Fraud in a Financial Statement Audit," practicing auditors ranked the following two as the third and eighth most important:

- Management places undue emphasis on meeting earnings projections or other quantitative targets.
- A substantial portion of management compensation depends on meeting quantified targets.

Required:

1. How do analysts' expectations affect share prices?
2. How could Balforoni management enhance reported earnings?

5-8 Fraud Detection Responsibility and Reporting

Several years ago, Dale Holden organized Holden Restaurants. Holden started with one small restaurant, but over time the restaurant became quite popular due largely to the quality of the food and service, an attractive yet modest atmosphere, and reasonable prices.

Success with his first restaurant encouraged Holden to open at least one new restaurant in each of the last five years, resulting today in eight successful restaurants located in metropolitan areas throughout the state. Owing to recent rapid expansion of the business, Holden has hired a controller and supporting staff to manage the individual restaurants, allowing Holden to focus attention on the aggregate operations and to plan future expansion.

Holden has applied to a bank for additional financing to open another restaurant this year. For the first time ever, the bank asked him to provide financial statements audited by an independent auditor. The bank assured Holden that the audited statements were not required because they doubted his integrity or thought him to be a poor credit risk. Rather, bank policy required all businesses over a certain size to supply audited statements with loan applications, and Holden's business had long since reached that size.

Holden was not surprised by the bank's requirement. He had ruled out an audit previously because he trusts his controller's integrity and wanted to avoid the fee associated with an initial audit as long as possible. However, his absence from everyday hands-on operations now makes an audit advisable since, trust aside, he also believes an additional benefit of the audit will be the probable detection of any fraud that may have occurred at his restaurants.

To fulfill the bank's request for audited financial statements, Dale Holden has hired Hill & Associates, CPAs.

Required:

1. Discuss Hill & Associates' responsibilities to detect fraud in a financial statement audit.
2. What effect, if any, would the detection of fraud by Hill & Associates have on their opinion on the financial statements?

5-9 A Client Resents a Search for Fraud

Several months prior to beginning an audit engagement of Taunton Manufacturing Company, you point out to Taunton's CFO, Marsha Wade, that as part of your responsibilities, you will design the audit to provide reasonable assurance of detecting any material errors or fraud that may exist. Wade, somewhat alarmed by your statement, responds that all of her employees are trustworthy and, therefore, refuses to pay any portion of the audit fee relating to a search for fraud. Further, she states her understanding that auditors are not responsible for detecting fraud, assuming generally accepted auditing standards are followed.

Required: Respond to each of the controller's statements.

5-10 Predecessor and Successor Auditors

The audit committee of the board of directors of Unicorn Corp. asked Tish & Field, LLP, to audit Unicorn's financial statements for the year ended December 31, 2005. Tish & Field explained the need to make an inquiry of the predecessor auditor and requested permission to do so. Unicorn's management agreed and authorized the predecessor auditor to respond fully to Tish & Field's inquiries.

After communicating with the predecessor auditor, Tish & Field drafted an engagement letter that was mailed to the audit committee of Unicorn's board of directors. The engagement letter described arrangements concerning the involvement of the predecessor auditor and other matters.

Required:

1. What information should Tish & Field have obtained during their inquiry of the predecessor auditor prior to accepting the engagement?
2. Describe what other matters Tish & Field would likely have included in the engagement letter.

(AICPA Adapted)

5-11 Audit Committees

The financial community has long recognized the importance of—and has endorsed forming—audit committees. For example, audit committees were first encouraged by the Securities and Exchange Commission in the 1940s, and first mandated by the New York Stock Exchange in the 1970s. Today audit committees are quite common among publicly traded corporations, and independent auditors have become increasingly involved with audit committees.

Required:

1. What is an audit committee?
2. Identify the reasons why audit committees have been formed and are used currently.
3. What are the functions of an audit committee?

5-12 The Decision to Accept an Engagement

Jones is approached by a prospective client who wishes to engage him to perform an audit that in prior years was performed by another auditor.

Required: Discuss the procedures Jones should follow in accepting or declining the engagement.

(AICPA Adapted)

5-13 Using Specialists

Tom Majors, an entry-level staff auditor, has been assigned to observe the physical inventory of Lewiston Chemical Company, a processor and distributor of three different industrial chemicals.

Upon arriving at Lewiston's manufacturing plant, Majors learns that there are 15 above-ground cylindrical-shaped storage tanks, each 50 feet tall, and three rectangular underground storage tanks. Above-ground tanks are connected in lots of five. Underground pipes stretch over two miles in length and can be accessed at each tank and at access ports throughout the plant.

In addition to the tanks and pipes, there is a shipping/receiving depot. Three separate pipelines run to the depot, allowing immediate access for receiving and shipping. Tank trucks deliver and ship chemicals to and from the depot.

Required:

1. What audit problems does Majors face when observing Lewiston's chemical inventory?
2. What specialists should Majors consider engaging to assist in the physical inventory observation? For example, which specialists are uniquely positioned for what potential audit problems?

5-14 Is Share Price Influenced by Waiving Audit Adjustments?

An engagement partner distributes a spreadsheet detailing six proposed audit adjustments to the audit committee of Abadon Industries, a publicly traded manufacturer of automotive parts and accessories. The adjustments involve two issues: understated accruals, and accelerated revenue recognition from fourth-quarter channel stuffing achieved by offering deep end-of-quarter discounts to U.S. automobile manufacturers. The partner tells the committee that the adjustments would decrease after-tax earnings by \$1 million (one-half cent per share), that management believes the adjustments are immaterial to the financial statements individually and in the aggregate, and that both the partner and the firm's national office agree. Earnings reported in the audited financial statements meet analysts' consensus expectation, both for the fourth quarter and for the year. Abadon has not missed consensus earnings expectations since going public seven years ago.

Required: Has Abadon management overstated net income by waiving the audit adjustments and, therefore, influenced share price?

5-15 Is Share Price Influenced by Netting Passed Adjustments Against Unexpected Gains?

One year after Beldon Company management waived audit adjustments aggregating \$1.5 million, management unexpectedly realizes \$1.5 million in gains on the disposition of assets used to produce products sold in noncore markets. Beldon's CFO, recalling the audit partners' spirited defense of prior-year proposed (but passed) audit adjustments, nets the \$1.5 million unexpected gains against the audit firm's prior-year audit adjustments. Management does not disclose the netting in Beldon's financial statements.

Required: Given that the adjustments were judged immaterial in the prior year, does netting current unexpected gains against prior year adjustments warrant disclosure in the current year?

5-16 Performance Measurement Benchmarking at The Boeing Company

(<http://www.boeing.com>)

The Boeing Company, one of the world's leading aerospace companies, operates in two principal industries: commercial aircraft (e.g., jet transport aircraft) and information, space, and defense systems (e.g., military aircraft, missile systems, rocket engines, satellite-launching vehicles). In 1996, the Department of Defense awarded Boeing a 51-month contract to proceed with the Joint Strike Fighter (JSF) Concept Demonstration Program, the culmination of a two-decade-old Department of Defense initiative to restore Boeing as a manufacturer of fighter aircrafts.

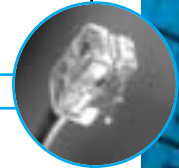
Boeing's strategy was to exploit design and production protocols from the Boeing 777, the B-2 bomber, and the F-22 air-dominance fighter in the development of an affordable fighter aircraft that is responsive to what are called "variants" in the industry: design variations that render the aircraft accessible to more than one branch of service. For example, the Air Force may require air-to-ground strike capability, and the Navy may require high-range, carrier-to-air capability. In 1999, on news that Boeing had successfully completed a formal review by the Department of Defense, Frank Statkus, Boeing vice president and JSF general manager, said, "We clearly demonstrated to our customer that we are on schedule, on cost, and very much on track with manufacture and assembly of our JSF concept demonstration aircraft."

Required: Using online and other public sources of information, construct for Boeing's Joint Strike Fighter aircraft areas of performance testing relevant to each of the following four questions:

1. How do we look to the financial markets?
2. How do we look to our customers?
3. What processes do we excel at?
4. How do we learn and improve?

For example, unlike commercial aircraft, performance testing for fighter aircraft require testing at high angles of attack.

Internet cases are available at <http://ricchiute.swcollege.com>



research projects

1. Client Strategy Templates, Risks, and Assurance Service Opportunities

Select a company from the list below.

Abercrombie & Fitch (apparel retailer), Aflac Inc. (insurance, life and health), Baxter International Inc. (medical supplies), Best Buy, Inc. (specialty retailer), Biogen (biotechnology), BP Amoco (oil), Browning Ferris Industries (waste disposal), Charles Schwab (securities brokers), Cigna (insurance, full line), Citigroup (banking), Cox Communication (broadcasting), CVS Corp. (drug-based retailer), Deere & Co. (heavy machinery), Dell Computer (computers), Walt Disney (entertainment), Dow Chemical (chemicals), The Gap (apparel retailers), General Motors (auto manufacturer), Georgia-Pacific (forest products), Goodyear Tire & Rubber (tires and rubber), Hasbro (toys), Home Depot (home repair), Humana (health care provider), Illinois Central Corp. (railroads), Immunex (biotechnology), International Paper Company (paper products), Johnson Controls (auto parts and equipment), Kroger (food retailers and wholesalers), Marriott International (lodging), McDonalds' (restaurants), McGraw-Hill (publishing), Merrill Lynch (financial services), MGM Grand (casinos), Microsoft Corp. (software), Morrison Knudsen (heavy construction), Motorola (communication technology), Nike (footwear), Nextel Communications (mobile communications systems), Owens-Illinois (containers and packaging), PepsiCo (soft drinks), Philip Morris (tobacco), Royal Caribbean Cruises Ltd. (recreational services), Sprint Corporation (long-distance telephone systems), Sun America (life and health insurance), Sunbeam Corporation (home furnishings), Sun Microsystems (computers), US Airways Group (airline), USX-US Steel Group (steel), Walgreens Co. (drug-based retailer), Wal-Mart Stores (retailer), Xerox Corporation (office equipment), Yahoo! (Internet service provider).

Required:

1. Using Internet (and other publicly available) sources—such as the company’s home page, EDGAR (<http://www.sec.gov/edaux/searches.htm>), Hoovers Online (<http://www.hoovers.com>), and University Analyst Watch (http://www1.zacks.com/cgi-bin/UAW/Login-UAW_F)—construct for the company, and discuss, a client strategy template.
2. Identify and discuss actual or potential threats to the company’s strategies.
3. Identify for the company (and discuss) audit risk and assurance service opportunities.

Present your findings in a professional service proposal to the executive team of the company you’ve selected. Demonstrate understanding and insight that transcends the trivial and the obvious, makes clear to the executive team that you’ve digested their strategies fully, and wins the executive team’s confidence that you should be hired. Be specific and be complete.

2. Client Strategy Templates and Large-Cap Public Companies

Visualizing service opportunities, engagement risks, and engagement strategies for a complex, large-cap client demands that public accounting firms understand intimately the nexus of relationships that drive a client’s financial, customer, internal, and organizational learning goals. Understanding a client at the transactions level only can satisfy an assurer’s attest objectives minimally, but can also undermine his or her capacity to serve the client fully. In response, the Big Five and other firms have developed templates to summarize their clients’ strategies, offering the firm a comparative advantage in assessing audit risk and in identifying assurance service opportunities.

Required:

1. Select a large-cap, publicly traded company in an industry that interests you—for example, airlines, financial services, health care, manufacturing, pharmaceuticals, or telecommunications.
2. Using Internet (and other publicly available) sources—such as the company’s home page, EDGAR (<http://www.sec.gov/edaux/searches.htm>), Hoovers Online (<http://www.hoovers.com>), and University Analyst Watch (http://www1.zacks.com/cgi-bin/UAW/Login-UAW_F)—prepare a PowerPoint slide, similar to the client strategy template illustrated in the text, that identifies major business units, markets, products, customers, competitors, strategic alliances/joint ventures, and potential adverse influences.

3. Research and Audit Practice

Throughout this chapter numerous references were made to audit research that lends insight into audit practice. For example, we learn from research that cognitive biases affect audit decision making, that successor auditors sometimes fail to initiate communication with predecessor auditors, and that companies in regulated industries may have fewer financial statement errors than companies in nonregulated industries. Research in auditing appears in a variety of journals, including *Auditing: A Journal of Practice & Theory (A:AJP&T)*, *The Accounting Review (AR)*, and the *Journal of Accounting Research (JAR)*. Although the research methods described in articles appearing in these journals can be inaccessible to some nonresearchers, the abstracts, introductions, and conclusions are intended to be accessible to all interested readers.

Required: Select one of the steps in the audit process listed in Figures 5-1, 5-6, 5-8, and 5-9. For the step selected, locate at least two related articles from *A:AJP&T*, *AR*, and/or *JAR*, and prepare a report that summarizes how the articles add to your understanding of the audit process.