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SPECIAL REPORT

Business and Financial Reporting, Challenges from the New Economy

Wayne S. Upton, Jr.

Financial Accounting Standards Board
of the Financial Accounting Foundation

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of the Financial Accounting Foundation
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FOREWORD

In recent years, many commentators have remarked on what they consider to be a disconnect between information provided in financial statements and the information needs of investors and creditors. Most recently, some have characterized this as a disconnect between "new economy" companies and "old economy" financial reporting. In particular, many have contended that financial statement users need:

- More disclosure of nonfinancial information
- More forward-looking information
- More information about intangible assets.

Members of the FASB and its staff have been active participants in several efforts to improve the quality of business reporting, which encompasses the broad spectrum of information that a company provides to investors and creditors. Our most recent effort was the FASB Business Reporting Research Project. The Steering Committee directing that project published three reports during 2000 and 2001, including *Improving Business Reporting: Insights into Enhancing Voluntary Disclosures.* This Special Report is another step in that process.

This Special Report examines each of the three areas described above, with special attention to research and recommendations developed by other organizations in the United States and Europe. One of our objectives in publishing this Special Report is to provide a background for discussion of potential projects to be added to the Board's agenda. With that in mind, the Special Report includes a brief description of four potential projects that the Board might consider. There are probably more possibilities, and there may be some areas covered in the Special Report that appear to have a higher priority than others. We hope that constituents will

see this as an opportunity to offer their insights as the Board begins to consider whether it should add new projects to its agenda.

Comment letters would be most useful if received by July 1, 2001. Please address your comments to:

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Comments can also be submitted by electronic mail to director@fasb.org. Please do not send comments by fax.

As the agenda-setting process continues, the Board will follow its normal procedures and may issue one or more additional documents on which it also will invite comments.

Norwalk, Connecticut
April 2001

Timothy S. Lucas
Director of Research
and Technical Activities

ACKNOWLEDGMENTS

The principal author of this Special Report is Wayne S. Upton, Jr., a senior project manager on the research and technical activities staff. The findings and conclusions are the responsibility of the author. The author is especially indebted to Joseph Vernuccio and Mary Huydic, who edited each draft and provided administrative support. This Special Report also benefited from comments provided by several members of the FASB staff and by the members of the G4+1, who discussed a draft at their February 2001 meeting.

BUSINESS AND FINANCIAL REPORTING, CHALLENGES FROM THE NEW ECONOMY

EXECUTIVE SUMMARY

Introduction

This Special Report examines two assertions that dominate articles and papers about the intersection between the new economy on one hand and business and financial reporting on the other. First, the economy of 2000 is fundamentally different from the economy of 1950 and before. Second, traditional financial statements do not capture—and may not be able to capture—the value drivers that dominate the new economy. Both of those assertions have become conventional wisdom and, as is often the case with conventional wisdom, both are open to more debate than they have received. Prominent economists have begun to question whether the new economy is really as "new" or as significant as claimed. Many of the new economy's value drivers have the look of old wine in new bottles. This Special Report concludes that a debate over "new versus old" is fundamentally unhelpful. The important question is whether business and financial reporting should change and, if so, how.

An Internet search for terms like *new economy, knowledge capital, intellectual capital,* or *intangible assets* reveals a bewildering array of studies and articles. Academics, standard setters, professional bodies, government agencies, and consultants are all in the game, with many defining the perceived problem in terms of a proposed (and often proprietary) solution. This Special Report examines a sampling of the studies and articles by dividing them into three categories:

- Proposals for new reporting paradigms that would measure and report information about future cash flows
- Proposals for new metrics that would measure and report information about nonfinancial value drivers

- Recognition and measurement of intangible assets in the balance sheet.

Chapter Summary and Key Findings

Chapter 1—Introduction to the Problem

Chapter 1 reviews the perceived disconnect between the new economy and existing business and financial reporting practices. Labels and slogans abound in discussions of "intellectual capital" and the "new economy." Those labels and slogans do not help, and may hinder, any effort to improve business and financial reporting. The important question is whether business or financial information should be expanded or improved to make it more useful to investors and creditors.

Similarly, prejudgments and assertions about the capacity of financial reporting to respond to perceived shortcomings are unhelpful. The conceptual frameworks of financial reporting pave the way for vital and resilient reporting systems. Accounting standard setters may decide that general-purpose financial statements *should not* incorporate particular items as assets, perhaps because those items lack the essential characteristics of assets or fail other recognition criteria. That decision is much different from the popular assertion that financial statements *cannot* accommodate intangible assets.

The chapter then moves to a review of work by nine organizations that have studied the "new-economy problem" and proposed approaches to its solution.

Chapter 2—New Reporting Paradigm

Chapter 2 reviews proposals for prospective reporting paradigms that report on the entity's balances and flows, using monetary measures, but in ways that depart from traditional financial statements. The chapter discusses some of the difficulties with those proposals, especially their cost and complexity, and concludes that they are unlikely to prove useful in general-purpose business and financial reporting. Users value information about an entity's plans and prospects, but existing techniques and expanded use of nonfinancial metrics seem to offer a more cost-effective solution.

Chapter 3—New Metrics

Chapter 3 reviews proposals for presentation of nonfinancial metrics, with special attention to information provided by the Swedish insurance company Skandia AFS. Users value disclosure of nonfinancial information. The chapter examines some characteristics that enhance the usefulness of nonfinancial performance information, including the ability to track metrics from period to period. It proposes a "suite" of nonfinancial metrics based on findings of the FASB's Business Reporting Research Project.

The chapter also observes that nonfinancial information is inherently idiosyncratic to particular industries and perhaps to individual enterprises. This militates against any detailed accounting standards, but not against standards for form, presentation, and disclosure of underlying assumptions. Current presentations of "new economy" or "intellectual capital" metrics tend to include a heavy dose of very traditional nonfinancial performance metrics. New and unusual information about customers, innovation, or workforce is limited and often hard to understand.

Chapter 4—Intangible Assets

Chapter 4, the longest section of this Special Report, examines the conceptual and practical problems surrounding recognition and measurement of internally generated intangible assets. Some have suggested that the entire difference between the value of a company (usually expressed as the market capitalization) and the accounting book value of that company should be attributed to "intangibles." But that approach is circular and provides little feedback information to users of financial and business reporting information.

Chapter 4 begins with a review of basic questions. What is the objective? What is an asset? When are assets recognized in financial statements? It reviews three notable accounting pronouncements that address internally generated intangible assets. From there, the chapter moves to a discussion of conceptual and practical problems surrounding increased recognition of those assets in financial statements. It then returns to the rationale surrounding the three pronouncements and concludes that the rationale is open to serious question, when examined using the FASB and International Accounting Standards Committee conceptual frameworks. Finally, the chapter reviews the likely objections to expanded recognition of internally generated intangible assets.

Significant observations and conclusions in Chapter 4 include the following:

- There is no conceptual basis in the definition of an asset for applying different recognition rules to intangible assets purchased from outsiders and the same assets created internally. Different recognition rules, if appropriate, require some other justification.
- Control is one of the essential characteristics of an asset. That criterion, or something like it, is a necessary part of describing an item in a way that allows for monetary measurement. The presence of a control criterion precludes some items (like customer satisfaction) from ever satisfying the definition of an asset. However, it does not preclude other items (like customer lists) from recognition. Nor does the control criterion eliminate the effect that an

item not recognized as an asset (customer satisfaction) may have on the value of items (customer lists) that meet the definition.

- There are two "gaps" that frustrate attempts to recognize intangible assets in financial statements.

  The time gap. Expenditures and efforts to create an asset may happen long before the end product can be demonstrated to have probable future benefits. There are at least three approaches, discussed in Chapter 4, that might address the time gap.

  The correlation gap. Many argue that the general relationship between cost incurred and the value of future benefits, which they assert to be present in prices of tangible assets, does not exist for intangible assets. The second gap opens the risk of a standard-setting double bind. Some might argue first that cost-based measures are not relevant, owing to the correlation gap, and second that measures other than cost are not reliable, so accountants should abandon attempts to recognize intangible assets.

- While some question the relevance of cost-based measures, there are arguments for beginning work on intangible assets using traditional cost accounting techniques. Academic research suggests that cost-based information is useful. The problems in developing cost-based measures, at least for project intangibles like research and development, are well within the skills of accountants and standard setters. If the alternative is nonrecognition, owing to inability to develop fair-value measures, an imperfect cost-based system may well be preferable.
- Companies' inability to identify and inventory intangible assets may be the most significant obstacle to any comprehensive recognition of intangible assets. Managers cannot measure assets that they do not, today, identify and manage as assets.

Chapter 5—Reprise and Conclusion

Chapter 5 summarizes the key observations and conclusions developed in this Special Report.

Concluding Note

The perceived shortcomings of business and financial reporting don't lend themselves to a single answer, although most studies focus on just one dimension of the problem. Nor does the problem lend itself to an answer developed by a single accounting standard setter acting in isolation. This Special Report describes important contributions from the United States, the United Kingdom, Canada, Denmark, the Netherlands, and the Organization for Economic Cooperation and Development. Swedish companies have been leaders in providing nonfinancial metrics. One standard setter might take the lead, but a successful effort should build on the

range of talent and insight that is clearly available in the broader international arena. Improved business and financial reporting of the "new economy" will require attention to:

- Recognition of internally generated intangible assets in financial statements and improved measures of those assets
- Expanded and systematic use of nonfinancial performance metrics
- Expanded use of forward-looking information.

Appendix A to this Special Report describes four projects that standard setters might consider.

SPECIAL REPORT

Business and Financial Reporting, Challenges from the New Economy

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CHAPTER 1—INTRODUCTION TO THE PROBLEM

This Special Report examines the much-heralded new economy and some implications for business and financial reporting. There are hundreds, if not thousands, of articles, studies, and consultants' reports that discuss the new economy, intellectual capital, and intangible assets. Most decry what they consider accounting's failures, and many offer (usually proprietary) solutions.

No paper of reasonable length could catalog all of this research into intellectual capital, human capital, knowledge management, and intangible assets. Instead, this Special Report is a sampler. It describes some notable proposals, examines the accounting and reporting issues, and explores some possible approaches that might improve business and financial reporting. It also provides a background for examining projects that standard setters might undertake and proposes some possibilities.

Two assertions dominate articles and papers about the intersection between the new economy on one hand and business and financial reporting on the other. First, the economy of 2000 is fundamentally different from the economy of 1950 and before. Second, traditional financial statements do not capture—and may not be able to capture—the value drivers that dominate the new economy. Those assertions have attracted a considerable following. Accounting bodies, standard setters, academics, and government regulators in Europe and all of the English-speaking countries have conducted studies and issued reports. To date, there has been little change in financial reporting.

The problem that confronts businesses, users of business reporting information, standard setters, and regulators is how best to understand and communicate the difference between the value of a company (usually expressed as the market capitalization) and the accounting book value of that company. One might simply attribute the entire difference to some ill-defined notion of "intangibles" and be done with the exercise. But that approach is circular and provides little feedback information to users of financial and business reporting information. There must be more going on and more that can be said. We can observe the market capitalization of a traded stock and observe the accounting book value. We don't know exactly why they are different, but we can make some reasonable speculations. A company's market capitalization might be decomposed along the lines below:

1.	Accounting book value	$ XXX
2.	± Market assessments of differences between accounting measurement and underlying value of recognized assets and liabilities	XXX
3.	± Market assessments of the underlying value of items that meet the definition of assets and liabilities but are not recognized in financial statements (for example, patents developed through internal research and development)	XXX
4.	± Market assessments of intangible value drivers or value impairers that do not meet the definition of assets and liabilities (for example, employee morale)	XXX
5.	± Market assessments of the entity's future plans, opportunities, and business risks	XXX
6.	± Other factors, including puffery, pessimism, and market psychology	XXX
7.	Market capitalization	$ XXXX

In a perfect world, financial statements would include all items that meet the definition of assets and liabilities and provide decision-useful information about their values (items 1, 2, and 3). Business reporting outside of financial statements and notes would provide information and

metrics about other value drivers and impairers of value and about plans, opportunities, and risks (items 4 and 5). The last adjustment (item 6) might be labeled with the admonition found on old maps.

Here Abide Monsters!

This Special Report examines issues and implications posed by three propositions about what some see as accounting's failure to keep pace with a changing economy.

Proposition One—Traditional financial statements focus on the entity's ability to realize value from existing assets and liabilities. Proponents argue that financial statements are largely backward-looking. A new financial reporting paradigm is needed to capture and report on the entity's creation of value. This paradigm would supplement, or might replace, existing financial statements.

Proposition Two—The important value drivers in the new economy are largely nonfinancial and do not lend themselves to presentation in financial reports. However, a set of measures could be developed that would allow investors and creditors to evaluate entities and compare them with one another.

Proposition Three—The importance of intangible assets is the distinguishing feature of the new economy. By and large, existing financial statements recognize those assets only when they are acquired from others. Accounting standard setters should develop a basis for the recognition and measurement of internally generated intangible assets.

The three propositions also imply a fourth, rarely stated, alternative. Some maintain that existing business and financial reporting is adequate to the purpose for which it is intended. Those who

hold this view maintain that changes, especially mandated changes, will do more to harm the usefulness and credibility of reporting than to improve its usefulness. While unpopular with advocates of the new economy, this fourth proposition demands equal attention.

Merchant banker John Rutledge, apparently a supporter of the fourth proposition, offers the following comments:

> The most troubling idea of the IC [intellectual capital] generation is to tinker with financial statements, so companies full of smart people who don't make profits look more attractive to investors. Some want to include the capitalized value of workers' ideas on the balance sheet. Some want to include cultural factors, such as the gender composition of the workforce, as if it is somehow a driver of the profitability of a company. And some want to use measurements of intellectual capital to influence the credit markets or public policy. Anyone who has ever attended a Mensa meeting can see the fallacy of this idea. There is a big difference between smart and *effective*, and I'll take an effective person over a *smart* one any day.[1]

Mr. Rutledge goes on to say:

> Monkeying with financial statements, for almost any reason, is a terrible idea. Investors have 500 years of practice interpreting financial statements while learning to understand, project, get comfortable with, and value our more than $60 trillion in total assets. In doing so, they have developed methods to adjust for many of the anomalies (for example, amortization of goodwill, which can only be defined by describing what it is not) that emerge from our archaic double-entry bookkeeping practices from time to time. Scrambling the financial data we use to make such judgments would render these methods less useful. It also would throw up a cloud of uncertainty large enough to make owning assets more risky, and therefore less valuable. Giving people more information is fine: They can make their own judgments. Tinkering with the balance sheet is not a good idea. Although intellectual capital is important (who would doubt that people who know how to do things are more successful than people who don't?), it should be left off the balance sheet. Balance sheets are for *stuff*, the stuff that George Carlin talks about, not people or ideas. People aren't assets because you can't own them, at least not in this country (I'm neglecting alimony here); you can only rent them. Ideas are not assets because, partly due to the fact that the people who generate them can't be owned, you can't keep them bottled up for very long. (Except for the secret formula for Coke, that is.) If you want to measure the value of people

[1]John Rutledge, "You're a Fool If You Buy into This," *Forbes ASAP* (April 1997).

> and their ideas, you need to look at cash flows, not assets. Balance sheets measure the value of things you own; cash flows measure the value of things you rent. Unless we return to conditions in the antebellum South, this will remain true no matter how many computers we have on our desktops or how fast they run.

A Problem of Terminology

This Special Report avoids the use of popular terms like *knowledge capital*, *human capital*, and *intellectual capital* except when describing others' use of the terms. Those terms appear frequently in discussions about the new economy, but with meanings so diverse as to render them useless as descriptions of anything recognizable as capital. For example, some writers use the term *intellectual capital* to refer to the entire difference between a company's market capitalization and its accounting book value. Others use the term in a far more restrictive sense to refer to particular competencies or intangible assets.

At least initially, this Special Report adopts traditional accounting terminology.

- *Assets* are defined in the FASB Concepts Statements and the International Accounting Standards Committee *Framework for the Preparation and Presentation of Financial Statements* (the IASC *Framework*).
- *Intangible assets* are (surprise) those that are neither tangible nor financial instruments. This report limits its use of the term *intangible asset* to items that potentially satisfy the definition of an asset. Items that fail the definition of an asset may be important elements of business success, and Chapter 3 examines the use of nonfinancial metrics to provide information about those items. Chapter 4 examines whether the existing definition of *assets* or existing recognition criteria should be modified to accommodate greater recognition of intangible items.
- *Nonfinancial disclosures and metrics* include index scores, ratios, counts, and other information not presented in the basic financial statements.
- *Financial reporting* includes the basic financial statements and accompanying notes.
- *Business reporting* encompasses the broader universe of information provided by business enterprises, including management's discussion and analysis, information provided in the annual report, presentations to analysts, fact books, and business information provided on the company's website.

Is There Really a New Economy?

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Descriptions of the new economy vary from one writer to the next, and the reader often shares the cartoon character's chagrin over the rhetoric. Often, these descriptions say as much about the writer's predilections as they do about the new economy. Yet, we need to understand just what new-economy promoters are talking about. Distinguishing characteristics of the new economy are variously described as:

- Knowledge, knowledge capital, know how, and intellectual capital
- The Internet
- Technology
- Information
- Intangible assets
- Knowledge sharing and new forms of organization
- Network effects
- Globalization.

One venture capitalist described the perceived disconnect between financial reporting and the new economy this way:

> At the time that Henry Ford developed his mass production system, the skill of the workers involved in production was not an important concern. As a matter of fact, one of the benefits that Ford envisioned for his system was that it would permit him to de-skill work and thus make workers as interchangeable as the parts from which his cars were constructed. He was so successful in reaching this goal that in one year he hired 50,000 workers to fill 15,000 production line jobs—an annual employee turnover rate of greater than 300%. In this case, the old accounting system was still accurate for determining the value of workers to the company.[2]

The author went on to say:

> Clearly, worker skills, the investment in employee training, and intellectual capital were not much of an issue for Henry Ford. As these assets were not of significant value, it made little difference whether they were reconciled for in the books. Today things are very different. It is impossible to operate a production system efficiently and produce high quality products if employees turn over every four months. Companies make large investments in training workers and the most productive companies value the knowledge and skills of a dedicated work force above all else.

Those passages reflect the popular view that the means of production have shifted from tangible assets to intangible, especially knowledge, assets. But those passages and others like them don't stand up well to examination. Consider Ford Motor Company in the 1920s, beginning with workforce.

After introducing the assembly line, Ford faced the employee turnover described above. His response was to increase the hourly pay of workers. Within months, the turnover rate declined sharply and the workforce stabilized. Today, some might call that an investment in the

[2]William Davidow, "Accounting Systems Are Completely Wrong," *Red Herring* (January 1995).

workforce. Perhaps Ford tried to eliminate the need for knowledge content in the jobs of assembly workers, but modern management theory also might argue that he didn't eliminate important knowledge. Assembly workers typically hold "unofficial" knowledge about what techniques work and the best way to do a job.[3] Consider, for example, the effect on production when workers decide to protest by doing their tasks "by the book."

But the focus on production workers ignores the significant knowledge input to a Model T. Ford still needed the skills of engineers, metallurgists, paint chemists, and a host of others that today we call "knowledge workers." No doubt, those specialists helped Ford develop both patentable and proprietary technologies. The Ford assembly line would today be lauded as a "business model" asset. The Ford brand name was the most recognized in the industry. Customer satisfaction was high. The same intangible value drivers attributed to the new economy were an important, if unrecognized, part of the early success of Ford Motor Company.

Nobel laureate economist Milton Friedman's example of a common wood pencil is even more apt. Very few people know how to make a pencil. Most don't even know where or how to acquire the necessary materials. From this perspective, knowing **how** to make a pencil is far more important than the inventory and equipment required to assemble one. Yet, the common pencil (sometimes called a "generic word processor") predates computers by several decades.

In a recent *New York Times* column, economist Paul Krugman of the Massachusetts Institute of Technology offered this summation in a discussion of the British television series *1900 House*:

[3]For an excellent discussion of how workers share knowledge, see John Seely Brown and Paul Duguid, "Practice Makes Process," chap. 4 in *The Social Life of Information* (Boston: Harvard Business School Press, 2000).

> On one side of this debate are the enthusiasts who proclaim the onset of the digital age more important than the Industrial Revolution, the biggest thing since bread, never mind the slicing. On the other side are economists and historians who compare our current roster of new technologies with the transforming technologies of the late 19th and early 20th centuries, and find our latest gizmos relatively trivial by comparison. The economic boom that has swept the United States during the second Clinton administration has made the arguments of the enthusiasts more plausible, but "1900 House" seems to me to be a reminder that the technoskeptics still have the better case.[4]

It is popular to say that the economy is different today and that "old fashioned" accounting is inadequate. There may have been a shift between the relative values of tangible and intangible inputs to the means of production. Certainly balance of numbers, both in people and money, seems to have shifted. The percentage of workers who get their hands dirty to earn a living continues to shrink. Some statistics suggest that this shift has produced a dramatic (and perhaps unsustainable) increase in productivity in the U.S. economy. On the other hand, it may be that our perceptions have shifted and we recognize something that was always there. If so, the "old accounting system" was no more adequate to Ford in 1920 than to Lucent or Cisco in 2000.

Labels seldom help to solve problems. Labeling certainly doesn't help here. We may have a new economy, or our new tools may have given us an appreciation of factors that were always important. It doesn't much matter which. The more important question is how to improve business and financial reporting.

Some Notable Efforts to Come to Grips with the Problem

A comprehensive survey of the hundreds of articles and projects dealing with business reporting in the new economy is beyond the scope of this Special Report. The Brookings Institution's *Project on Understanding Intangible Sources of Value* (described later in this chapter) includes

[4]Paul Krugman, "Turn of the Century," *New York Times* (June 18, 2000).

an extensive annotated bibliography that is available for download from the Brookings website.[5] Some notable efforts that focus on business and financial reporting and some of their relevant findings are summarized below.

American Institute of Certified Public Accountants

In 1991, the American Institute of Certified Public Accountants (AICPA) formed a Special Committee on Financial Reporting (the Special Committee). While not directly concerned with the reporting implications of the new economy, the Special Committee's 1994 report[6] touched on a number of topics discussed in this Special Report. In its introduction, the Special Committee observed:

> Increased competition and rapid advances in technology are resulting in dramatic changes. To survive and compete, companies are changing everything—the way they are organized and managed, the way they do work and develop new products, the way they manage risks, and their relationships with other organizations. Winners in the marketplace are the companies that are focusing on the customer, stripping away low-value activity, decentralizing decision making, reducing the time required to perform key activities, and forming new alliances with suppliers and customers—even competitors. They are setting the pace for others that must, in turn, reexamine their businesses in light of the increased competition.
>
> In response to increased competition and changes in their businesses, companies also are changing their information systems and the types of information they use to manage their businesses. For example, they are developing new performance measures often designed to focus on activities that provide long-term value and competitive advantage, including non-financial measures such as product development lead time and financial measures such as economic value added.
>
> Can business reporting be immune from the fundamental changes affecting business? [page 2]

In summarizing the Special Committee's recommendations, the report said:

---

[5] http://www.brook.edu/es/research/projects/intangibles/intangibles.htm.

[6] AICPA, *Improving Business Reporting—A Customer Focus* (New York: AICPA, 1994). Available online at http://www.rutgers.edu/Accounting/raw/aicpa/business/main.htm.

To meet users' changing needs, business reporting must:

(a) Provide more information with a forward-looking perspective, including management's plans, opportunities, risks, and measurement uncertainties.
(b) Focus more on the factors that create longer term value, including non-financial measures indicating how key business processes are performing.
(c) Better align information reported externally with the information reported to senior management to manage the business. [page 5]

Interestingly, the Special Committee identified several of the topics discussed in this Special Report as "lower priority issues." The Special Committee described those topics as follows:

Standard setters should defer considering issues that have low priority according to the current evidence of users' needs. The Committee's study identified the following five areas that standard setters should not devote attention to at this time:

1. Value-based accounting model.
2. Accounting for intangible assets, including goodwill.
3. Forecasted financial statements.
4. Accounting for business combinations.
5. Alternative accounting principles. [page 125]

Financial Accounting Standards Board—Business Reporting Research Project

In February 1996, the FASB issued an Invitation to Comment, *Recommendations of the AICPA Special Committee on Financial Reporting and the Association for Investment Management and Research,* to solicit views on recommendations made to standard setters in both the AICPA report and a similar paper published by the Association for Investment Management and Research (AIMR). Issue 1 of the Invitation to Comment asked: "Should the FASB broaden its activities beyond financial statements and related disclosures to also address the types of nonfinancial information that would be included in a comprehensive business reporting model?"

Overall, respondents had mixed views about FASB involvement with nonfinancial information. Some respondents opposed FASB standard setting for the disclosure of nonfinancial information. Other respondents suggested that the Board be selective and initially limit its efforts to focusing

on operating data and performance measures and reasons for changes in such data and key trends. Others suggested that the FASB take a primary leadership role in developing a comprehensive business-reporting model similar to the one developed by the Special Committee.

At a public Board meeting on January 29, 1998, the Board decided to undertake a research project on business reporting. The Board formed a Steering Committee to conduct the project and instructed the Steering Committee to:

- Study present practices for the voluntary disclosure of certain types of business information that users of business reporting might find helpful in making investment decisions.
- Develop recommendations for ways to coordinate generally accepted accounting principles (GAAP) and Securities and Exchange Commission (SEC) disclosure requirements and to reduce redundancies.
- Study present systems for the electronic delivery of business information and consider the implications of technology for business reporting in the future.

The Steering Committee issued its report *Improving Business Reporting: Insights into Enhancing Voluntary Disclosures*, in 2001.[7] That report described the findings of working groups that studied voluntary disclosures of business information in 10 industries. The report describes a framework for providing voluntary disclosures that includes five elements:

- Identify the aspects of the company's business that are especially important to the company's success. These are the critical success factors for the company.
- Identify management's strategies and plans for managing those critical success factors in the past and going forward.
- Identify metrics (operating data performance measures) used by management to measure and manage the implementation of their strategies and plans.
- Consider whether voluntary disclosures about the company's forward-looking strategies and plans and metrics would adversely affect the company's competitive position and whether the risk of adversely affecting competitive position exceeds the expected benefit of making the voluntary disclosure.
- If disclosure is deemed appropriate, determine how best to voluntarily present that information. The nature of metrics presented should be explained, and

[7](Norwalk: FASB, 2001). Available online at http://www.fasb.org.

those metrics should be consistently disclosed from period to period to the extent that they continue to be relevant. [page 13]

Canadian Institute of Chartered Accountants

The Canadian Institute of Chartered Accountants (CICA) has been working on a new-economy project since 1994. The *Canadian Performance Reporting Initiative* (CPRI) has touched on a variety of topics discussed throughout this Special Report. The initial document to emerge from the CICA project was titled *Performance Measures in the New Economy,* authored by Robert I.G. McLean.[8] This report was published by the Premier's Council (Ontario) in 1995. Quoted below are a series of conclusions from Chapter 1 of that report:

- The most important finding from the interviews and research conducted in preparing this report is that the need for better performance measures than are provided by the existing accounting model is being recognized not just by accounting theorists, but by chief executive officers, and by senior officials in Canada's major banks. Furthermore, a number of leading companies are actively experimenting with new performance measurement systems focusing on knowledge-intensive activities.
- In addition to the pragmatic concerns registered by business executives, a strong theoretical case can be made that the current accounting model does not adequately reflect economic reality for knowledge-intensive businesses.
- This is, however, not easily remedied, since accounting adequately for knowledge-based businesses will ultimately require the invention of a new accounting model.
- We are currently at a fairly early stage in the exploration of alternative approaches to measuring, managing, and valuing people skills, information, and technological capabilities. Some of these experiments are briefly documented in this report.
- The last paradigm shift in accounting involved a change in emphasis from valuing assets to measuring income, and took place over about a 50-year period in North America beginning in the late 19th century. The new accounting model, when fully developed, will likely place equal emphasis on both asset valuation and income measurement. However, in the early years, there will likely be experimentation with supplementary measures focusing on valuation of knowledge assets. It is likely that events will force the pace of this next paradigm shift, such that it will take place over a period of 15 to 20 years.

[8]Robert I.G. McLean, *Performance Measures in the New Economy* (Toronto: CICA, 1995). Available online at http://cpri.matrixlinks.ca/Archive/PMNE/PerfMeasNE.html.

- The new accounting model will likely incorporate both accounting for knowledge-based businesses as well as green accounting.
- Influential organizations contacted all expressed interest in participating in a process to explore these issues further. These include: the Auditor General of Canada; the Society of Management Accountants of Canada; Statistics Canada; the Institute of Chartered Accountants of Scotland.
- Leadership by the CICA would be an important factor in accelerating the process of exploration, experimentation, research, and standard setting.

The CPRI has spawned a number of projects (some of which are discussed elsewhere in this Special Report) including:

- Integrated performance reporting
- Intellectual capital management
- Shareholder value creation
- Environmental performance measurement and reporting
- Total Value Creation.

Brookings Institution

The Brookings Institution's *Project on Understanding Intangible Sources of Value* is a follow-on to an earlier conference on intangible assets sponsored by the U.S. Securities and Exchange Commission. The project description includes the following passage:

> The purpose of this project is to help initiate a national discussion about better ways of measuring, monitoring and reporting on critical intangible sources of wealth, both inside firms, and in the national accounts, and to assess work already underway to develop better measures of intangibles. It will also report what is currently known about the level and the measurement investments in intangibles, how decisions are made about making such investments, and the extent to which investment decisions are influenced by the methods of measurement. The report will also consider how public policies (e.g. regulations, reporting requirements, and tax rules) affect the development of better measures, and affect decision-making in the private sector where actors try to develop better measures. Finally, it will recommend policy changes that could help eliminate or reduce unnecessary or unwarranted adverse distortions.

On October 24, 2000, Brookings announced preliminary release of two reports. The first report, *Unseen Wealth: Report of the Brookings Task Force on Understanding Intangible Sources of*

Value, presents the work of the Brookings task force.[9] The report recommends that the U.S. government establish a federally funded Center for the Study of Business, Technology, and Innovation. The report proposes that the center conduct a three-part pilot project to:

- Capture a base of cost data on intangible investments
- Develop a framework of value indicators
- Develop a new generation of business models.

The report proposes that 100 to 150 companies participate in the pilot project and that they provide data on a confidential basis.

Unseen Wealth also makes several recommendations about financial reporting, including:

- Debate about the capitalization or expensing of research and development costs "is focused on the wrong problem." In this view, investors want information about the value (not the cost) of internally generated intangibles and "it is irrelevant whether such information is incorporated into the regular financial statements of companies or whether it is presented in some other format, such as in the footnotes in the management discussion and analysis, or in some other supplementary disclosure format" (page 46).
- The financial reporting model should "begin to move toward a value-based system of accounting for corporate assets—both tangibles and intangibles—that would supplement the current cost-based system" (page 47).
- Disclosure of "value drivers" should be expanded and the disclosure should be provided at the same level of the business as are segment disclosures.
- The Securities and Exchange Commission should expand safe-harbor protections to include disclosures about intangible value drivers.

The second report, *Intangibles: Management, Measurement, and Reporting*, was authored by New York University Professor Baruch Lev for the Brookings project.[10] Professor Lev's disclosure proposal is discussed at greater length in Chapter 3 of this Special Report. Other portions of his analysis are cited throughout this Special Report.

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[9](Washington: Brookings Institution, 2000). Available online at http://www.brook.edu/es/research/projects/intangibles/tf.htm.

[10](Washington: Brookings Institution, awaiting publication). December 2000 draft available online at http://www.stern.nyu.edu/~blev/.

Also on October 24, Brookings and the American Enterprise Institute announced release of *The GAAP Gap: Corporate Disclosure in the Internet Age.*[11]

Danish Agency for Development of Trade and Industry

In 1998, the Danish Agency for Development of Trade and Industry published a study of *Intellectual Capital Accounts* developed with the cooperation of 10 companies.[12] This study describes intellectual capital accounts in four categories:

- ***Human resources***. This category covers statements about the composition, management and satisfaction of the human resources.
- ***Customers***. This category covers statements about the composition, management and satisfaction of the customers.
- ***Technology***. This category typically covers statements about the scope, function and application of the IT system.
- ***Processes***. This category typically covers statements about the scope, equipment and efficiency of the business activities.

The "accounts" described in the Danish study are not accounts in the normal bookkeeping sense. They are a collection of nonfinancial performance measurements.

Netherlands Ministry of Economic Affairs

In 1999, the Netherlands Ministry of Economic Affairs published *Intangible Assets, Balancing Accounts with Knowledge.*[13] The Netherlands ministry asked four accounting firms to develop models for the presentation of information about intangible assets.

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[11]Robert E. Litan and Peter Wallison (Washington: AEI-Brookings Joint Center for Regulatory Studies, 2000). Available online at http://www.aei.brookings.org/publications/default.asp.

[12]Danish Trade and Industry Development Council, *Intellectual Capital Accounts—Reporting and Managing Intellectual Capital* (Copenhagen: September 1997). This work was done in cooperation between the Danish Agency for Trade and Industry and the researchers, Professor Jan Mouritsen, Copenhagen Business School and BDO-professor Per Nikolaj Buck, The Aarhus School of Business.

Available online at http://www.efs.dk/publikationer/rapporter/engvidenregn/all.html.

[13]Netherlands Ministry of Economic Affairs, *Intangible Assets, Balancing Accounts with Knowledge* (The Hague: Ministry of Economic Affairs, 1999). Available at http://info.minez.nl/nieuwskiosk/publicaties/publicatie-tonen.phtm?vosnr=25B19A.

- KPMG proposed a "dashboard" that portrays scores assigned to attributes of an entity's core competencies.
- Ernst & Young proposed a reconciliation approach that begins with market capitalization and then deducts the fair values of tangible assets (net of liabilities) and identified intangible assets. The residual is characterized as the fair value of remaining intellectual capital.
- PricewaterhouseCoopers proposed a disclosure approach that combined information about expenditures with nonfinancial performance metrics.
- Walgemoed proposed expanded recognition of identifiable intangible assets on the face of the balance sheet, with those assets measured based on traditional accumulation of cost notions.

Organization for Economic Cooperation and Development (OECD)

In June 1999, the OECD sponsored a Symposium on Measuring and Reporting Intellectual Capital: Experience, Issues, and Prospects.[14] The symposium chairman observed:

> In a subsequent policy and strategy forum, a broad range of stakeholders from companies, governments, trade unions, accountants, standards setters, and the academic community addressed the question of how to facilitate development of internal and external company reporting of intellectual capital. Forum chairman, Stuart Hornery, chairman of Lend-Lease Corporation, drew the following conclusions:
>
> 1. The process of value creation in companies is changing. There is a need for better information on intellectual capital, its relation to tangible capital, and its role in value creation. Financial data are evolving, but, alone, present insufficient information.
> 2. International organisations, governments, standards setters and other stake holders should encourage experimentation that would lead to general principles or guidelines for reporting key indicators of intellectual capital and information on value creation. They should systematically monitor and evaluate the results of such experimentation.
> 3. There is broad support for the creation of a framework for voluntary compilation at the enterprise level of a number of key indicators using all possible approaches, including company benchmarking. The framework for reporting should focus on areas that matter most to company performance.
> 4. Employees, suppliers, and customers are involved increasingly in the value creation process. Improvements in reporting should aim to inform them better.
> 5. There is a need for better understanding of the innovations in reporting. New approaches are moving towards Internet based real-time reporting; greater availability of information means that more information about a company

[14]Copyright OECD, June 1999. The symposium program, speeches, and background materials can be viewed online at http://www.oecd.org/dsti/sti/industry/indcomp/act/Ams-conf/symposium.htm.

comes from multiple sources. As a result, more internal information is available externally.

6. Businesses are concerned that disclosure of information on intellectual capital and value creation should be useful to business, as well as stakeholders. Many are actively experimenting. It is, however, too early to consider mandatory changes in rules affecting such disclosure. Any requirements need to be mindful of costs and benefits.

Institute of Chartered Accountants in England & Wales (ICAEW)

In March 2000, the ICAEW published a study authored by Charles Leadbeater titled, *New Measures for the New Economy*.[15] After an analysis of the need for and difficulties in developing new measures and new markets for intangible assets, Leadbeater proposes three alternative approaches that he labeled incremental, radical, and hybrid, with the following descriptions:

> The incremental approach seeks gradually to fill in values for the intangible assets which traditional balance sheets overlook. Traditional financial accounts would remain the focus of corporate reporting but they would be augmented by relevant, robust information on intangibles. This approach would involve accounting procedures used routinely in corporate acquisitions to value intangibles as well as quasi-market valuations yielded by techniques such as real options.
>
> The radical approach is to devise entirely new balance sheets for companies—Intellectual Capital Balance Sheets—which put intangible assets at the heart of the accounts. Financial information is included but as a measure of success and as a resource for investment. The generation and deployment of intangible assets forms the core of these new models. The best known of these new balance sheets is the intellectual capital report by Swedish insurance company Skandia. Another Swedish approach is the intangible asset monitor developed by management consultant Karl Erik Sveiby. . . .[16]
>
> In some ways the hybrid approach is the most radical. It would involve far more sweeping changes, not just to the way managers and accountants value intangibles but also the value placed upon them by society as a whole. An underlying assumption of the debate about intangibles is that there should be an accounting solution to the difficulties of valuing them. This may involve gradual or radical reform but it would essentially involve accountants in drawing up a balance sheet for a company.

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[15]Charles Leadbeater, *New Measures for the New Economy* (London: Institute of Chartered Accountants in England & Wales, March 2000). Available at http://www.icaew.co.uk/institute/cbp/document.asp?WSDOCID=3669. Extracts from *New Measures for the New Economy* by Charles Leadbeater reproduced with the permission of the Centre for Business Performance of the Institute of Chartered Accountants in England & Wales.

[16]The Skandia and Sveiby proposals are discussed elsewhere in this Special Report.

Securities and Exchange Commission

In an October 1999 speech to the Economic Club of New York, SEC Chairman Arthur Levitt announced the formation of a task force chaired by Jeffrey Garten, dean of the Yale University School of Management. Chairman Levitt described the group as follows:

> The dynamic nature of today's capital markets creates issues that increasingly move beyond the bright line of black and white. New industries, spurred by new services and new technologies, are creating new questions and challenges that must be addressed. Today, we are witnessing a broad shift from an industrial economy to a more service based one; a shift from bricks and mortar to technology and knowledge.
>
> This has important ramifications for our disclosure and financial reporting models. We have long had a good idea of how to value manufacturing inventory or assess what a factory is worth. But today, the value of R&D invested in a software program, or the value of a user base of an Internet shopping site is a lot harder to quantify. As intangible assets continue to grow in both size and scope, more and more people are questioning whether the true value—and the drivers of that value—is being reflected in a timely manner in publicly available disclosure.
>
> These questions may have some merit. Groups, past and present including one sponsored by the FASB, have worked on variations of this issue. Nevertheless, I have asked Professor Jeffrey Garten, Dean of Yale's School of Management to assemble a group of leaders from the business community, academia, the accounting profession, standard setting bodies, and corporate America to examine expeditiously whether our current business reporting framework can more effectively capture these momentous changes in our economy. But let me be quite clear: The work of this group is not an invitation to delay any initiative currently underway, especially those involving business combinations. These projects must be evaluated on their own merits.

The Garten task force expects to issue its report in 2001.

Observations

The several efforts described in this chapter highlight attempts to engage the "new-economy problem" or the "intangibles problem" by focusing to differing degrees on the three propositions outlined on page 3. The table below summarizes how they approached the problem:

Agency	New Paradigm	New Metrics	Intangible Assets
American Institute of Certified Public Accountants—Special Committee on Financial Reporting		X	
Financial Accounting Standards Board—Business Reporting Research Project		X	
Canadian Institute of Chartered Accountants—Canadian Performance Reporting Initiative	X	X	
Brookings Institution—Understanding Intangible Sources of Value		X	X
Danish Agency for Development of Trade and Industry—Intellectual Capital Accounts		X	
Netherlands Ministry of Economic Affairs—Intangible Assets, Balancing Accounts with Knowledge		X	X
Organization for Economic Cooperation and Development		X	
Institute of Chartered Accountants in England & Wales—New Measures for the New Economy		X	X

The chapters that follow address the three propositions. Chapter 2 examines two proposals for new forward-looking reporting paradigms that either replace or supplement existing financial and business reporting. Chapter 3 examines four examples of disclosure systems for new metrics that provide nonfinancial information about the entity. Chapter 4 examines the issues surrounding recognition of internally generated intangible assets in financial statements and the framework for discussing those issues.

CHAPTER 2—NEW REPORTING PARADIGM

> Traditional financial statements focus on the entity's ability to realize value from existing assets and liabilities. Proponents argue that financial statements are largely backward-looking. A new financial reporting paradigm is needed to capture and report on the entity's creation of value. This paradigm would supplement, or might replace, existing financial statements.

It isn't easy to distinguish a new reporting paradigm from a new way of reporting nonfinancial performance metrics. No doubt, each creator of a nonfinancial system discussed in Chapter 3 considers his or her approach to be a bold new way of understanding an entity. This chapter examines two proposed approaches that report on the entity's balances and flows, using monetary measures, but in ways that depart from traditional financial statements.

The CICA Total Value Creation™ (TVC®) System

The most ambitious part of the Canadian Performance Reporting Initiative is a new reporting model aimed at capturing an entity's value-creating activities, which the proponents distinguish from value-realizing activities. The CICA applied for a U.S. patent in May 2000, on behalf of a collaborative global entity that is being formed to further develop the concepts. The August 2000 issue of *CAmagazine* makes the case for TVC® this way:

> Total Value Creation is the profession's response to concerns regarding the relevance of traditional accounting for performance measurement in the new knowledge-based economy. CPRI leaders—whose mandate is to provide innovative performance measurement tools addressing information and reporting needs in areas like intellectual capital, environmental performance and measurement of shareholder value creation—and others see TVC as a major step leading to internationally accepted measurement and reporting standards on value-creation performance. TVC's creators claim that the new method will allow management, boards, investors and other stakeholders to assess an organization's performance and determine if, and to what extent, it is creating value, even though revenues are for the future. In other words, it's been designed to say where things are going instead of where they're coming from. TVC

creators feel it goes much farther than the Economic Value Added (EVA) and balanced scorecards concepts.

As a consortium brochure explains, TVC is a system to rigorously measure and report on value-creation performance. It is the next step along a continuum, which begins with financial reporting and moves through non-financial performance measures to techniques that link performance to value creation.

Using elaborate models, the system tracks down financial and non-financial performances and reports in a way that will help managers to evaluate scenarios and then choose the one that will create the most value. TVC relies on:

- a fully discounted cash-flow model based on comprehensive, disclosed assumptions using a standard framework
- ongoing on-line disclosure of changes to the assumptions
- complete transparency, which should allow readers to understand and change any assumptions, and to observe the effect of these changes on the discounted cash flow
- professional assurance regarding completeness and internal consistency of the disclosed assumptions, the consistency of the discounted cash-flow model, and the correct TVC applications
- due diligence regarding disclosed assumptions
- disclosure and analysis of outcome variance

[Reproduced with permission from *CAmagazine*, published by the Canadian Institute of Chartered Accountants, Toronto, Canada.]

According to CICA representatives, "It is important to emphasize that the CICA does not consider TVC® a substitute for traditional financial reporting, now or in the future. It is useful and necessary to continue to report on value realized through transactions with third parties. However, we observe that in the knowledge-intensive economy of the 21st century, much if not most of the value creation process takes place prior to realization through third-party transactions. The fundamental premise behind the TVC® experiment is that managers and Boards of Directors need better ways of getting insight into *pre-transactional value creation.* As a transaction-based system, financial reporting is inherently limited in its ability to measure and report on this pre-transactional value creation. TVC® is therefore designed as a parallel system to traditional financial reporting to enable measurement and reporting on value creation *as it*

occurs. When the value is subsequently realized, it will of course be captured by traditional financial reporting—but this realization may take place many years after creation."

In addition, CICA representatives note that "TVC® is being developed through a collaborative global entity involving participation of other accounting institutes. It is being designed initially for internal reporting to senior management and Boards of Directors. However, after it has been proven through several years of experimentation and development there may be a need to consider making insights about value creation performance available to external stakeholders."

This Special Report examines the project in the context of its potential external-reporting application.

TVC® includes a highly sophisticated event-based present value model designed to capture and report information about an entity's planned activities. The prototype is a fictional biotech firm in its startup phase.[17] Like many new companies, the fictional firm will invest in many lines of research. Some will be very successful, others will prove unsuccessful. The fictitious firm will not begin to realize inbound cash flows from any of its projects for 10 years and, in the meantime, it will report large losses under existing GAAP. The problem identified and addressed in the prototype is reporting about the progress and value created during this startup period.

[17]The prototype and other information are available online at http://www.totalvaluecreation.com/.

Accounting For The Future (AFTF)

In 1998, actuary Humphrey H. Nash, Sr., published a monograph on his proposed "value-added" approach to accounting.[18] Like the TVC® model, Mr. Nash uses a system of projected future cash flows to present a corporation's activities in financial terms. Unlike the TVC® model, he casts the results using traditional labels of assets, liabilities, and equity—but with new meanings. In the overview of his monograph, Mr. Nash describes his proposal this way:

> Basically, the **AFTF value** is the present value of all expected future net cash flows discounted at the market cost of capital. The market cost of capital is the yield rate the shareholders require before they will buy the company's stock. The AFTF value at the end of a time period less the AFTF value at the start of the time period (increased at the cost of capital) is the **value added** during that time period.
>
> **AFTF assets** are defined to be the present value of all expected future cash flows *into* the company.
>
> **AFTF liabilities** are defined to be the present value of all expected future cash flows *from* the company.
>
> **AFTF shareholder equity** equals AFTF assets less AFTF liabilities. The process and net result of determining the AFTF shareholder equity for the entire company is called the **company valuation.**
>
> As we will later see, AFTF measures actual shareholder values present in the company through the mechanism of present values. Hence AFTF shareholder equity will be exactly that.

Mr. Nash's proposed model reflects his actuarial background and is similar to the *embedded value* reporting prepared by some life insurance companies in the United Kingdom and Europe.

[18]Humphrey H. Nash, *Accounting For The Future, a Disciplined Approach to Value-Added Accounting*. (Richmond, Va: 1998). Available online at http://home.sprintmail.com/~humphreynash/indexback.htm.

Observations

Proposals for a new paradigm have a certain appeal. Who could resist the promise of a system that reports on the creation of value? Still, there are several conceptual and practical problems with developing a new reporting paradigm.

Cost and Complexity

Developing cash flow projections for a single project can be costly and difficult. The cost of implementing a prospective accounting model in a complex organization would be considerable; it essentially requires a second management information system. Any attempt to do variance analysis would require that the prospective system be integrated with traditional bookkeeping systems. Only then can the reporting system distinguish between "variance" and "variance attributable to." A prospective reporting system, then, doesn't eliminate the traditional cost-accounting and cost-allocation problems encountered in any management reporting system. If anything, it makes those problems more difficult.

Extension

Prospective measurements exist in accounting today; FASB Concepts Statement No. 7, *Using Cash Flow Information and Present Value in Accounting Measurements,* is all about using prospective information in developing current measurements. To be effective, though, a prospective measurement requires a discrete series of cash flows with a reasonably definable beginning, middle, and end. Perhaps this is why illustrations of prospective models usually focus on project-oriented businesses and the analysis ends with the last cash flow from the last active project. However, most businesses go through cycles of development and commercialization. The modern business is a continuing entity, rather than a limited-life

venture, and many business activities do not have an easily defined life. Consider, for example, the problems of establishing a comprehensive prospective model for the downtown Chicago location of Marshall Fields.

Current accounting applications of present value are "closed-book" computations. Pension accounting does not assume a constant influx of new employees, because the entity has no obligation to these yet-to-be-hired individuals. In this way, the definition of a liability imposes an important limitation on an otherwise-uncontrollable computation. Prospective reporting models face a dilemma. If a model focuses only on current projects or imposes limitations on the time horizon, it will omit some of the perceived value of the entity. If the model doesn't impose some kind of limit, the result is unbounded and undefined.

Definition, Recognition, and Measurement

Commentators often dismiss the framework of traditional GAAP as arcane and difficult. Arcane it may be, but the basic questions are not all that difficult:

- What kinds of things go in financial statements (definition)?
- When do those things get reported in the statements (recognition)?
- How are those things quantified in the statements (measurement)?
- What happens when things change? Do we care (recognition) and if so, how much (measurement)?

A prospective system can't avoid those questions. While the designers sometimes profess themselves unconcerned with notions like *assets*, they must develop some similar set of decision rules so that the proposed system will provide information that is comparable and understandable from one reporting entity to the next. Disclosure, no matter how elaborate, will not solve the problem.

Existence and Completeness

The TVC® proposal calls for "professional assurance regarding completeness and internal consistency of the disclosed assumptions, the consistency of the discounted cash-flow model, and the correct TVC® applications." Students studying auditing are taught that financial statements make two complementary assertions (among others):

- Existence—The assets and liabilities presented in a balance sheet exist and belong to the reporting entity.
- Completeness—None of the entity's assets and liabilities have been left out of the balance sheet.

Those are worthwhile notions. Accountants and auditors have long experience with them. But could a prospective system make the same assertions about the elements of its reporting model? How would a user know?

Now, a company's assertion that it owns five (and only five) aircraft is easy to examine. But a prospective system is a collection of plans and projections. A company's assertion that it has five (and only five) projects presents a different challenge. Most advocates of prospective systems would agree that there must be a reasonable set of expectations. Defining and controlling "reasonable" will be no easier in a prospective accounting system than in today's GAAP.

That leaves the assertion of completeness. In some cases, management might see an advantage in excluding particular plans from the prospective model. For example, management might want

to keep a breakthrough technology secret from potential competitors, customers, or, in the worst case, investors.[19] Projected cash flows would simply be omitted from the presentation.

Concluding Note

Users of business and financial information want to know about "information with a forward-looking perspective, including management's plans, opportunities, risks, and measurement uncertainties."[20] The FASB's Business Reporting Research Project found "room for significant broadening of this material."[21] The new accounting paradigms discussed in this chapter strive to provide that sort of information, but are they the best way to meet users' needs? In the author's view, no. There is much that can be done with existing technology at a more reasonable price, as illustrated in the chapters to come.

[19]The topic of competitive harm is discussed at length in the report of the FASB's Business Reporting Research Project.

[20]AICPA, 5.

[21]FASB, vi.

CHAPTER 3—NEW METRICS

> The important value drivers in the new economy are largely nonfinancial and do not lend themselves to presentation in financial reports. However, a set of measures could be developed that would allow investors and creditors to evaluate entities and compare them with one another.

Chapter 1 described nine efforts by government, private, and standard-setting bodies to analyze reporting in the new economy. All of those groups investigated (or are in the process of investigating) the possibility that companies might disclose nonfinancial performance information.

There is a considerable crossover between proposed new-economy metrics and the key performance measures discussed by the AICPA Special Committee on Financial Reporting. The FASB's Business Reporting Research Project explored existing reporting of key performance measures in eight industry groups, and this report does not repeat that effort. Instead, this chapter describes some proposals for a reporting framework that captures nonfinancial information in a systematic fashion. The emphasis here is on **measurements,** or metrics to use the term in current vogue. Commentary, analysis, and description are vital components of any reporting system, but business reporting ultimately demands a form of scorekeeping. Financial statements are a form of scorekeeping; this chapter examines some other forms.

Of course, competent managers have always recognized the importance of nonfinancial metrics like market share and capacity utilization. The approaches examined in this chapter attempt, with varying degrees of success, to reach beyond those traditional metrics and capture information about perceived value drivers in the new economy—the company's workforce, customers, and ability to innovate.

Balanced Scorecard

In 1992, Robert S. Kaplan and David P. Norton published *The Balanced Scorecard—Measures That Drive Performance.*[22] The Balanced Scorecard™ is a model for many of the reporting systems now labeled as "intellectual capital." Its designers saw it as a tool for management reporting and companies use it in that role, both in the United States and internationally. While it was not intended for public reporting, one of its creators recently discussed the possibility of using (or even mandating use of) the Balanced Scorecard in communications with investors and others outside the company.[23]

The Balanced Scorecard's creators recommend that companies assemble a set of 23–25[24] measures in four areas.

- Financial measures (5) address the question, "How do we look to shareholders?"
- Customer measures (5) address the question, "How do our customers see us?"
- Internal process measures (8–10) address the question, "What must we excel at?"
- Learning and growth measures (5) address the question, "Can we improve and create value?"

The 1992 article includes an example of a balanced scorecard for a semiconductor company with the pseudonym Electric Circuits Inc. (ECI).

[22]Robert S. Kaplan and David P. Norton, "The Balanced Scorecard—Measures That Drive Performance," *Harvard Business Review* (January–February 1992): 71–79.

[23]David P. Norton, "Should Balanced Scorecards Be Required?" *Balanced Scorecard Report* (July–August 2000): 14–15.

[24]Reprinted by permission of *Harvard Business Review.* David P. Norton, "Beware: The Unbalanced Scorecard," *Balanced Scorecard Report* (January–February 2000): 3–4. Copyright © 2000 by the President and Fellows of Harvard College; all rights reserved.

ECI's Balanced Business Scorecard

Financial Perspective

GOALS	MEASURES
Survive	Cash flow
Succeed	Quarterly sales growth and operating income by division
Prosper	Increased market share and ROE

Customer Perspective

GOALS	MEASURES
New products	Percent of sales from new products
	Percent of sales from proprietary products
Responsive supply	On-time delivery (defined by customer)
Preferred supplier	Share of key accounts' purchases
	Ranking by key accounts
Customer partnership	Number of cooperative engineering efforts

Internal Business Perspective

GOALS	MEASURES
Technology capability	Manufacturing geometry vs. competition
Manufacturing excellence	Cycle time Unit cost Yield
Design productivity	Silicon efficiency Engineering efficiency
New product introduction	Actual introduction schedule vs. plan

Innovation and Learning Perspective

GOALS	MEASURES
Technology leadership	Time to develop next generation
Manufacturing learning	Process time to maturity
Product focus	Percent of products that equal 80% sales
Time to market	New product introduction vs. competition

The ECI scorecard sets a theme that will recur throughout this chapter—nonfinancial performance metrics are idiosyncratic. They serve the needs of a particular company and management team, but they may not travel well. Many of ECI's metrics would have little meaning to, say, a restaurant or homebuilder.

The original Kaplan-Norton article includes many of the now familiar criticisms of financial reporting. However, the authors do not dismiss financial reporting, as have some others. Instead, they observe:

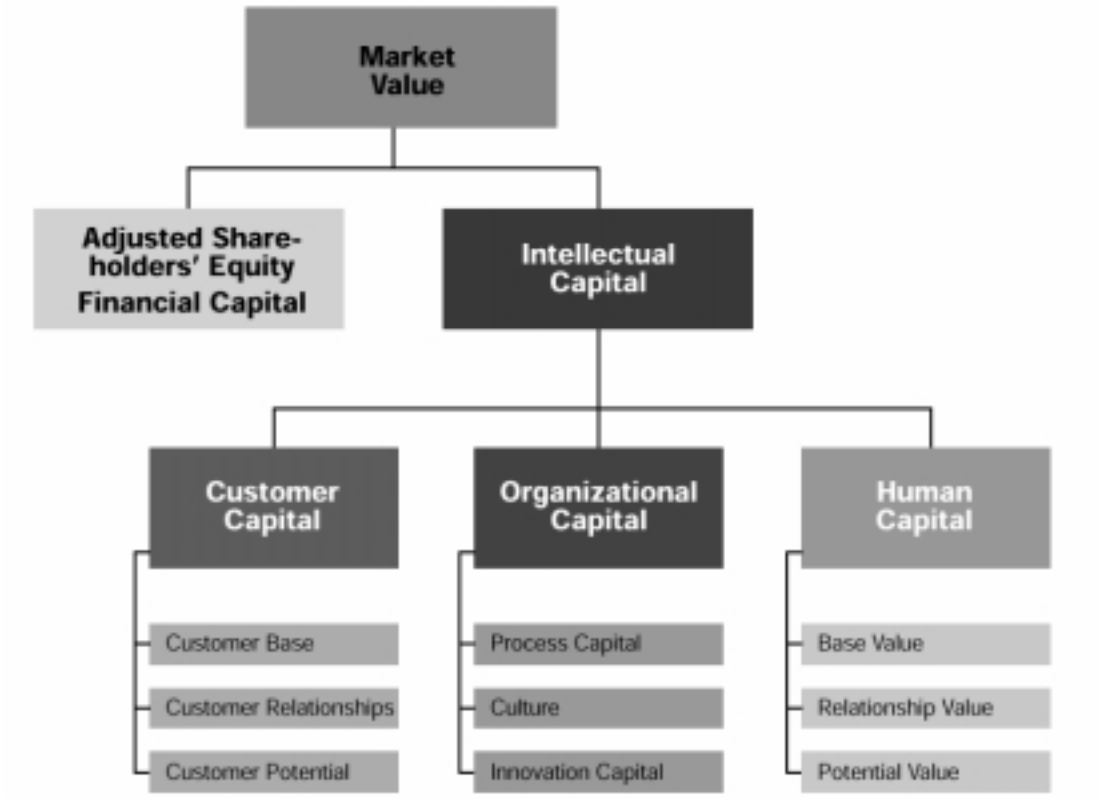
> Measures of customer satisfaction, internal business performance, and innovation and improvement are derived from the company's particular view of the world and its perspective on key success factors. But that view is not necessarily correct. Even an excellent set of balanced scorecard measures does not guarantee a winning strategy. The balanced scorecard can only translate a company's strategy into specific measurable objectives. A failure to convert improved operational performance, as measured in the scorecard, into improved financial performance should send executives back to their drawing boards to rethink the company's strategy or its implementation plans.

Skandia AFS

The Swedish insurance company Skandia has been a leader in promoting understanding of nonfinancial metrics. Leif Edvinsson, Skandia's former vice president and corporate director of intellectual capital, is a frequent speaker on the topic and co-author of the 1997 book, *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower*.[25]

[25]Leif Edvinsson and Michael S. Malone, *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower* (New York: HarperBusiness, 1997).

Skandia published a series of intellectual capital supplements to its 1994–1998[26] annual reports. The most recent supplement oulines the company's view in the following graphic and description:

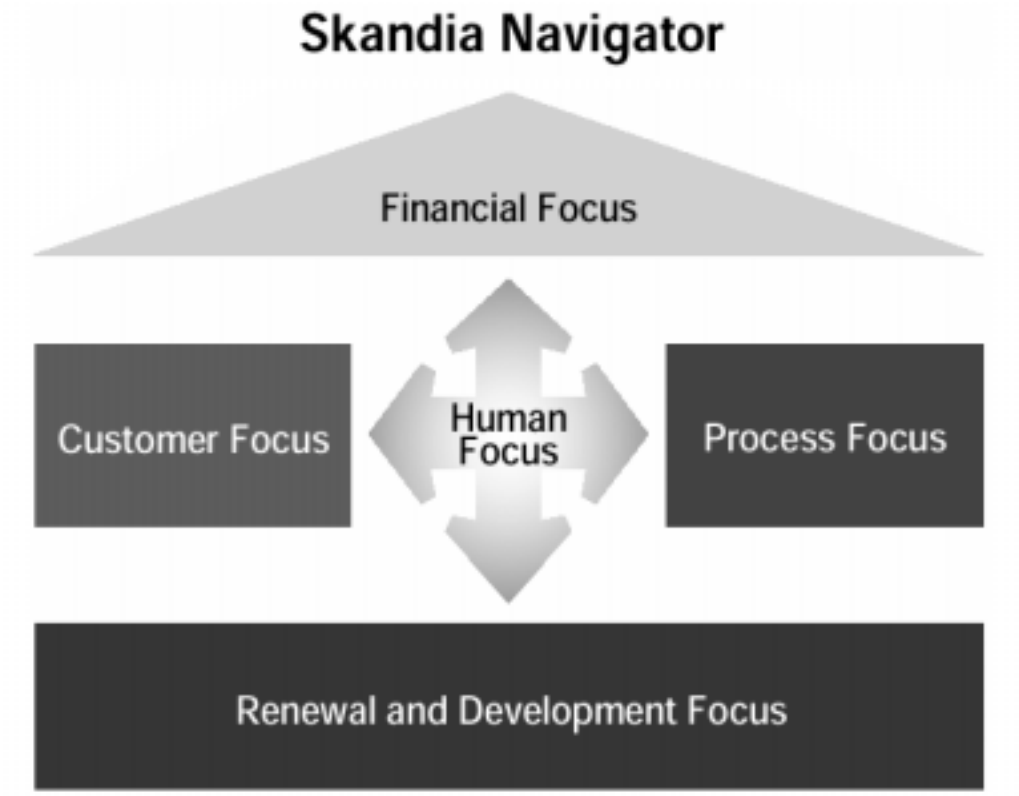


> IC consists of a number of components. The Skandia Value Scheme above shows the building blocks that contribute to the creation of market value. In traditional economics models, normally only one of these building blocks is visualized—the financial capital. More and more people are coming to the realization, however, that IC accounts for a major share of an enterprise's total value. IC consists of human capital and structural capital. Structural capital, in turn, consists of customer capital and organizational capital, that is, everything that remains when the employees have gone home, i.e., information systems, databases, IT software, and so on. Organizational capital can be broken down into process capital (value-creating and nonvalue-creating processes), culture, and innovation capital (intangible rights, trademarks, patents, knowledge recipes and business secrets).[27]

[26]In an email to the author, a Skandia representative reports that the company will not publish a 1999 supplement. Instead, they plan to issue a 2000 supplement in 2001.

[27]Skandia AFS, *Human Capital in Transformation, Intellectual Capital Prototype Report* (1998), 4. Available online at http://www.skandia-afs.com/.

To communicate the relationship between those components, Skandia developed the Skandia Navigator. The graphic representation below has become one of the most repeated images in the popular literature on intellectual capital.



The Skandia supplement includes 21 pages of discussions on topics ranging from “new opportunities” to “female potential” to “health and human capital.” The meat of the report, though, consists of two pages of performance metrics provided by major members of the Skandia group of companies. Each member reports 18 to 20 metrics spread over the 5 categories of the Skandia Navigator. The various metrics are detailed in the table on the next three pages. Captions are taken directly from the Skandia report.

American Skandia Variable Annuities	Skandia Real Estate Real Estate Holding	SkandiaBanken Distance Banking	Dial Telemarketing of Insurance	Skandia Life UK Unit-Linked and Pension Products	SkandiaLink Unit-Linked Insurance
Financial Focus					
Return on capital employed (%)	Direct yield (%)	Operating income (MSEK)	Gross premiums written (MSEK)	Return on capital employed (%)	Gross premiums written (MSEK)
Operating result (MSEK)	Net operating income (MSEK)	Total operating income (MSEK)	Gross premiums written/employee (SEK 000s)	Operating result (MSEK)	Operating result (MSEK)
Value added/employee (SEK 000s)	Market value (MSEK)	Income/expense ratio after loan losses		Assets under management (MSEK)	Assets under management (MSEK)
	Total yield (%)	Capital ratio (%)			
Customer Focus					
Number of contracts	Customer satisfaction index (max. value = 100)	Number of customers	Telephone accessibility (%)	Number of contracts	Number of contracts
Savings/contract (SEK 000s)	Average lease (years)		Number of individual policies	Savings/contract (SEK 000s)	Surrender rate (%)
Surrender ratio (%)	Average rent (SEC/sq. m.)		Customer satisfaction index (max. value = 5)	Service awards (max. value = 5)	
Points of sale	Telephone accessibility (%)				

American Skandia Variable Annuities	Skandia Real Estate Real Estate Holding	SkandiaBanken Distance Banking	Dial Telemarketing of Insurance	Skandia Life UK Unit-Linked and Pension Products	SkandiaLink Unit-Linked Insurance
Human Focus					
Number of employees, full-time	Human capital index (max. value = 100)	Average number of employees	Average age	Number of employees, full-time	Number of employees
Number of managers	Employee turnover (%)	Of whom, women	Number of employees		Human capital index (max. value = 100)
Of whom, women	Average years of service with company		Time in training (days/year)		Share of employees with secondary education or higher (%)
Training expense/employee (SEK 000s)	College graduates/total number of office staff (%)				Share of employees with 3 or more years of service (%)
Process Focus					
Number of contracts/employee	Occupancy rate measured by area (%)	Payroll costs/administrative expenses (%)	IT-employees/total number of employees (%)	Number of contracts/employee	Administrative expense/gross premiums written (%)
Adm. exp./gross premiums written (%)	Financial occupancy rate (%)				IT expense/administrative expense (%)
IT expense/admin. expense (%)	Net operating income per sq. m. (SEK)				
	Costs per sq. m., Sweden (SEK)				

American Skandia Variable Annuities	Skandia Real Estate Real Estate Holding	SkandiaBanken Distance Banking	Dial Telemarketing of Insurance	Skandia Life UK Unit-Linked and Pension Products	SkandiaLink Unit-Linked Insurance
Renewal & Development Focus					
Share of gross premiums written from new launches (%)	Property turnover: purchases (%)	Total assets (MSEK)	Increase in gross premiums written (%)	Increase in net premium, new sales (%)	Number of contracts/employee
Increase in net premiums written (%)	Property turnover: sales (%)	Share of new customers, 12 months (%)	Share of direct payments in claims assessment system (%)	Pension products, share of new sales (%)	Fund switches via Telelink (%)
Development expense/adm. exp. (%)	Change and development of existing holdings (MSEK)	Deposits and borrowing, general public (MSEK)	Number of ideas filed with Idea Group	Increase in assets under management (%)	Fund switches via Internet, December (%)
Share of staff under 40 years (%)	Training expense/administrative expense (%)	Lending and leasing (MSEK)			
		Net asset value of funds (MSEK)			

Observations

Few companies can match Skandia's commitment to its vision of intellectual capital or the wealth of metrics reported. However, a close review of Skandia's presentation raises some questions.

Industry-Specific or Business-Specific Metrics

Skandia's presentation highlights the differences in relevant metrics from one industry to the next. Occupancy percentages are paramount in the real estate business, but less meaningful (if at all) in a bank or insurance company. A "consolidated" set of nonfinancial metrics for a diversified company like Skandia would provide little insight.

That said, three of the units in the 1998 Supplement are in a similar business—variable (unit-linked) annuity and life insurance products. A reader would expect that the three would present similar information, but they don't. For example:

- American Skandia and SkandiaLink both present information on policy surrenders. Insurance professionals and analysts know that this is a key statistic; an insurer usually needs to keep customers on the books. Skandia Life UK does not present information about surrenders.
- American Skandia and Skandia Life UK both present information about the return on capital employed. SkandiaLink does not.
- American Skandia reports the number of employees, managers, and managers who are women. Neither Skandia Life UK nor SkandiaLink present information about managers, male or female.

One might argue that unit managers should focus their attention on achieving success in their own environment. Each unit manager should be free to choose the metrics that are appropriate to his or her situation. That may (or may not) be a reasonable management approach, but it limits the usefulness of information in external reporting. The outside reader turns naturally to

comparison. Which of these insurance units is biggest, fastest, or weakest in a particular area? That sort of comparison isn't possible if comparable units don't present comparable metrics.

There is another, more subtle risk from a lack of comparability. Failure by one unit to provide a particular metric leads the user naturally to wonder why. Some may conclude that the company is concealing unfavorable information. That conclusion may be unfair and unjustified, but some readers will reach it nonetheless. This impression may extend to the credibility, and with it the usefulness, of the entire disclosure package.

This observation raises the completeness assertion, but in a different form. The reader reasonably expects that a set of disclosures will include all of the information necessary to understand the subject matter. Rules for prescribed disclosures, like financial statement notes, usually specify the required content, so that preparers and readers can determine if information is omitted. Voluntary disclosures, like the Skandia presentation, shift the burden (and the potential criticism) from rulemakers to preparer judgment.

Changing Metrics

Most of the metrics in Skandia's 1998 supplement also appear in the 1997 version. There were some changes, though, and the reasons for change are not readily apparent. For example, American Skandia reported "new contract processing time" in the 1997 Supplement but not in the 1998 Supplement. SkandiaBanken reported "number of depositors" in the 1997 Supplement and "number of customers" in the 1998 Supplement. (This was not a simple change in label; the figures change as well.) Perhaps most striking, the mix of business units reporting in the 1996, 1997, and 1998 supplements changed. Some units, like SkandiaBanken, appear in all three years. Others appear only once.

Representatives of the corporate community often observe that the usefulness of nonfinancial performance measures changes over time. This view echoes the need for periodic rethinking and reality checking described by the authors of the Balanced Scorecard (page 32). However, some members of the corporate community worry that, once disclosed, the demand for each performance measure will become perpetual and that dropping or changing a measure would lead to charges that management might be hiding bad news.

What's Being Measured Here?

Some of the Skandia metrics, especially the ratios, are straightforward and easy to understand. Others are more opaque. For example, Skandia Real Estate and Dial both report a number labeled "telephone accessibility." There is no explanation of the metric; the word "telephone" does not appear anywhere else in the supplement. American Skandia reports "value added/employee," and SkandiaLink presents a "human capital index." Both are potentially interesting measures, but the Skandia supplement provides no explanation that would help users understand or evaluate.

How Much of This Is Intellectual Capital?

While the range of metrics reported by Skandia is impressive, most come from everyday general ledger systems (total assets, increase in gross premiums). Others combine general ledger systems with information systems (like personnel) supporting either the general ledger or normal operations (number of women, number of full-time employees). Those metrics may be interesting and useful, but they tell little about the purported "intellectual capital," "value creating processes," or "health and human capital" discussed in the Skandia Supplement. Indeed, only a few metrics (customer satisfaction index) provide an insight beyond simple

counting and division. This is not to say that the more mundane metrics are unimportant or uninformative—far from it.

A Dissenting Voice

The Skandia supplements are much heralded by intellectual-capital pundits. Still, there are dissenting voices. John Rutledge (quoted in Chapter 1) offered this reaction to the Skandia presentation:

> The leading advocate of balance sheet diddling is Leif Edvinsson, director of intellectual capital for Skandia, a large Swedish financial services and insurance company. . . . He and his colleagues at Skandia built a model that at last count had 164 different variables, not including subcategories, to explain and measure intellectual capital. It must have been a long night when they thought all those things up, because toward the end they had to use "share of employees under age 40 (%)," "number of women managers," and "average age of employees" to pad the list. I can't even imagine what they had in mind with those ideas.[28]

Karl-Erik Sveiby and the Swedish Movement

Swedish companies have been leaders in disclosure of nonfinancial performance metrics, with the practice dating to the late 1980s. In 1988, a small group of service companies and accountants (the KONRAD Group) published *The Invisible Balance Sheet* (Den Osynliga Balansräkningen), that outlined a theory of "intangible assets" described as customer capital, structural capital, and human capital.[29] Much of the discussion in the report is familiar today and appears in a variety of current books and articles on topics like "intellectual capital" and "knowledge management." The report defined a set of 38 key indicators for a "know-how" company, ranging from familiar financial performance indicators (return on capital employed) to

[28]Rutledge, "You're a Fool If You Buy into This One."

[29]An English translation was never published. However, one is available at http://www.sveiby.com.au/IntangAss/denosynl.htm.

more unusual attempts to capture human factors (individual capital in years, sensitivity to defection).

Swedish management consultant Karl-Erik Sveiby was the "convenor" of the KONRAD Group and has continued his role as a proponent of what might be considered new-economy metrics. He proposes an "intangible assets monitor."[30] His matrix divides metrics into three groups—External Structure, Internal Structure, and Competence. Each group is then subdivided into three sets of indicators meant to report Growth/Renewal, Efficiency, and Stability. Mr. Sveiby's website offers this display of the matrix.

[30]Karl-Erik Sveiby, "The Intangible Assets Monitor" (1999). Available online at http://www.sveiby.com.au/IntangAss/CompanyMonitor.html.

Intangible Assets Monitor		
External Structure Indicators	**Internal Structure Indicators**	**Competence Indicators**
Indicators of Growth/Renewal Profitability per Customer. Organic Growth. Image Enhancing Customers.	**Indicators of Growth/Renewal** Investment in IT. Structure-Enhancing Customers.	**Indicators of Growth/Renewal** Number of Years in the Profession. Level of Education. Training and Education Costs. Marking. Competence Turnover. Competence-Enhancing Customers.
Indicators of Efficiency Satisfied Customers Index. Sales per Customer. Win/Loss Index.	**Indicators of Efficiency** Proportion of Support Staff. Values/Attitudes Index.	**Indicators of Efficiency** Proportion of Professionals. Leverage Effect. Value Added per Employee. Value Added per Professional. Profit per Employee. Profit per Professional.
Indicators of Stability Proportion of Big Customers. Age Structure. Devoted Customers Ratio. Frequency of Repeat Orders.	**Indicators of Stability** Age of the organization. Support Staff Turnover. Rookie Ratio. Seniority.	**Indicators of Stability** Professionals Turnover. Relative Pay. Seniority.

Mr. Sveiby provides an extensive discussion of the metrics in this table; each of the items is a hyperlink to that explanation. Mr. Sveiby explains "structure-enhancing customers" this way:

> The proportion of assignments devoted to customers that improve the internal structure of the company is an important variable, because it adds to the growth of the asset. Examples of projects that improve the internal structure are large projects where competence is passed on by tradition to several professionals at once. Innovative projects involving new materials, new methods of calculation, new software, etc. come under the heading of R&D and should be classed as such. Customers must be classified for this indicator. Two companies that do this kind of classification are PLS Consult and Celemi.

The Swedish firm Celemi's intangible asset monitor is presented on the next page.[31]

[31] Available at http://www.sveiby.com.au/IntangAss/CelemiMonitor99.htm.

Tangible Assets

Our Financial Capital

(overall rating year)	1999	1998	1997
Growth/Renewal			
Equity Growth	-3%	-3%	26%
Net Investment Ratio (13,15)	19%	35%	45%
Efficiency			
Profit Margin (19)	1%	0%	4%
Net Return on Equity (16)	8%	1%	25%
Profit Capacity % Sales (22)	8%	12%	11%
Stability			
Solidity (29)	20%	29%	34%
Liquid Reserves N:o Days (14)	32	11	41

Our Customers

(External Structure)

(overall rating year)	1999	1998	1997
Growth/Renewal			
Revenue Growth	22%	8%	22%
Image Enhancing Customers (5,12)	54%	59%	70%
Efficiency			
Revenues per Customer (5,26)	367	306	269
Stability			
Customer Satisfaction Index (32)	5.00	5.18	
Repeat Orders (23)	68%	66%	54%
5 Largest Customers (5,10)	29%	33%	40%

Intangible Assets

Our Organization

(Internal Structure)

(overall rating year)	1999	1998	1997
Growth/Renewal			
Organization Enhancing Customers (5,18)	21%	51%	49%
Revenues from New Products (24)	17%	49%	71%
R&D / Revenues	14%	12%	7%
Intang. Investments % Value Added (13)	22%	42%	42%
Efficiency			
Proportion of Admin Staff (2,21)	20%	25%	25%
Revenues per Admin Staff SEK '000 (25)	9205	6774	8478
Stability			
Admin Staff Turnover (1,2)	33%	13%	0%
Admin Staff Seniority, Years (2,28)	3.8	2.6	2.0
Rookie Ratio (17,27)	36%	41%	53%

Our People

(Competence)

(overall rating year)	1999	1998	1997
Growth/Renewal			
Average Professional Experience (3,9)	9.2	8.3	8.2
Competence Enhancing Customers (4,5)	27%	59%	65%
Professional Competence grwth (11)	38%	8%	49%
Experts with Tertiary Degree (6,8)	80%	67%	68%
Efficiency			
Value Added per Expert SEK '000 (33)	892	802	759
Value Added margin (20)	49%	47%	42%
Stability			
People Satisfaction Index (31)	5.00	4.62	
Expert Turnover (7,9)	14%	13%	6%
Expert Seniority, years (9,28)	4.0	3.3	2.8
Median Age all Employees, Years (17)	37	37	36

Observations

Industry-Specific or Business-Specific Metrics

The Sveiby Intangible Assets Monitor, as described, is clearly built for a professional services or consulting firm. Celemi, a developer of "learning products," changed several of the indices to make them more useful to its business and environment.

Good News and Bad News

Some have expressed a concern that management might omit a particular metric when it reports bad news. Others have observed that nonfinancial performance metrics are most valuable in portraying trends. A single number for "customer satisfaction" has little meaning. Is "50" a good or a bad indicator? Here, Celemi provides important information by portraying the trend and even color-coding individual amounts (red = bad, yellow = caution, green = good).

What's Being Measured Here?

Both Sveiby and Celemi offer insights into individual metrics, but the descriptions and metrics rely heavily on very subjective analysis. For example, the Celemi notes describing "image enhancing customers" read as follows:

> 5 Customers: categorized under three headings. Number excludes book customers.
>
> 12 Image enhancing customers: Share of revenues from customers that improve Celemi's image or gives referrals.

Those descriptions are better than nothing, but they still leave questions unanswered. What must a customer do to "improve Celemi's image?"

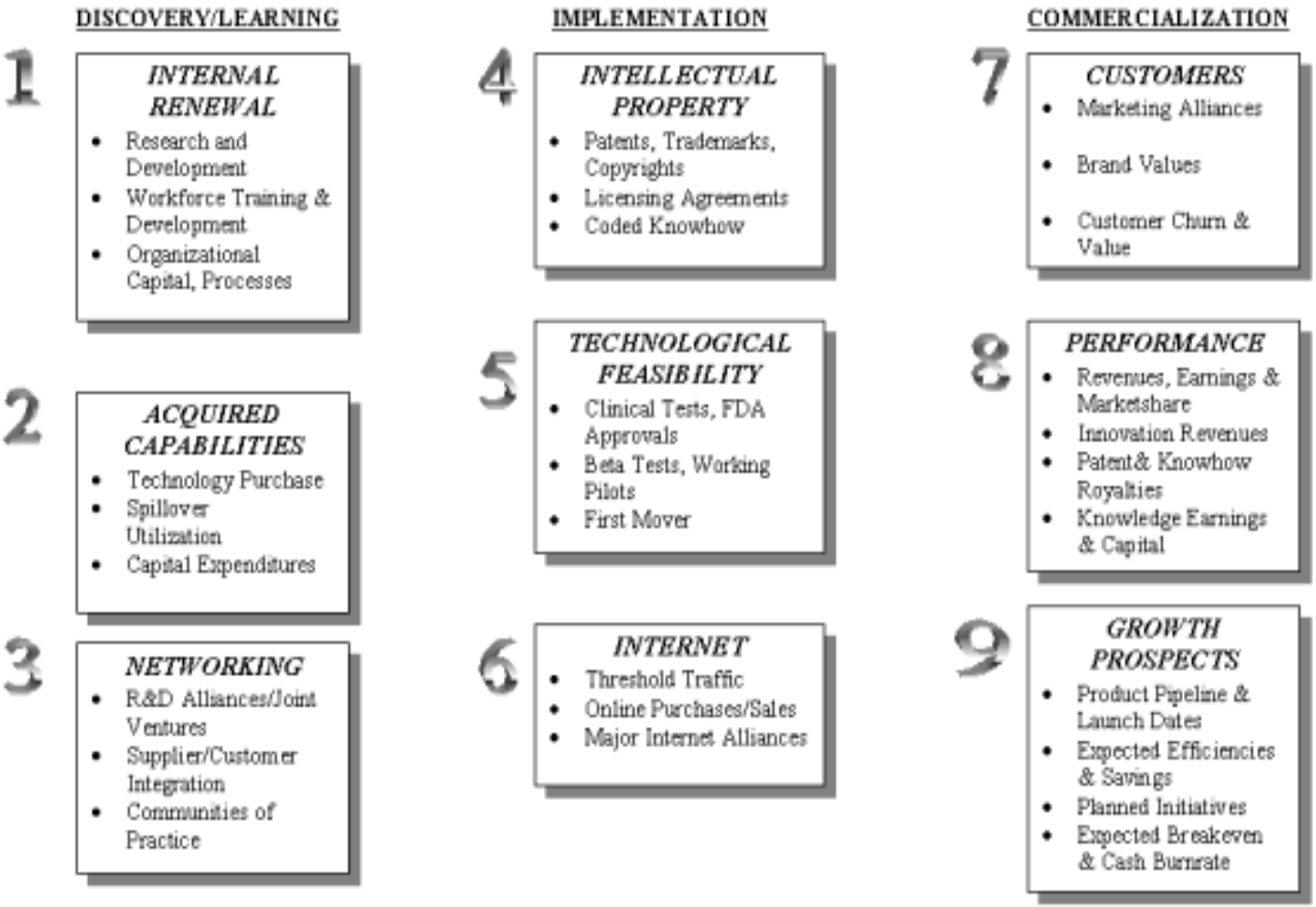
The Value Chain Scoreboard™

In his report for the Brookings Institution (page 14), Baruch Lev proposes a value chain scoreboard designed to convey information about "the fundamental economic process of innovation." Like other examples in this section, the value chain scoreboard is a matrix of nonfinancial metrics. Unlike the others, it is arranged to communicate how those metrics fit into the cycle of development and commercialization.

The Value Chain Scoreboard illustrated in Professor Lev's report is reproduced on the next page.

Figure 5-1

THE VALUE CHAIN SCOREBOARD™



While the list of metrics seems daunting, Professor Lev proposes that any individual company should present a "parsimonious set" of no more than 10–12 items. Those would be distributed across the 10 cells in his matrix. He also proposes three criteria for the choice of measures:

1 The indicators should be *quantitative*. Qualitative aspects of the value chain (e.g., employee work practices, patent cross-licensing) may be provided in an annex to the scoreboard.
2 The measures should be *standardized* (or easily standardizable), meaning that they can be compared across firms for valuation and benchmarking purposes.
3 Most important, the measures should be confirmed by *empirical evidence* as relevant to users, generally by establishing a significant statistical association between the measures and indicators of corporate value (e.g., stock return, productivity improvement). [page 164]

Observations

Industry-Specific or Business-Specific Metrics

Professor Lev's second criterion challenges the conventional view. The other studies described in this paper highlight the idiosyncrasy of nonfinancial metrics. In defending the contrary view, Professor Lev observes that standardization includes both the format for presenting information (the matrix) and the computation of individual elements. He also observes that a degree of standardization creates a "common language" that allows users to compare companies.

What's Being Measured Here?

Professor Lev's first criterion speaks to this question. He eschews the use of measures like "image enhancing customers" in favor of information that is open to conventional verification and analysis. Still, there are some undeveloped notions in this proposal. For example, how would one describe a quantified and standardized measure of the following items listed in the Value Chain Scoreboard?

- Communities of practice
- Spillover utilization
- Customer churn and value
- Coded knowhow.

The Value Creation Index (VCI)

Working with the Cap Gemini Ernst & Young Center for Business Innovation, Chris Ittner and David Larcker of the University of Pennsylvania's Wharton School have developed the *Value Creation Index* that attempts to measure the importance of different nonfinancial metrics in explaining the market value of companies.[32] Publication of the Value Creation Index followed a survey of readers of *Forbes ASAP* in which they were asked to rank the key drivers of corporate value for their industries. The professors then used publicly available information to develop a series of metrics associated with those value drivers. They next used techniques from capital-markets research to test the correlation between those metrics and share prices. In doing so, they sought to discover what factors markets consider important rather than what managers say is important.

[32]Geoff Baum, Chris Ittner, David Larcker, Jonathan Low, Tony Siesfeld, and Michael S. Malone, "Introducing the New Value Creation Index," *Forbes ASAP* (April 4, 2000).

Here's how the authors described their results in the *Forbes ASAP* article:

Here's What You Said Drives Corporate Value (In Rank Order):

1. Customer Satisfaction
2. Ability To Attract Talented Employees
3. Innovation
4. Brand Investment
5. Technology
6. Alliances
7. Quality Of Major Processes, Products, Or Services
8. Environmental Performance

In Comparison, Here's What Our Research Found Drives Corporate Value In Durable Manufacturing (In Rank Order):

1. Innovation
2. Ability To Attract Talented Employees
3. Alliances
4. Quality Of Major Processes, Products, Or Services
5. Environmental Performance
6. Brand Investment
7. Technology
8. Customer Satisfaction

Stunning, isn't it? Although our readers rated the importance of alliances relatively low, our statistical analysis shows that companies with more joint ventures, marketing and manufacturing alliances, and other forms of partnerships have substantially higher market values. It suggests that in the connected economy, connections matter. Alliances are incredibly, even decisively, important. Similarly, our results indicate that quality is not dead. Our survey respondents ranked it seventh in importance, yet in the durable sector, product quality, including the quality of the manufacturing process, remains statistically a strong predictor of corporate value. Just as surprising is the importance of environmental performance. Although most companies pay only lip service to this issue, and readers ranked it the least important of the value drivers, companies that perform better in this dimension have significantly higher market values.

Perhaps the most amazing result of our research is that two intangible asset categories--use of technology and customer satisfaction—had no statistical association with market values. That means these things, in contrast to our readers' perceptions, aren't helping companies create value at all. For all the blather over the past 10 years about the importance of customer satisfaction, it apparently has no effect on corporate value.

Observations

The *Forbes ASAP* article is the first step in development of the Value Creation Index. Professors Larcker and Ittner report that they are expanding the data and plan to do "a much more careful and sophisticated job with these non-financial measures, and publish that work in refereed journals."[33]

The statistical and data-gathering techniques required for this sort of analysis are daunting. Few corporate management teams have the requisite skill or would willingly incur the costs required for this sort of analysis. However, the sort of rigorous analysis described in the Value Creation Index, especially the attempt to correlate metrics (individually and as a group) with capital markets, stands in high contrast to other examples described in this chapter.

Still, the Value Creation Index provides at least two important insights. First, what managements (and, perhaps, users as well) **say** is important may not coincide with how they behave in the marketplace. Second, the creators developed different indices for different industries—consistent with the view that nonfinancial performance metrics must be industry-specific.

Concluding Observations

There is a striking similarity between the types of nonfinancial metrics described in this section and "the factors that create longer term value, including nonfinancial measures indicating how key business processes are performing" described by the AICPA Special Committee on Financial

[33]David Larcker, email to the author, September 28, 2000.

Reporting. The FASB Business Reporting Research Project has found that businesses, at least the companies studied in the project, are already providing significant nonfinancial information. Indeed, with a few changes in jargon, the AICPA and FASB could reasonably claim to have been studying "intellectual capital" since 1991. That said, the project working groups that studied eight industries reported relatively few systematic presentations of nonfinancial metrics like those advocated by the Balanced Scorecard, Skandia Navigator, or Sveiby Intangible Assets Monitor. Traditional metrics like capacity utilization or market share were common. The working groups found far fewer examples of workforce or customer metrics.

Nonfinancial metrics are disclosures, not information recognized and measured in financial statements. Accountants and standard setters have a well-articulated framework for understanding recognition and measurement problems, but the same cannot be said of disclosure problems. Our concepts help, especially FASB Concepts Statement No. 2, *Qualitative Characteristics of Accounting Information.* Looking to the Concepts Statements, we can make a few observations about the elements of a useful presentation of nonfinancial metrics:

- Metrics presented in a systematic and ordered way (like a matrix or summary) are more useful than those located in several different places.
- Metrics presented in isolation have little usefulness. To be useful, metrics must be presented in the context of the entity in its industry and markets. This suggests that metrics for a diversified company are not as useful as the metrics for its business segments.
- Unusual or innovative metrics, like customer or employee satisfaction indices, are interesting. However, traditional measures like same-store sales or employee turnover can provide considerable insight into the entity's relationship with its customers and employees. Those traditional measures are likely to be less costly to develop, more understandable, and more comparable from one entity to another.
- The change in a metric from period to period is more useful than a single figure. This places a premium on consistency from period to period.
- An individual company's metrics can provide useful information, but that information is more useful if it can be compared with comparable metrics presented by other companies.

Systematic Presentation—the Consultant's Matrix

Business consultants seem to love the matrix as a tool for presenting information, and the proposals in this chapter are no exception. Matrix presentations have their advantages. A simple matrix collects the metrics in a single place and presents them in an orderly and systematic fashion, rather like a financial statement. Working groups involved in the FASB project reported that they frequently had to search several parts of a company's business reporting material to find information. A matrix encourages managers to present **measures** of performance rather than discussing performance in abstract terms. Finally, the categories in a matrix say something about why management considers a metric important. In this regard, the names assigned to the categories aren't nearly as important as the recognition that a business can be viewed from several perspectives and that management has a way of monitoring each of those perspectives.

Context, Comparability, and Consistency

The analysis of Skandia's presentations highlights the confusion created when apparently similar businesses portray different metrics. The outlier company that omits a metric is immediately open to questions. Why did they omit? Are they trying to conceal? Don't they know? Don't they care? Enough of those questions, asked about enough companies, and the value of the disclosure begins to decline.

Comparability extends to both the metric and its computation. A ratio, a count, and a rate of change may all provide information about the same facet of an entity, but users cannot easily use the information to make comparisons. On the other hand, some might argue that a nonfinancial metric should portray management's view of the entity. In their view, the value of nonfinancial metrics rests in their ability to communicate information about the company that cannot be

derived from financial statements. To them, comparison with other companies is less important than understanding of an individual company.

In a recent letter to the AICPA, the Chief Accountant of the U.S. Securities and Exchange Commission observed:

> A characteristic of high quality financial reporting is that information provided to investors is comparable, verifiable and provided on a consistent basis from period to period. For example, investors and other users of financial information may be confused if a disclosure item shown by one company is calculated on a different basis than a similarly termed disclosure made by another entity. To avoid potential investor confusion, I would ask that the AICPA undertake this project [on key performance indicators], with the oversight of the FASB, to provide common definitions to a core set of non-GAAP performance measures including critical success factors and key performance indicators. These are often contained in analysts' reports and the FASB Steering Committee has identified some.[34]

The industry-specific or entity-specific nature of nonfinancial metrics certainly weighs against the sort of comparability found in financial statements. The Balanced Scorecard, for example, began life as a management-reporting tool, tailored to the needs and objectives of a particular company. The Skandia presentation, the FASB Business Reporting Research Project, and several of the studies mentioned in Chapter 1 showed that the important metrics vary from one industry to the next. It would be difficult, if not impossible, to develop a standard set of metrics that could be applied across all industries.

Two characteristics of useful metrics stand out, regardless of whether nonfinancial metrics have a degree of standardization across companies or industries or are completely idiosyncratic. First,

[34]Letter from Lynn E. Turner, Chief Accountant, Securities and Exchange Commission to Arleen Thomas, Vice President–Professional Standards and Services, AICPA, November 22, 2000.

the value of many metrics rests in their ability to show change over time. (Our customer satisfaction index is 8. Fine, what was it last year, 10 or 6?) Second, a metric should show both good news and bad. (If the industry is in a cyclical slowdown, users expect capacity utilization to fall.) Those characteristics demand consistency from period to period, both in the presentation and the computation of the metrics.

Understandability

To be useful, a metric must be understood. Many nonfinancial metrics, especially the "new-economy" metrics proposed by some authors, are unfamiliar to users of business information. A user can decide whether Celimi's "organization enhancing customers" (page 44) is important, but only if the user knows what the metric portrays. The same is true of familiar metrics. Is American Skandia's "surrender ratio" (page 35) the same as SkandiaLink's "surrender rate"? Presumably so, but a simple description of the computation would remove any doubt.

The description of nonfinancial metrics need not be overwhelming; Celemi's description takes about a page. Some might hope for more, especially for more unusual metrics. Still, a two- or three-page description should be possible.

Cost and Benefit

Managers are concerned about the cost of any new disclosure, and properly so. They are reluctant to assemble a customer satisfaction index, for example, without clear evidence that users of business reporting find the information useful. (Remember, the Value Creation Index found that customer satisfaction "had no statistical association with market values.") There is significant academic research, though, that shows the capital-market importance of some nonfinancial metrics. For example, Massachusetts Institute of Technology professors Erik

Brynjolfsson and Shinkyu Yang found that investments in information technology, including the "software, training and organizational transformations that accompany computer investments," had considerable explanatory value when considering market valuations and what economists refer to as excess returns.[35]

The AICPA Special Committee found that financial statement users value nonfinancial metrics, but it also recognized the cost of compiling information. The Special Committee outlined an approach to controlling the costs of business reporting that included the following constraints:[36]

1. Business reporting should exclude information outside of management's expertise or for which management is not the best source. That is, business reporting should include only company-specific information that is within management's expertise to provide.
2. Management should not be required to report information that would harm a company's competitive position significantly.
3. Management should not be required to provide forecasted financial statements. Rather, management should provide information that helps users forecast for themselves a company's financial future, such as the information specified in the Committee's model.
4. Other than for financial statements, management need only report the information it knows. That is, management should be under no obligation to gather information it does not have, or need, to manage the business.
5. Certain elements of business reporting should be presented only if users and management agree they should be reported; a concept of flexible reporting.

The New Economy Again—a Modest Proposal

The objective of any nonfinancial metric should be to capture and report business information that is not readily apparent from the financial statements. That objective doesn't change if the company in question is considered old economy or new economy. The Value Creation Index

[35]Erik Brynjolfsson and Shinkyu Yang, "The Intangible Costs and Benefits of Computer Investments: Evidence from the Financial Markets" (Working Paper, December 1999). Available online at http://ccs.mit.edu/erik.

[36]AICPA, Chapter 5.

found that innovation and ability to attract talented employees (usually considered to be new-economy sorts of things) were the most important nonfinancial metrics for durable-goods manufacturing (usually considered a decidedly old-economy business).

The FASB's Business Reporting Research Project found that businesses currently provide considerable nonfinancial information, although perhaps less in the form of explicit metrics that can be tracked from period to period. Moreover, few metrics were expressed using "intellectual capital" or "knowledge management" jargon. That may be, in part, because the importance of many nonfinancial items transcends labeling. One might also speculate that managers, at least those responsible for external reporting, have not embraced "new" ways of thinking.

Perhaps the most important insight to be gained from studying the work described in Chapters 1 and 3 is the value gained from:

1. Expressing nonfinancial information in numbers that are understandable and can be tracked from period to period
2. Grouping the metrics into a single presentation so that users need not search several places to find them
3. In a diversified entity, providing metrics tailored to the different business activities (perhaps on the same basis as existing disclosures of business segments)
4. Organizing the metrics into categories that provide insight into different perspectives on the business enterprise.

With those points in mind, standard setters, regulators, and industry groups could encourage companies to assemble a "suite" of nonfinancial metrics. (The collection isn't a balance sheet, as some have suggested. The metrics don't add and the collection doesn't balance.) The suite of metrics need not contain any information that is not already presented in a company's collection of reported business information. Information that is currently described but not quantified could be converted to explicit measurements. The suite of metrics would be accompanied by a brief description of any computations whose development is not readily apparent.

The table below shows four possible "suites" of nonfinancial metrics, drawn from the information noted by industry working groups on the FASB's Business Reporting Research Project, and using four of the five categories described in the Skandia Navigator. Note that some of the categories-industries show no metrics. This does not imply that the human focus is unimportant for computer systems or the process focus for drug manufacturers, only that the industry working groups did not observe metrics that obviously fit into those categories.

Automobiles	Chemical Industry	Computer Systems	Pharmaceuticals
	Customer Focus		
Market share	Market share	Market position	Market share
Vehicle units sold	Expenditures for customer support services	Revenue by type of customer	Marketing alliances
	Major customer information	On-line sales per day	Customer base
		Customer satisfaction	Prescriptions written
		Brand awareness statistics	Size of sales force
	Human Focus		
Labor contracts	Training expenditures		Employees involved in research and development
Average compensation by employee groups			Sales force training
Employment by regions			
	Process Focus		
Capacity utilization	Plant capacity	Operating expenses/Net revenue	
Age and service life of key assets	Productivity gains		
	Raw material price indices		
	Volume of product		
	Renewal and Development Focus		
New product developments	Additions to plant capacity	New products	Time to completion of new products
Patent applications and awards		Patent applications and awards	Patent expiration dates
Research and development expenditures	Research and development expenditures	Research and development expenditures	Research and development expenditures
			Development alliances
			Research and development alliances
			FDA approvals
			Number of drugs under development

CHAPTER 4—INTANGIBLE ASSETS

> The importance of intangible assets is the distinguishing feature of the new economy. By and large, existing financial statements recognize those assets only when they are acquired from others. Accounting standard setters should develop a basis for the recognition and measurement of internally generated intangible assets.

The preceding chapters highlighted attempts to capture and communicate business information not found in existing financial statements. Some seem to suggest that it is pointless to try. Others question the value of "monkeying with the financial statements."

For a moment, accept John Rutledge's division of the business-reporting world (page 4). Balance sheets should include "stuff." Anything that is not "stuff" should be reported elsewhere, or not at all. This begs the question, though. What if there is "stuff" that should be on the balance sheet and is not? No one would accept the proposition that a manufacturer should leave the factory building off its balance sheet (lease accounting notwithstanding). The building is clearly an asset—stuff.

Here, many suggest that accounting and accountants have adopted a pair of irreconcilable positions. Intangible assets acquired from others, including through a business combination accounted for as a purchase, are recognized in the financial statements. Intangible assets created with internal resources are not recognized, for the most part.

This chapter explores the possibility that more intangible assets should be recognized in balance sheets and the challenges in moving to greater recognition of intangible assets. The discussion opens with a brief review of the definition of an asset, the structure of recognition criteria, and three existing accounting standards that address internally generated intangible assets. It then

moves from that review to analyze the practical and conceptual issues surrounding recognition of intangible assets.

This chapter does not explore the issues surrounding amounts recorded as goodwill in business combination accounting or whether there is internally generated goodwill that should be recognized in financial statements. Readers will see that the field is rich enough, and the problems and issues significant enough, even with a limited focus on individually identifiable intangibles.

Part 1—Review

What Is the Objective?

There is a popular view of financial statements that underlies and motivates many discussions of intangible assets. That popular view often sounds something like this:

> If accountants got all the assets and liabilities into financial statements, and they measured all those assets and liabilities at the right amounts, stockholders' equity would equal market capitalization. Right?

Wrong. That was never an objective of financial statements. And, no, it has nothing to do with characterizations of accounting as "historical" or "retrospective." The summary of FASB Concepts Statement No. 1, *Objectives of Financial Reporting by Business Enterprises*, describes the three basic objectives of financial reporting:

> Financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions. The information should be comprehensible to those who have a reasonable understanding of business and economic activities and are willing to study the information with reasonable diligence.
>
> Financial reporting should provide information to help present and potential investors and creditors and other users in assessing the amounts, timing, and uncertainty of prospective cash receipts from dividends or interest and the proceeds from the sale, redemption, or maturity of securities or loans. Since

> investors' and creditors' cash flows are related to enterprise cash flows, financial reporting should provide information to help investors, creditors, and others assess the amounts, timing, and uncertainty of prospective net cash inflows to the related enterprise.
>
> Financial reporting should provide information about the economic resources of an enterprise, the claims to those resources (obligations of the enterprise to transfer resources to other entities and owners' equity), and the effects of transactions, events, and circumstances that change its resources and claims to those resources.

The last objective is the most relevant here. Financial reporting tries to provide information about economic resources (stuff) and the two groups that hold claims against those economic resources. In doing so, it provides investors, creditors, and the broader capital markets with a feedback mechanism. That is, it helps to confirm or correct prior expectations.

But what are the "economic resources of an enterprise"? Does the notion extend, for example, to the particularly mild climate at the enterprise's home office? No, but the distinction is subtle. Good climate is not an economic resource of any particular enterprise. However, good climate may affect the value of things that are economic resources of the enterprise—like the value of the home office building. To make the objectives work, there needs to be a framework for understanding what things are assets of the enterprise and when those things are recognized in financial statements.

What Is an Asset?

In paragraph 25, FASB Concepts Statement No. 6, *Elements of Financial Statements,* defines an asset this way:

> Assets are probable[18] future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.

Paragraph 49(a) of the IASC *Framework* provides a similar definition:

> An asset is a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise.

Both definitions include the same essential characteristics of an asset. It represents **future economic benefits**, is a consequence of a **past transaction or event**, and is **controlled** by the entity.

Footnote 18 in Concepts Statement 6 clarifies the use of the term *probable:*

> *Probable* is used with its usual general meaning, rather than in a specific accounting or technical sense (such as that in FASB Statement No. 5, *Accounting for Contingencies*, par. 3), and refers to that which can reasonably be expected or believed on the basis of available evidence or logic but is neither certain nor proved (*Webster's New World Dictionary of the American Language*, 2d college ed. [New York: Simon and Schuster, 1982], p. 1132). Its inclusion in the definition is intended to acknowledge that business and other economic activities occur in an environment characterized by uncertainty in which few outcomes are certain (pars. 44-48).

The word *probable* sometimes leads readers astray. How, they wonder, can something be an asset under the FASB definition unless its future benefits are at least 50.1 percent likely? And how can an accountant make that prediction? A 1998 FASB Special Report by the late Reed Storey (the intellectual force behind the FASB Conceptual Framework) and Sylvia Storey gave the following discussion of probable future benefits:[37]

> The word probable is included in the asset and liability definitions with its general, not accounting or technical, meaning and refers to that which can reasonably be expected or believed on the basis of available evidence or logic but is neither certain nor proved. Its use was intended to indicate that something does not have to be certain or proved to qualify as an asset or liability. The first Exposure Draft did not contain the word probable. It identified assets with "economic resources—cash and future economic benefits—" saying that a "resource other than cash . . . must, singly or in combination with other resources, contribute directly or indirectly to future cash inflows . . ." and identified liabilities with "obligations . . . to other entities," saying that "the obligation must

[37]Reed K. Storey, Ph.D., CPA, and Sylvia Storey, *The Framework of Financial Accounting Standards and Concepts* (Norwalk, Conn.: FASB, January 1998), 131.

> involve future sacrifice of resources. . . ." The Board received many comment letters that said, in essence, "almost nothing can ever be an asset or liability because you have said that it has to be certain, and everything except cash is uncertain."
>
> The Board thus inserted "probable" into the definition, but perhaps "expected" would have been a better word. As long as someone thinks that an item has value and is willing to pay for it, the item has value and meets the definition of assets, even if the expectation turns out to have been mistaken. It is easy to read more into the use of probable than was intended. Probable is not an essential part of the definitions; its function is to acknowledge the presence of uncertainty and to say that the future economic benefits or sacrifices do not have to be certain to qualify the items in question as assets and liabilities, not to specify a characteristic that must be present.
>
> Although the application of the definitions of assets and liabilities commonly requires some assessment of probabilities, degrees of probability are not part of the definitions. The degree of probability of a future economic benefit (or of a future cash outlay or other sacrifice of future economic benefits) and the degree to which its amount can be estimated with reasonable reliability, both of which are required to recognize an item as an asset (or a liability), are recognition and measurement matters. [Footnote references omitted.]

When Are Assets Recognized in Financial Statements?

An entity may possess items that meet the definition of assets and still not recognize those items in financial statements. Paragraph 63 of FASB Concepts Statement No. 5, *Recognition and Measurement in Financial Statements of Business Enterprises,* identifies four recognition criteria:

> An item and information about it should meet four fundamental recognition criteria to be recognized and should be recognized when the criteria are met, subject to a cost-benefit constraint and a materiality threshold. Those criteria are:
>
> *Definitions*—The item meets the definition of an element of financial statements.
>
> *Measurability*—It has a relevant attribute measurable with sufficient reliability.
>
> *Relevance*—The information about it is capable of making a difference in user decisions.
>
> *Reliability*—The information is representationally faithful, verifiable, and neutral.

> All four criteria are subject to a pervasive cost-benefit constraint: the expected benefits from recognizing a particular item should justify perceived costs of providing and using the information. Recognition is also subject to a materiality threshold: an item and information about it need not be recognized in a set of financial statements if the item is not large enough to be material and the aggregate of individually immaterial items is not large enough to be material to those financial statements. [Footnote references omitted.]

Few would argue that information about intangible assets is not relevant, but many question whether those items are measurable. In this context, measurability means more than simply "how much." Any competent manager monitors the ongoing cost of research and development (R&D) projects. Assigning a cost measurement to a company's investment in R&D is a straightforward exercise in cost accounting. But the recognition criterion requires a *relevant* measurement attribute, and some question the relevance of historical cost as a measurement of intangible assets.

Paragraph 83 of the IASC *Framework* provides a similar recognition concept:

> An item that meets the definition of an element should be recognised if:
>
> (a) it is probable that any future economic benefit associated with the item will flow to or from the enterprise; and
>
> (b) the item has a cost or value that can be measured with reliability.

Paragraphs 89 and 90 expand on the IASC concept:

> An asset is recognised in the balance sheet when it is probable that the future economic benefits will flow to the enterprise and the asset has a cost or value that can be measured reliably.
>
> An asset is not recognised in the balance sheet when expenditure has been incurred for which it is considered improbable that economic benefits will flow to the enterprise beyond the current accounting period. Instead such a transaction results in the recognition of an expense in the income statement. This treatment does not imply either that the intention of management in incurring expenditure was other than to generate future economic benefits for the enterprise or that management was misguided. The only implication is that the degree of certainty

> that economic benefits will flow to the enterprise beyond the current accounting period is insufficient to warrant the recognition of an asset.

Three Accounting Standards That Address Intangible Assets

Several pronouncements touch on the question of intangible assets, including those like FASB Statement No. 44, *Accounting for Intangible Assets of Motor Carriers*, that address the issue in the context of specific industries. A comprehensive review of all those pronouncements would overwhelm this discussion, but two FASB documents and one IASC document are especially interesting.

FASB Statement No. 2

FASB Statement No. 2, *Accounting for Research and Development Costs*, was issued in October 1974. The Statement provides a simple rule for R&D costs—they are to be charged to expense as incurred. Statement 2's basis for conclusion cites several reasons for that decision, including:

- Uncertainty of future benefits—Even after the R&D stage, the failure rate for new products is high.
- Lack of causal relationship—Paragraph 41 of the basis cites studies that "generally failed to find a significant correlation between research and development expenditures and increased future benefits as measured by subsequent sales, earnings, or share of industry sales" (footnote references omitted).
- Inability to measure future benefits—The basis explores *measurability* as a recognition concept, and paragraph 44 describes a notion similar to that found in the IASC *Framework:*

  > The criterion of measurability would require that a resource not be recognized as an asset for accounting purposes unless at the time it is acquired or developed its future economic benefits can be identified and objectively measured.

- Lack of usefulness—Paragraph 50 of the basis cites the views of financial statement users that capitalization of R&D costs "is not useful in assessing the earnings potential of the enterprise."

Those four conclusions have been challenged extensively in the years since Statement 2 was issued. We'll return to Statement 2 and those conclusions later in this chapter.

FASB Statement No. 86

FASB Statement No. 86, *Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed,* was issued in August 1985. Statement 86 divides the creation of computer software into two phases. Costs incurred to establish the technological feasibility of a product are considered R&D under Statement 2 and charged to expense as incurred. Costs incurred after establishing technological feasibility and before the product is available for general release are capitalized.

The Board's use of technological feasibility has attracted criticism from both sides of the debate over capitalizing software costs. In a 1996 letter to then FASB Chairman Dennis Beresford, the Software Publishers Association argued:

> As a result of the dynamic nature of today's software industry and continual generation of high risk development issues, an increasing number of software companies believe that technological feasibility is not reached until very late in the development cycle. Subsequent costs are inherently immaterial so most companies charge all software development costs to research and development expense.[38]

The letter went on to argue for charging all software development costs to expense:

> Greater consistency in financial reporting would result if all software development costs were charged to expense as incurred. Given the difficulties in determining when technological feasibility is established, as noted above, financial reporting and financial statements would be more reliable and consistent if all software development costs were required to be charged to expense.

New York University Professor Baruch Lev, a prominent advocate of recognizing intangibles in the balance sheet, had this to say about the industry position and the "flexibility" in Statement 86:

[38]Letter from Ken Wasch, president, Software Publishers Association, to Dennis Beresford, chairman, Financial Accounting Standards Board, March 14, 1996.

> The shift in attitudes toward capitalization is particularly puzzling given the flexibility of SFAS 86, which largely enables those who wish to capitalize to do so and others to immediately expense software developments costs.[39]

IAS 38

The International Accounting Standards Committee issued IAS 38, *Intangible Assets*, in September 1998. IAS 38 takes an approach similar to that found in Statement 86. Paragraph 42 of IAS 38 addresses the accounting for internally generated intangible assets during the research phase:

> No intangible asset arising from research (or from the research phase of an internal project) should be recognised. Expenditure on research (or on the research phase of an internal project) should be recognised as an expense when it is incurred.

Paragraph 45 describes the accounting for costs incurred after the research phase:

> An intangible asset arising from development (or from the development phase of an internal project) should be recognised if, and only if, an enterprise can demonstrate all of the following:
>
> (a) the technical feasibility of completing the intangible asset so that it will be available for use or sale;
> (b) its intention to complete the intangible asset and use or sell it;
> (c) its ability to use or sell the intangible asset;
> (d) how the intangible asset will generate probable future economic benefits. Among other things, the enterprise should demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset;
> (e) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
> (f) its ability to measure the expenditure attributable to the intangible asset during its development reliably.

[39]David Aboody and Baruch Lev, "The Value-Relevance of Intangibles: The Case for Software Capitalization" (Working Paper, September 1998). Available online at http://www.stern.nyu.edu/~blev/.

Part 2—Issues

What Is an Intangible Asset? What Are the Possibilities?

Before starting through the discussion of issues, it is worthwhile to revisit the definition of *intangible asset.* The popular, and some academic, literature takes a very expansive view that includes brands, customer loyalty, human capital, and employee loyalty.

The Intangibles Research Center at New York University offers two possible definitions:

> **Broad Definition**—Intangibles are nonphysical sources of probable future economic benefits to an entity or alternatively all the elements of a business enterprise that exist in addition to monetary and tangible assets. [Footnote reference omitted.]
>
> **Narrow Definition**—Intangibles are nonphysical sources of probable future economic benefits to an entity that have been acquired in an exchange or developed internally from identifiable costs, have a finite life, have market value apart from the entity, and are owned or controlled by the entity.[40]

The FASB Exposure Draft, *Business Combinations and Intangible Assets*, offered:

> Intangible assets are noncurrent assets (not including financial instruments) that lack physical substance.

Appendix A of the Exposure Draft included an extensive list of intangible assets that, if present, should be recognized in a business combination separately from goodwill. In its redeliberation of the Exposure Draft, the Board tentatively decided to limit the list to items that are separable from the entity or exist as a result of contract or law. A revised list, based on tentative decisions reached through November 1, 2000, is shown below:

[40] http://www.stern.nyu.edu/ross/ProjectInt/.

	Separable	Based on contractual/ legal rights
Agreements and contracts (for example: advertising, airport gates, construction, consulting, customer, easements, employment, insurance, licensing, maintenance, management, manufacturing, marketing, mortgage, noncompete covenants, royalty, standstill, and supply)	✓	✓
Rights (for example: broadcasting, concessions, development, gas allocation, landing, lease, mineral, mortgage servicing, property, reacquired franchise, servicing, timber cutting, use, water)	✓	✓
Favorable executory contracts (for example: leases)		✓
Permits (for example: construction and environmental)		✓
Patents	✓	✓
Copyrights (for example: manuscripts, literary works, musical compositions)	✓	✓
Franchises (for example: cable, radio, television)	✓	✓
Trademarks, trade names (for example: brand names, newspaper mastheads)	✓	✓
Computer software and licenses, computer programs, information systems, program formats, internet domain names and portals	✓	✓
Unpatented technology (for example: secret formulas and processes, recipes, manufacturing processes and procedures)	✓	✓
Value of insurance-in-force, insurance expirations	✓	✓
Technical drawings, technical and procedural manuals, blueprints	✓	
Databases, title plants	✓	
Research and development	✓	
Lists (for example: advertising, customer, dealer, mailing, subscription)	✓	
Files and records (for example: credit, medical)	✓	
Financial institution depositor or borrower relationships (for example: core deposits)	✓	
Savings value of escrow fund	✓	
Customer routes or territories	✓	

From here forward, the items above will serve as **the list** of candidates for recognition as intangible assets. **The list** is not all-inclusive; there may be other assets that qualify. However, it serves as a useful reference point.

A careful review of **the list** reveals important differences among internally generated intangible assets. Some intangible assets (like R&D and software) are created in much the same way as

tangible assets. Management decides on a project, approves a plan, and expends resources in the hope that the result will provide future economic benefits to the entity. From a purely bookkeeping standpoint, measuring the cost of these intangibles doesn't present any insurmountable accounting problems. Other intangible assets (like customer lists, brand names, and databases) often come from the day-to-day operation of a business. Still others (value of insurance-in-force) exist only by virtue of their relation to some other asset or liability. Items in the second and third groups present considerable challenge in identification, recognition, and measurement.

When Is an Intangible an Asset?—Inside or Outside

Suppose for a moment that **the list** encompasses all of the possible candidates for recognition as intangible assets. Is there any rationale, based on the definition of an asset, why those items are assets when acquired in a business combination or other purchase and not assets when created internally?

No. Genealogy is not an essential characteristic of an asset. If an item satisfies the definition of an asset, it matters not how the entity came to control the asset. A transaction with another entity—a purchase of individual items or a business combination—provides evidence that an asset may exist. However, it is not the only way that an entity can acquire or create assets. If it were, self-constructed tangible assets would never qualify for recognition.

There must be some other reason, then, for not recognizing intangible items created by the entity.

When Is an Intangible an Asset?—the Control Criteria

The items on **the list** of potential intangible assets share a common characteristic. Each is separable from the entity or exists by virtue of contractual or legal rights. Separability and

contractual/legal rights are not essential characteristics of an asset, but they are evidence of one characteristic that is essential—control.

The definition of an asset, especially the phrase "probable future benefits," has led some to propose a number of candidates for inclusion in balance sheets. For example, isn't a well-trained and happy workforce a "resource"? Aren't satisfied customers a source of "future economic benefits"? The answer to each question is yes, and no. Yes, those factors are important to a business and, broadly construed, seem to satisfy part of the definition of an asset. No, most accountants would agree that such notions are not assets because they do not meet all of the characteristics of an asset.

Any useful definition must identify both the items that meet its specification and those that do not. The FASB and IASC definitions identify three essential characteristics of an asset:

- Future benefit, described in Concepts Statement 6 as the "capacity, singly or in combination with other assets, to contribute directly or indirectly to future net cash inflows"
- Control, which implies both the ability to derive the future benefits and to deny that ability to others
- A past transaction or event that gives rise to the entity's control over future benefits.

In the past, accountants and others have concluded that customer satisfaction, workforce, and the like fail the control test. While the entity may reap economic benefits from happy customers and workers, it cannot deny others the ability to entice away customers or employees.

Paragraphs 13–16 of IAS 38 provide the following discussion of the control criterion:

> An enterprise controls an asset if the enterprise has the power to obtain the future economic benefits flowing from the underlying resource and also can restrict the access of others to those benefits. The capacity of an enterprise to control the future economic benefits from an intangible asset would normally stem from legal rights that are enforceable in a court of law. In the absence of legal rights, it is more difficult to demonstrate control. However, legal

> enforceability of a right is not a necessary condition for control since an enterprise may be able to control the future economic benefits in some other way.
>
> Market and technical knowledge may give rise to future economic benefits. An enterprise controls those benefits if, for example, the knowledge is protected by legal rights such as copyrights, a restraint of trade agreement (where permitted) or by a legal duty on employees to maintain confidentiality.
>
> An enterprise may have a team of skilled staff and may be able to identify incremental staff skills leading to future economic benefits from training. The enterprise may also expect that the staff will continue to make their skills available to the enterprise. However, usually an enterprise has insufficient control over the expected future economic benefits arising from a team of skilled staff and from training to consider that these items meet the definition of an intangible asset. For a similar reason, specific management or technical talent is unlikely to meet the definition of an intangible asset, unless it is protected by legal rights to use it and to obtain the future economic benefits expected from it, and it also meets the other parts of the definition.
>
> An enterprise may have a portfolio of customers or a market share and expect that, due to its efforts in building customer relationships and loyalty, the customers will continue to trade with the enterprise. However, in the absence of legal rights to protect, or other ways to control, the relationships with customers or the loyalty of the customers to the enterprise, the enterprise usually has insufficient control over the economic benefits from customer relationships and loyalty to consider that such items (portfolio of customers, market shares, customer relationships, customer loyalty) meet the definition of intangible assets.

Professor Lev discusses the control problem in his recent paper, under the heading of *partial excludability,* which he describes as follows:

> In the case of intangible investments, however, non-owners can rarely be precluded from enjoying some of the benefits of the investments. For example, when a company invests in training its employees (e.g., on-the-job training or tuition payment for an MBA education), other companies (and society at large) will benefit from such investments, when the trained employees switch employers. The investing company cannot effectively exclude others from the benefits of training.[41] [Footnote reference omitted.]

Still, there are valuable rights related to customers and employees that might meet the definition of an asset. Customer satisfaction may fail the control criterion, but a customer list does not.

[41]Lev, *Intangibles,* p. 52.

Companies routinely sell customer lists. In the insurance industry, companies buy and sell policy renewal rights. Certainly others' willingness to pay the entity to obtain a resource is strong evidence of control. Nor does the discussion of control tell anything about the number or magnitude of intangible assets that do satisfy the definition of an asset. For now, the objective is to move away from the fuzzy, dare say intangible, notions of intangible assets and to focus instead on items that are candidates for recognition in financial statements. We are looking for "stuff."

With control comes the ability to buy, sell, or withhold from the market—characteristics of the everyday notion of an asset. Yet, some might argue that an analysis based on the definition of an asset is reminiscent of the character in *Alice in Wonderland* for whom words meant exactly what he intended, nothing more and nothing less.[42] If accountants can define *asset* any way they want, why not expand the definition to include important and acknowledged sources of business value?

The easy answer is that things that meet the definition of an asset (like the items on **the list**) are "stuff" that belongs to a particular entity. The definition of an asset is derived from sensible economics and everyday use of language. The more complex answer is that monetary measurement is impossible without a notion like control.

Problems in an Expanded Definition of an Asset—Boundaries and Monetary Measures

The control criterion allows accountants and others to draw boundaries around particular things that might be recognized as assets. Many authors who comment on the problems of measuring

[42]"When *I* use a word," Humpty Dumpty said, in a rather scornful tone, "it means just what I choose it to mean—neither more nor less."

"The question is," said Alice, "whether you *can* make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master—that's all."

intangible assets are speaking, in part, about this problem in defining boundaries. A tangible asset has substance, form, dimension, and well-established principles of legal title. Most people share a rough picture of both the nature and service potential of a building, a drill press, or a commercial aircraft. Intangible assets like patents share some of those characteristics like legal title, but the picture isn't as clear. Items like work force or customer satisfaction are harder to describe and bound in a concise fashion.

The lack of boundaries creates subsidiary problems. Without a clear boundary, there is a risk that any measurement will double count. The cost or fair value of an airplane, for example, is not part of the cost or value of a luggage cart. But how does an airline separate the value of its workforce from the value of customer satisfaction? One depends on the other, as an unhappy workforce inevitably leads to unhappy customers.

Items presented in financial statements—assets, liabilities, equity, revenue and expense, and cash flows are stated in terms of a monetary unit. That should go without saying. A monetary unit allows for the summing of otherwise different items. One cannot add 5 widgets, 10 customer satisfactions, and 6 workforces in any comprehensible or meaningful fashion. One can add the monetary measure of cash, inventory, buildings, and any other asset that has a monetary measure. Paragraph 18 of FASB Concepts Statement No. 1, *Objectives of Financial Reporting by Business Enterprises,* describes the process as follows:

> The information provided by financial reporting is primarily financial in nature—it is generally quantified and expressed in units of money. Information that is to be formally incorporated in financial statements must be quantifiable in units of money. Other information can be disclosed in financial statements (including notes) or by other means, but financial statements involve adding, subtracting, multiplying, and dividing numbers depicting economic things and events and require a common denominator. The numbers are usually exchange prices or amounts derived from exchange prices. Quantified non-financial

> information (such as number of employees or units of product produced or sold) and nonquantified information (such as descriptions of operations or explanations of policies) that are reported normally relate to or underlie the financial information. Financial information is often limited by the need to measure in units of money or by constraints inherent in procedures, such as verification, that are commonly used to enhance the reliability or objectivity of the information.

In the ICAEW report (page 18), Charles Leadbeater comments on the lack of markets for intangible assets. Markets require at least two things—a legal or customary framework, so that participants understand **what** they are trading, and accepted notions of measurement, so that participants can understand the **value** of things being traded. Here the measurement problem returns to boundaries. Any monetary measure is a direct or indirect representation of market activity, and market participants require a notion of control to define the things being bought and sold.

When Is an Intangible an Asset?—the Gap between Expenditure and Discovery

For many potential intangible assets, there is a significant gap between the expenditures and efforts that create the item and the identification of the item as a candidate for recognition. The patent on the drug Viagra™ is a valuable item. If a company acquired that patent through purchase, there would be no question that the patent should be recognized as an asset. However, the expenditures made to develop the drug took place over many years. During that period, the possible therapeutic and commercial success of the drug was unknown.

Intangibles of this sort share this characteristic with some "discovered" tangible assets, including reserves of oil and gas. Wildcat oil exploration is highly speculative, even with modern technology. Accounting standards and practice recognize exploration expenditures as assets in progress, to be written off if the effort is unsuccessful. Existing standards do not offer the same

treatment to intangibles, although the FASB considered that possibility in developing Statement 2 on research and development. In paragraph 59 of Statement 2, the Board observed:

> A feature cited by proponents of this [capitalization subject to subsequent charge-off] approach is that it draws attention to the uncertainty surrounding most research and development costs and it enables postponement of the capitalize vs. expense decision. This alternative was rejected, however, for the following reasons. First, financial analysts and others have indicated that costs accumulated in that special category would not be useful in assessing the earning power of an enterprise because of the uncertainties involved, and the research data cited earlier tend to support that view. Second, use of a special category would alter the nature of the basic financial statements and would complicate the computation of ratios and other financial data.

The discovery problem is even more acute as the question moves from projects, like software development or research, to possible intangible assets like brand names or newspaper mastheads. Most would agree that the trade names *Wall Street Journal*, *Financial Times*, and *Oreo Cookie* are valuable. But at what point did the value become apparent? If cost is the measurement attribute, what expenditures gave rise to the value of the brand name?

A Possible Approach—Retroactive Capitalization or Restatement

In its deliberation of Statement 2, the FASB considered four approaches to capitalization of research and development:

- Expense all costs
- Capitalize all costs
- Capitalize based on specified conditions (similar to Statement 86 and IAS 38)
- Accumulate in a special category pending resolution of uncertainty (similar to oil and gas).

Recent proposals have described a fifth alternative, retroactive capitalization. Expenditures for an R&D project would be charged to expense until the project is demonstrated to have produced a commercially viable product. Then those expenditures would be capitalized and reported as assets, similar to the expenditure on any other asset.

Proposals for retroactive capitalization provide a possible solution for project intangibles, but they offer little help in addressing the recognition of brands and similar items that lack a series of discrete expenditures. Obviously, these proposals contemplate a framework that employs measurements based on accumulation of historical costs.

In a 1999 working paper, Baruch Lev and his New York University colleague Paul Zarowin offer the following:[43]

> Accordingly, we propose the capitalization of all intangible investments with attributable benefits which have passed certain pre-specified technological feasibility tests. We depart from the software capitalization standard (SFAS 86) by proposing that once capitalization commences (post feasibility test), all the project-related previously expensed R&D should also be capitalized. Given that the uncertainty about the project's viability has been substantially reduced, we see no reason for a different accounting treatment of pre- and post-feasibility R&D.
>
> Note that our capitalization proposal, which is conditioned on the achievement of technological feasibility, differs substantially from a mechanical capitalization (accumulation) of all past expenditures on intangibles, which can be easily replicated by investors from successive income statements. The proposed capitalization allows management to convey important inside information about the progress and success of the development program. Indiscriminate capitalization of <u>all</u> past R&D expenditures does not provide such information.

A recent article by two Norwegian academics includes a similar proposal.[44]

The IAS apparently considered the notion of retroactive capitalization. Paragraph 59 of IAS 38 reads:

> Expenditure on an intangible item that was initially recognised as an expense by a reporting enterprise in previous annual financial statements or interim financial reports should not be recognised as part of the cost of an intangible asset at a later date.

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[43]Baruch Lev and Paul Zarowin, "The Boundaries of Financial Reporting and How to Extend Them" (Working Paper, February 1999), 36. Available online at http://www.stern.nyu.edu/~blev/.

[44]Nils E. Joachim Høegh-Krohn and Kjell Henry Knivsflå, "Accounting for Intangible Assets in Scandinavia, the UK, the US, and by the IASC: Challenges and a Solution," *The International Journal of Accounting* 35, no. 2 (2000): 243–265.

While IAS 38 does not explain this provision, it is easy to speculate on the possible rationale. In recent years, accounting standard setters have raised concerns about accounting conventions that "recycle" amounts through operations. Some argue that amounts should pass through the operating statement once and only once. They object to the notion that an expenditure could be charged to expense, retroactively capitalized as an intangible asset, and then amortized back into expense for a second time. Others disagree and observe that recycling may be an inevitable consequence of some balance sheet measurements. In their view, recycling may be troublesome, but omitting assets from the balance sheet seems to them too high a price for preserving the integrity the operating statement.

Interestingly, the Lev/Zarowin proposal would not involve recycling through the operating statement. They propose that previously issued financial statements be restated to incorporate the effect of capitalization as if it had occurred in the previous periods affected and reissued with the restated amounts. That portion of their proposal is beyond the scope of this paper, but would likely raise significant objections.

A Possible Approach—Discovery as a Recognition Event

One of the three essential characteristics of an asset (page 71) is the "past transaction or event" that gives rise to the probable future benefits. The most common means of obtaining an asset is through an exchange transaction of some sort.

The proposals just discussed raise the possibility of an alternative approach to recognition based on discovery. In effect, **identification** of an item that otherwise meets the definition of an asset (probable future benefit and control) is evidence that a past transaction or event (or multiple transactions or events) must necessarily have occurred. A recognition approach based on

discovery and identification is certainly a departure from accountants' customary reference to discrete exchange transactions and external events. It is not, however, inconsistent with the FASB and IASC conceptual frameworks.

While the notion of a new recognition point is interesting, the customary reference points are more than a bookkeeping convenience. Exchange transactions and other external events provide important accounting control. Skeptics will naturally wonder whether recognition at the point of identification or discovery provides similar control. Here we revisit the existence and completeness assertions (page 27). Might some managers conjure assets from thin air in an attempt to pump up the balance sheet? Might others turn a blind eye to discovered assets in an attempt to pump up future operating results (by avoiding amortization)? Both possibilities are real, and either could damage the credibility of financial reporting.

That said, identification is already part of the recognition criteria under Statement 86 and IAS 38. Costs incurred after arriving at technological feasibility (an identification point) are capitalized as assets. Critics of the Statement 86 approach argue that the identification point is too flexible and that companies can delay until remaining costs are immaterial. Coupling recognition based on identification with either retroactive capitalization or a value-based measurement largely removes that problem. Managers might delay or accelerate recognition of an asset by a few quarters, but they could not avoid recognizing an asset at some point. Some would consider that resulting delay or acceleration preferable to effective nonrecognition, which they assert is the case today.

A Possible Approach—In-Process Assets

It may be that the debate over when to begin recognition misses the point. An R&D or similar project sets off with the intent of developing a valuable asset—a patent, software program, petrochemical, or the like. The project will succeed or fail, but the outcome is uncertain until late in the game. Until then, the company has a collection of costs, but the costs are not an asset in their own right.

The usual accounting for assets under development is to carry the costs on the balance sheet with a caption like work in process, drilling in process, or construction in process. There are two ways to view an in-process account.

The traditional view is that the account is a sort of holding pen for costs. In this view, the in-process account is not an asset but a device for accumulating the costs of something that will ultimately become an asset (or perhaps a loss, in the case of drilling in process on unsuccessful wells). If there is sufficient uncertainty about whether the costs in the pen will ultimately be associated with an asset, then there is a strong argument for charging those costs to expense when incurred.

The other view is that work in process, especially in-process R&D, is an asset in its own right. Modern research does not suddenly blossom into an asset at a magic moment in time. It is a cumulative and iterative process that builds toward a goal. At any point along the way, the effort to date has value for which others are willing to pay. The effort may prove unsuccessful, but that doesn't alter the fact that the in-process effort is valuable today. This phenomenon is no different from a financial option that may end up having no value on its expiration date. At any date before expiration, the option has a value greater than zero.

What Is There? What Do We Have?

Suppose for a moment that accounting standard setters required recognition of all the items on **the list** of potential candidates for recognition. Suppose also that measurement was no more difficult than assigning $10 to every item. Could companies comply with the new requirement at reasonable cost? Anecdotal evidence suggests that for many companies the answer is no. Simply put, many may not know what they have. Any well-run company has a fixed-asset register, but a customer-list register? How does a manager start the process of identifying all the company's intangible assets?

The questions shine a bright light on a fundamental practical problem. The rhetoric surrounding intangible assets speaks of value drivers and knowledge assets, but many (perhaps most) intangible assets aren't that grand. They are as down-to-earth and real as the file room in a dentist's office (a data base asset), and many companies do not control and manage these intangible assets with the same diligence applied to tangible and financial assets. Perhaps they should, but to date, there has been little incentive to do so.

Even companies that keep detailed records of patents and intellectual property may not have information about the value of their holdings. Much has been written, for example, about the experience of Dow Chemical and its Intellectual Asset Management program.[45] That program showed both the value of an active management program and the difficulty in implementing that program. Dow's program is apparently a success, but as described it extends only to patents and

[45]Britton Manasco, "Dow Chemical Capitalizes on Intellectual Assets" *Knowledge Inc.* (March 1977). Available online at http://webcom.com/quantera/Dow.html.

similar intellectual property. Other potential intangible assets, like easements or agreements, do not seem to be part of the Dow program.

Some might not consider this a problem. If managers cannot identify all their companies' intangible assets, at least they won't recognize too much. However, that argument runs counter to the completeness assertion. If a balance sheet should include intangible assets, then it should include **all** of the intangible assets deemed to qualify for recognition, at least in concept. As a practical matter, standard setters may have to parse the problem by focusing on particular types of intangible assets on **the list.**

Measurement

This is the big question that frustrates many attempts to incorporate intangible assets in financial statements. Suppose for the moment that every company had a comprehensive list of its intangible items, based on **the list** of candidates for recognition. How would standard setters propose that a manager measure the items on his or her company's list?

Remember, an item might meet the definition of an asset and still go unrecognized in the balance sheet. Three criteria for recognition remain, as listed below, and the first deals with measurement.

- Does the item have a relevant attribute measurable with sufficient reliability?
- Is the information about it capable of making a difference in user decisions?
- Is the information representationally faithful, verifiable, and neutral?

Cost-Based Measurements

Certainly some intangible assets offer the possibility of cost-based measurements. R&D projects, investments in software, reengineering of business processes, some databases, and

similar project intangibles have readily determinable costs. Brand names and similar items do not.

There are some obstacles to cost-based measurements, though, including the following:

Cross-Fertilization. While many intangible assets are developed in discrete projects, amounts spent on one activity often produce findings that are valuable in other efforts. For example, the efforts spent on a failed drug may point the way to other projects that prove successful. Should some or all of the costs of the failed effort be attributed to the successful one?

This isn't a new accounting problem. It is similar to the debate over full-cost and successful-efforts accounting in the oil and gas industry. However, the arguments in favor of a full-cost approach may be more persuasive here, especially in the case of research and development. Few argue that a dry hole is an asset, and the connection between a dry hole in Kansas and a successful effort in Texas is hard to justify. Oil drilling is a fairly public activity, and a dry hole is obvious even to the casual observer. In research, knowing what doesn't work is valuable, especially when other researchers don't have that same information. Moreover, research is seldom completely unsuccessful. Even a failed project may spin off new techniques or processes.

Multigeneration Intangibles. Some intangible assets, like computer software, go through a number of revisions during their commercial lives. Code developed for version 1 may still be an important component of version 5. Should some or all of the costs from version 1 be added to the costs of version 5? If some, how should that amount be determined?

Systems. During the development of Statement 86, many software developers indicated that they did not have adequate systems with which to accumulate the costs of individual projects. Research and similar efforts transmute and shift as the effort progresses. An effort that began as Project A may shift midway into Projects X, Y, and Z.

Relevance. Accountants have dealt with and overcome difficult problems in cost-based measurement. The more important question is whether cost-based measurements are relevant. The costs of an asset are not the asset; they are an attribute of the asset—a description of one of its characteristics. The costs of developing Cozaar™ (a highly successful blood-pressure medication) are not the asset. The asset is the future economic benefits that inure to the company that developed the drug.

For many purchased assets, there is a degree of correlation (in the general, not the mathematical sense) between cost and future benefits. The price (the initial cost) of an aircraft, a drill press, or a patent reflects the ability of that asset to produce future benefits. If that correlation did not exist, no business would pay the price asked by the seller. The same cannot be said of discovered assets. Two drug projects may cost the same amount to develop, but may produce radically different revenue streams. There is an old saying for this in the oil business. "What you spent doesn't matter. What you found does."

The old saying highlights the "lack of causal relationship" cited in Statement 2 (page 65). However, recent academic research suggests that markets attribute a relationship between current expenditures and future prospects. For example, one researcher found that:

> Test results indicate that full capitalization with uniform amortization is the only alternative accounting treatment that explains more of the variation in observed stock prices than current accounting practice. Overall, the results

> suggest that market participants adjust reported accounting information to reflect full capitalization of software development costs, but then apply uniform amortization to all firms rather than using reported firm-specific amortization rates.[46]

Another team found:

> The findings indicate that a simple capitalization rule, analogous to the successful efforts method of capitalizing oil and gas exploration costs, provides a significantly higher relation between accounting information and economic values than immediate expensing of R&D outlays or capitalizing the full cost of outlays. More importantly, our findings show that the relevance of successful efforts data persists even when there is widespread earnings management.[47]

Another researcher was not as certain:

> This study extends our understanding of the impact that conservative accounting has on the equity valuation role of firms' summary accounting numbers. In particular, I evaluate the effect of conservative accounting for research and development (R&D) and past growth in R&D on the relation between aggregate earnings (deflated by price) and contemporaneous stock return and the usefulness of earnings and equity book values for developing estimates of equity market value. I find that the capitalization of R&D improves the value relevance of aggregate earnings only for firms with high past growth in R&D. Moreover, the deleterious effects of the conservative treatment of R&D on the value relevance of estimates of equity market value based on the discounted residual income model are increasing in the level of past growth in R&D.[48]

Another observes:

> I find that full cost (FC) accounting data explains more of the variation in market values than successful efforts (SE) accounting data, which explains more of the variation in market values than full expense (FE) accounting data. This suggests that the FC method is more value-relevant than either the SE or FE

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[46]Kevin J. Den Adel, "The Value-Relevance of Alternative Accounting Treatments of Software Development Costs" (Working Paper, September 10, 1999). Available online at

http://papers.ssrn.com/paper.taf?ABSTRACT_ID=182175.

[47]Paul M. Healy, Stewart C. Myers, and Christopher D. Howe, "R&D Accounting and the Tradeoff between Relevance and Objectivity" (Working Paper, January 1999). Available online at

http://papers.ssrn.com/paper.taf?ABSTRACT_ID=147136.

[48]Steven J. Monahan, "Conservatism, Growth and the Role of Accounting Numbers in the Equity Valuation Process" (Working Paper, October 18, 1999). Available online at

http://papers.ssrn.com/paper.taf?ABSTRACT_ID=189892.

> methods. This study concludes that the current accounting method for research and development expenditures, the FE method, omits value-relevant information about a firm's book value and earnings.[49]

For most accountants, a cost-based measurement of a long-lived asset goes hand in hand with amortization of the initial recorded amount. Certainly some of the intangibles on **the list** are used up over time. Patents and copyrights have lives that are defined in law. Other intangibles, like proprietary formulas, are not exhausted through repeated use and do not expire with time, though they may decrease in value through obsolescence. As some have observed, the formula for Coca-Cola has grown more valuable over time, not less. Sir David Tweedie, chairman of the IASB, jokes that the brand name of his favorite Scotch whisky is older than the United States of America.[50]

Paragraph 149 of Concepts Statement 6 describes the objective of amortization this way:

> However, many assets yield their benefits to an entity over several periods, for example, prepaid insurance, buildings, and various kinds of equipment. Expenses resulting from their use are normally allocated to the periods of their estimated useful lives (the periods over which they are expected to provide benefits) by a "systematic and rational" allocation procedure, for example, by recognizing depreciation or other amortization. Although *the purpose of expense allocation is the same as that of other expense recognition—to reflect the using up of assets as a result of transactions or other events or circumstances affecting an entity—allocation is applied if causal relations are generally, but not specifically, identified.* For example, wear and tear from use is known to be a major cause of the expense called depreciation, but the amount of depreciation caused by wear and tear in a period normally cannot be measured. Those expenses are not related directly to either specific revenues or particular periods. Usually no traceable relationship exists, and they are recognized by allocating costs to periods in which assets are expected to be used and are related only indirectly to the revenues that are recognized in the same period. [Emphasis added.]

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[49]Lisa Bryant, "Value-Relevance of Capitalizing Successful Exploration Activities: Implications for R&D Accounting" (Working Paper, October 2000). Available online at http://papers2.ssrn.com/paper.taf?abstract_id=247193.

[50]And in Sir David's view, the formula for Scotch whisky has "contributed more to the sum of human happiness."

The theory of depreciation and amortization is beyond the scope of this Special Report. Certainly some of the items on the list of candidates for recognition are not exhausted through time or use. Some, like airport gate rights, may even gain value through repeated use. However, intangible assets are as susceptible to impaired value as any other asset. Consider, for example, the value of once-favored brand names following safety recalls.

Fair Value

Cost-based measures are limited but not without relevance. Many consider management's ability to generate positive returns on amounts invested (costs) to be an important indicator of performance. Within the limitations of cost accounting, cost-based measures have an element of observability that other measures of intangible assets may lack. Others maintain that current measures of intangible assets, especially fair value, provide information that is more relevant. Nor is this a new issue. In their 1973 study of R&D expenditures, Oscar Gellein and Maurice Newman observed:

> The present historical cost basis of financial accounting has been attacked increasingly, both from within the accounting profession and from without. Some critics call for a basic change in financial accounting, by conversion to current value accounting, for example. Others believe that present accounting is basically sound but that the accepted alternative methods in various areas, including accounting for research and development, should be reduced.[51]

The glossary to Concepts Statement 7 defines *fair value* as:

> The amount at which that asset (or liability) could be bought (or incurred) or sold (or settled) in a current transaction between willing parties, that is, other than in a forced or liquidation sale.

[51]Oscar S. Gellein and Maurice S. Newman, *Accounting for Research and Development Expenditures*, Accounting Research Study No. 14 (New York: AICPA, 1973), 66.

The problem, of course, is that observed transactions that transfer intangible assets (other than business combinations) are rare. Without observed transactions, estimates of fair value are necessarily subjective, and some may consider them too subjective to satisfy the "sufficient reliability" referred to in the recognition criteria. Yet without minimizing the difficulty, accountants have wrestled with difficult measurement problems before and developed techniques that, while not necessarily fair value, provide useful information about the asset or liability. Measurements of pension and other postretirement obligations are examples. In those and similar situations, accountants have concluded that the measurement is reliable enough to warrant inclusion in the financial statements, in part because the liabilities are so relevant that an alternative measure of zero is simply unacceptable.

There are several sources to which accounting standard setters might refer in developing guidance on estimating the fair value of intangible assets, including:

- Concepts Statement 7 provides guidance on the use of present value techniques and the concept of economic value of an asset.
- On a more applied level, a task force of the AICPA is developing a review of existing best practices in the valuation of in-process research and development.
- Clearinghouses have begun to develop for patents and similar items.[52]
- M-CAM, a U.S. company, recently announced availability of a collateral enhancement trade named CAPP™, the Certified Asset Purchase Price.[53] This product, which the company describes as "a liquidity-backed forward purchase offer that ensures a minimum liquidation value for such assets in the event of foreclosure" is backed by Swiss Re New Markets.

The third and fourth items on this list are notable because they suggest that valuation techniques have begun to move beyond appraisal guidelines and into markets. If those markets thrive and

[52]The Patent & License Exchange (http://www.pl-x.com/home1.html) is one example.

[53]http://www.m-cam.com/finance/capp.html.

begin to validate measurement techniques, then concerns about the reliability of intangible asset valuation should diminish.

Do tools like those above provide sufficient guidance for a comprehensive approach to measuring intangible assets? Probably not. FASB and IASC constituents have objected to the difficulty and subjectivity involved in estimating the fair value of financial instruments like loans, retained interests, and embedded options. The measurement of intangibles using some measure other than cost would be more difficult and more subjective. Professor Lev sums up the problem with typical directness:

> The belief that managers have sophisticated internal systems to measure and value intangibles is a myth.[54]

Some also observe that measurements not based on cost work best when those measurements are applied within well-defined limits. For example, accountants and actuaries seeking to measure a pension obligation following FASB Statement No. 87, *Employers' Accounting for Pensions*, have a detailed road map. There is subjectivity in applying some of the assumptions, like salary progression and discount rate. Still, accountants and actuaries have developed skill in applying Statement 87 and users have come to understand the measures involved. IAS 36, *Impairment of Assets*, provides detailed rules for applying value-in-use when measuring impairment. Developing a similar road map for all intangible assets would be a daunting task, but might be possible for defined classes of intangible assets.

[54] *Value-Relevance of Intangibles*, p. 117.

Approaches Other Than Fair Value

While some markets have developed for some intangible assets, most are not exchanged between entities. This leads some observers to maintain that measurements based on fair value are hypothetical. Moreover, they maintain that much of the value of an intangible comes from the ability of a particular enterprise to develop that intangible and use it as part of its unique business operation. Simply put, they worry that fair-value measurements are likely to understate the "true" value of many intangible assets. Those who favor a current measure, but oppose fair value, advocate an entity-specific measurement of intangible assets.

In Concepts Statement 7, the FASB rejected the use of entity-specific measures as an objective of accounting measurement. Entity-specific measures, sometimes referred to as *value-in-use,* appear in some IASC pronouncements. IAS 36 defines *value-in-use* as "the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life." A computation of value-in-use employs the cash flows that the entity expects (rather than the expectations of a market participant) and a discount rate unique to the entity (rather than a market-based rate). Interestingly, IAS 38 stipulates fair value when describing revaluation as an allowed alternative to amortization of intangible assets.

Paragraphs 32 and 33 of Concepts Statement 7 describe the debate between fair value and entity-specific measurement as follows:

> An entity's best estimate of the present value of cash flows will not necessarily equal the fair value of those uncertain cash flows. There are several reasons why an entity might expect to realize or pay cash flows that differ from those expected by others in the marketplace. Those include:
>
> a. The entity's managers might intend different use or settlement than that anticipated by others. For example, they might intend to operate a property as

a bowling alley, even though others in the marketplace consider its highest and best use to be a parking lot.

b. The entity's managers may prefer to accept risk of a liability (like a product warranty) and manage it internally, rather than transferring that liability to another entity.
c. The entity might hold special preferences, like tax or zoning variances, not available to others.
d. The entity might hold information, trade secrets, or processes that allow it to realize (or avoid paying) cash flows that differ from others' expectations.
e. The entity might be able to realize or pay amounts through use of internal resources. For example, an entity that manufactures materials used in particular processes acquires those materials at cost, rather than the market price charged to others. An entity that chooses to satisfy a liability with internal resources may avoid the markup or anticipated profit charged by outside contractors.

The items listed above constitute some of an entity's perceived advantages or disadvantages relative to others in the marketplace. If the entity measures an asset or liability at fair value, its comparative advantage or disadvantage will appear in earnings as it realizes assets or settles liabilities for amounts different than fair value. The effect on earnings appears when the advantage is employed to achieve cost savings or the disadvantage results in excess costs. In contrast, if the entity measures an asset or liability using a measurement other than fair value, its comparative advantage or disadvantage is embedded in the measurement of the asset or liability at initial recognition. If the offsetting entry is to revenue or expense, measurements other than fair value cause the future effects of this comparative advantage or disadvantage to be recognized in earnings at initial measurement.

The discussion in paragraph 33 is subtle but very important when applied to intangible assets. In Concepts Statement 7, the Board distinguished between the asset or liability in question (the stuff) and the intangible value of that item in the possession of a particular entity. That distinction did not prejudge whether separate recognition of the intangible value was appropriate. The Board simply concluded that the intangible value should not be impounded in the measurement of the asset (the stuff) and, in effect, recognized indirectly rather than directly.

Measurement and Real Options

Perhaps the most promising area for valuation of intangible assets is the developing literature in valuation techniques based on the concept of *real options.* Techniques using real options

analysis are especially useful in estimating the value of intangible assets that are under development and may not prove to be commercially viable.

A *real option* is easier to describe than to define. A financial option is a contract that grants to the holder the right but not the obligation to buy or sell an asset at a fixed price within a fixed period (or on a fixed date). The word *option* in this context is consistent with its ordinary definition as "the power, right or liberty of choosing."[55] Real option approaches attempt to extend the intellectual rigor of option-pricing models to valuation of nonfinancial assets and liabilities. Instead of viewing an asset or project as a single set of expected cash flows, the asset is viewed as a series of compound options that, if exercised, generate another option and a cash flow. That's a lot to pack into one sentence. In the opening pages of their recent book, consultant Martha Amram and Boston University professor Nalin Kulatilaka offer five examples of business situations that can be modeled as real options:[56]

- Waiting to invest options, as in the case of a tradeoff between immediate plant expansion (and possible losses from decreased demand) and delayed expansion (and possible lost revenues)
- Growth options, as in the decision to invest in entry into a new market
- Flexibility options, as in the choice between building a single centrally located facility or building two facilities in different locations
- Exit options, as in the decision to develop a new product in an uncertain market
- Learning options, as in a staged investment in advertising.

Real-options approaches have captured the attention of both managers and consultants, but they remain unfamiliar to many. Proponents argue that the application of option pricing to nonfinancial assets overcomes the shortfalls of traditional present value analysis, especially the subjectivity in developing risk-adjusted discount rates. They contend that a focus on the value of

[55]*Webster's New World Dictionary*, 3d. college ed. (New York: Macmillan General Reference, 1994), 951.

[56]Martha Amram and Nalin Kulatilaka, *Real Options: Managing Strategic Investment in an Uncertain World* (Boston: Harvard Business School Press, 1999), 10.

flexibility provides a better measure of projects in process that would otherwise appear uneconomical.

A real-options approach is consistent with either fair value (as described in Concepts Statement 7) or an entity-specific value. The difference, as with more conventional present value, rests with the selection of assumptions. If a real option is available to any marketplace participant, then including it in the computation is consistent with fair value. If a real option is entity-specific, then a measurement that includes that option is not fair value, but may be a good estimate of entity-specific value.

Return to FASB Statement No. 2, Does the Rationale Hold Up?

If it doesn't, then neither does IAS 38. At a minimum, the conceptual rationale for both pronouncements is open to serious question. In the basis for conclusions, the Board cited four reasons for not capitalizing the costs of research and development activities:

- Uncertainty of future benefits
- Lack of causal relationship
- Inability to measure future benefits
- Lack of usefulness.

Statement 2 was issued before the FASB issued its Concepts Statements. Indeed, the problems encountered in Statement 2 helped to convince the Board that it should pursue a conceptual framework. Analyzing the question with the conceptual framework suggests that the Board might have reached a different conclusion, had it been able to refer to the Concepts Statements.

Is It an Asset?

Research and development **costs** are not an asset. The result of an R&D effort is an asset, though, whether that result is a drug, a software program, or a petrochemical process. The effort

in process is also an asset in its own right (page 80). The costs incurred in the R&D effort are an attribute of the effort in process and of the ultimate asset if successful, just as the cost of constructing a building is an attribute of the asset, the building itself.

Yes, when the costs are incurred, there is considerable uncertainty about whether the effort will result in success or failure. However, the same could be said about other items that are recognized in financial statements as assets. The conceptual framework does not require certainty. The discussion on pages 62 and 63 clarified the difference between the phrase "probable future benefits" in the definition of an asset and the use of probability in, for example, the recognition of contingent losses. One sentence in the discussion stands out. "As long as someone thinks that an item has value and is willing to pay for it, the item has value and meets the definition of assets, even if the expectation turns out to have been mistaken." There is significant evidence from observed business combinations that companies are willing to pay for in-process R&D, even though the ultimate result may be uncertain.

The issue might be viewed from the other side as well. While there is considerable uncertainty about the success of R&D efforts, it is absolutely certain that without the effort a company will not develop a profitable new drug, software program, or petrochemical. The lack of a causal relationship cited in Statement 2 is perhaps true of an individual project; however, the sweeping language of the basis, which finds no "significant correlation between research and development expenditures and increased future benefits as measured by subsequent sales, earnings, or share of industry sales" (paragraph 41), cannot be defended.

Does the Item Have a Relevant Attribute Measurable with Sufficient Reliability?

This is a two-part question. Part one asks if there is a relevant measurement attribute. The discussion earlier in this chapter identified three candidates—cost, fair value, and entity-specific value. Part two asks if the chosen attribute can be measured with sufficient reliability.

If the measurement attribute is cost, then, yes, there is an attribute measurable with sufficient reliability. There are problems in determining cost, but they are not insurmountable. The question is whether cost is a sufficiently relevant measurement for the intangible assets created by R&D efforts.

If the measurement attribute is fair value or entity-specific value, then some may question whether that amount is measurable with sufficient reliability.

Is the Information about It Capable of Making a Difference in User Decisions?

This question focuses directly on relevance. Are financial statements that include R&D efforts as assets more relevant than financial statements that do not? Paragraphs 73 and 74 of Concepts Statement 5 describe relevance this way:

> Relevance is a primary qualitative characteristic. To be relevant, information about an item must have feedback value or predictive value (or both) for users and must be timely. Information is relevant if it has the capacity to make a difference in investors', creditors', or other users' decisions. To be recognized, the information conveyed by including an asset, liability, or change therein in the financial statements must be relevant.
>
> The relevance of particular information about an item being considered for recognition cannot be determined in isolation. Relevance should be evaluated in the context of the principal objective of financial reporting: providing information that is useful in making rational investment, credit, and similar decisions. Relevance should also be evaluated in the context of the full set of financial statements—with consideration of how recognition of a particular item contributes to the aggregate decision usefulness. [Footnote references omitted.]

Few commentators question the relevance of including R&D efforts as assets in financial statements. If they did, then logic would demand the same treatment of intangible assets purchased from others. The academic research described on pages 84 and 85 suggests that capital market participants would find considerable relevance from balance sheets that included R&D efforts.

Is the Information Representationally Faithful, Verifiable, and Neutral?

This question focuses on reliability, an often-misunderstood qualitative characteristic of financial reporting. Here the question returns to part two of the first recognition criterion. Paragraphs 75–77 of Concepts Statement 5 describe reliability as follows:

> Reliability is the other primary qualitative characteristic. To be reliable, information about an item must be representationally faithful, verifiable, and neutral. To be reliable, information must be sufficiently faithful in its representation of the underlying resource, obligation, or effect of events and sufficiently free of error and bias to be useful to investors, creditors, and others in making decisions. To be recognized, information about the existence and amount of an asset, liability, or change therein must be reliable.
>
> Reliability may affect the timing of recognition. The first available information about an event that may have resulted in an asset, liability, or change therein is sometimes too uncertain to be recognized: it may not yet be clear whether the effects of the event meet one or more of the definitions or whether they are measurable, and the cost of resolving those uncertainties may be excessive. Information about some items that meet a definition may never become sufficiently reliable at a justifiable cost to recognize the item. For other items, those uncertainties are reduced as time passes, and reliability is increased as additional information becomes available.
>
> Unavailability or unreliability of information may delay recognition of an item, but waiting for virtually complete reliability or minimum cost may make the information so untimely that it loses its relevance. At some intermediate point, uncertainty may be reduced at a justifiable cost to a level tolerable in view of the perceived relevance of the information. If other criteria are also met, that is the appropriate point for recognition. Thus, recognition may sometimes involve a trade-off between relevance and reliability. [Footnote reference omitted.]

Reliability clearly means more than just the ability for different measurers to produce similar answers given the same data. That is verifiability. Reliability also demands representational

faithfulness. Concern about representation, the correspondence between the measure and the underlying economic resource, may be at the heart of the technological-feasibility cutoff found in Statement 86 and IAS 38. Certainly, the costs incurred after that point are more likely to be connected with something that has demonstrated probable future benefits. However, post-feasibility costs are not representationally faithful in the fullest sense of the term because the resulting measure is incomplete. A cost incurred the day before the cutoff is as much a representation, an attribute, of the underlying asset as a cost incurred the day after the cutoff.

Conclusion—Does the Rationale Hold Up?

In the author's view, no.

In Statement 2, the Board focused on the inability to predict that costs incurred today will be associated with future economic benefits that can be "identified and objectively measured" (paragraph 44). That might be a useful recognition criterion. If rigorously applied, it would probably preclude recognition of many assets (including some financial assets) that reside in balance sheets today. The ability to predict future benefits is not, however, part of the FASB and IASC conceptual frameworks.

R&D efforts in progress and the results of completed efforts meet the definition of assets. Evidence suggests that information about those assets is capable of making a difference in user decisions. That leaves the questions about measurement. Is cost, which is clearly measurable sufficient reliability, sufficiently relevant? If not, is fair value, which is presumably relevant, measurable with sufficient reliability? How should those questions be evaluated in the context of intangible assets? Should we judge reliability by comparison to other intangible assets acquired in transactions with outsiders, or in comparison to nonrecognition? This Special Report does not

attempt to answer those questions, but standard setters will have to when, and if, they consider new standards on internally generated intangible assets.

Objections to Recognizing Intangible Assets

This Special Report has cited many advocates of including intangible assets in financial statements. Opponents are harder to find. After all, who wants to criticize accounting for the "new economy"? Business groups and politicians have called on the FASB to defer its work on financial instruments and business combinations pending a comprehensive project on intangible assets.[57] Still, any specific proposal would likely attract considerable opposition, perhaps along the lines of the Software Publishers Association letter cited earlier (page 66).

Professor Lev analyzes the opposition to recognizing intangible assets in what he describes as *the politics of intangibles.* The conclusion to his discussion is a useful introduction to the paragraphs that follow here:

> The "politics" of intangibles' disclosure, conjectured above, is not a diabolical scheme to obscure relevant information. Rather, it reflects expected attitudes, given the economic characteristics of intangible investments—high risk and difficulties to fully secure benefits. What is important is not to place the blame for the scarcity of information, but rather to understand the motives (crucial for the design of effective remedies) and particularly the consequences.[58]

Cost and Benefit

The costs of any accounting rule are direct and borne by an enterprise and its auditors. Financial statement users also incur costs to assimilate new information and change analytical models.

[57]For examples see comment letters from The Technology Network (December 7, 1999), American Electronics Association (December 7, 1999), and NETT Coalition (December 6, 1999).

[58]Lev, *Intangibles,* p. 119.

The benefits are diffuse. Good accounting benefits the users of financial statements and the capital markets as a whole. In contrast, a particular company may see little direct benefit. It may even see a new rule as a detriment, if the new presentation reveals a liability or weakness that was not previously apparent. (Of course, potential investors and creditors may view that "detriment" as a true benefit.)

Arguments about the costs and benefits of accounting rules thus tend to focus on the cost side of the equation. The costs of recognizing intangible assets in financial statements begin with the simple (but very difficult) act of inventorying the intangible assets possessed by the entity. Anecdotal evidence suggests that few entities maintain comprehensive inventories of intangible assets beyond those already required for tax and financial reporting or for protection of intellectual property. If an entity has not inventoried its intangible assets, it goes without saying that there is no record of the costs or value of those assets.

Given the inevitable cost, financial statement preparers will ask whether there is any user demand for this information. In a 1993 report, the AIMR offered the following comment:

> We are not enamored of recording self-developed intangible assets unless their values are readily apparent. We consider the cost of creating them to be so often unrelated to their actual value as to be irrelevant in the investment evaluation process. Furthermore, it usually is next to impossible to determine in any sensible or codifiable manner exactly which costs provide future benefit and which do not. For example, even though we would record the contractual amounts of employment agreements, we would not go so far as to capitalize the costs of training and developing human resources.
>
> We cannot quarrel with capitalization of the costs of intangible assets that are *purchased*. In that case, the cost is the value of the asset: No heroic or outlandish assumption is required. However, to approach comparability with firms that have created similar intangibles with their own resources, we recommend amortization of the purchased variety over economic lives that we expect will be short. In most cases, a purchased intangible will maintain its value only if it is tended and cared for by the type of expenditures that create self-developed ones. A better way of

> looking at it is that if the purchased intangible is not maintained, it will be exhausted quickly, not to be replaced by a self-developed one.[59]

In its December 1977 comment letter responding to the IASC Exposure Draft that preceded IAS 38, the AIMR said:

> We do not agree that internally generated intangible assets, particularly development costs, should be recognized as assets. Our experience has been that the criteria expressed in E60 would allow management flexibility in capitalizing virtually any "amount of cost they want, when they want." This means that companies would be able to manipulate earnings both in the short term by determining economic feasibility, and in the long term by the judicious use of amortization and impairment tests.[60]

The AIMR letter went on to say:

> In our May 4, 1994, comment letter on the Draft Statement of Principles, *Intangible Assets*, we stated that "we know that many enterprises have substantial unrecognized intangible values. But we also believe there are insurmountable problems in attempts to measure those values and recognize them on financial statements." Therefore, we believe that there should be a requirement to recognize costs of all internally generated intangibles (including all development costs) as an expense in all circumstances.
>
> The costs to create intangibles are very often unrelated to their actual value. We have found that it is often difficult, if not impossible, to decide which of these costs will generate future benefits and which will not. Therefore, allowing management to capitalize some portion of the costs of internally generated intangibles will encourage both income statement and balance sheet manipulation. Cash flow statements would also be impacted because capitalized costs are never reported in Cash from Operating Activities.
>
> If the standard allows capitalization of internally generated intangibles, such capitalization should be permitted only for assets whose cash inflows are separable from those of other assets. Otherwise, the cash inflows of the entire cash generating unit may justify the carrying amount of the intangible asset even though its cash inflows are declining.

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[59]AIMR, *Financial Reporting in the 1990s and Beyond* (Charlottesville, Va: Association for Investment Management and Research, 1993), 50–51.

[60]Letter from Gabrielle U. Napolitano, CFA, Chair, Financial Accounting Policy Committee, and Ashwinpaul C. Sondhi, Subcommittee Chair, Intangible Assets, December 18, 1997. Available online at http://www.aimr.org/professionalism/advocacy/97commltr/intassets.html.

Lack of Relevance

The AIMR letter echoes the FASB's analysis in Statement 2. There is a perceived disconnect between the cost of intangible assets and the future benefits that those intangibles might produce. Some suggest that traditional financial statements cannot provide relevant information about important intangible assets. Karl-Erik Sveiby (Chapter 3) observes:

> As of today, there exists no comprehensive system that uses money as the common denominator and at the same time is practical and useful for managers. Depending on the purpose for measuring, I do not think it is necessary either. Knowledge flows and intangible assets are essentially non-monetary.[61]

The CICA report discussed in Chapter 1 (page 13) seems to reach a similar conclusion.

Measurement Difficulty

The problems of measuring intangible assets were discussed earlier. Those who oppose incorporating internally generated intangibles would likely argue (1) that cost is not a reliable measure of underlying value and (2) that measures other than cost lack sufficient reliability.

Competitive Harm

If intangible assets are the heart of a successful business, then some will resist incorporating information about those items in balance sheets. This may be especially true if the items are measured using amounts other than cost.

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[61]Karl E. Sveiby, *Why Should We Use Non-Monetary Measures?* Available online at http://www.sveiby.com.au/IntangAss/WhyNonMonetary.html.

Volatility

The use benefit, and therefore the value, of many intangible assets is inherently subject to shifts caused by factors not wholly within management control. A new invention, a safety recall, or a shift in customer tastes can all damage the value of intangible assets. Those shifts in value are economic reality, but some argue that the true value of an enterprise comes from the ability of its managers and employees to adapt and change. In their view, an approach that recognizes the items on **the list** of candidates but excludes items like management skill or workforce will introduce artificial volatility into financial statements.

Recognizing intangible assets in the balance sheet also produces a more subtle source of volatility in, or at least reduced control over, reported income. When investments in intangible assets are charged to expense, management can control the effect on reported earnings by simply adjusting the level of expenditure. If intangible assets are recognized in the balance sheet and amortized, the amortization of previously recognized assets continues without regard to current activity.

Disclosure Instead

The Brookings Institution report *Unseen Wealth* (page 15) includes this argument for note disclosure about intangible assets, rather than recognition in the financial statements:

> After some internal debate about this issue, as well as extensive interviews with individuals preparing financial statements, users, auditors, standards setters, and regulators, the Task Force has concluded that the debate about capitalization versus expensing of R&D is focused on the wrong problem. What investors want and need is information about the value of internally developed intangibles and the other factors that drive the value creation process in firms. They might also want to know cost information so that they can evaluate what kind of return a firm is getting on the dollars it spends on its R&D and other programs. But it is irrelevant whether such information is incorporated into the regular financial

> statements of companies or whether it is presented in some other format, such as in the footnotes in the management discussion and analysis, or in some other supplementary disclosure format. As long as the information is made available, it appears that investors are able to process it and utilize it. In fact, most of the Task Force members concluded that capitalization of R&D (or of other intangibles) is a poor proxy for the richer information disclosure we believe is necessary.

Every proposal to recognize an asset or liability invites this sort of comment. Why not disclose the item in notes rather than recognizing it in the balance sheet?

Arguments for disclosure as a substitute for recognition rest on several logical fallacies and don't hold up to careful scrutiny. For example:

- The same argument might be directed at any item in the balance sheet. Why not disclose cash or accounts payable in the notes? Why have a balance sheet at all?
- The evidence that "it is irrelevant" is not supported by the academic literature. At best, that record is inconclusive.
- If placement is irrelevant, why not go ahead and recognize the item in financial statements? If users are really indifferent to the placement of information, then simple consistency argues for including all assets and liabilities that meet the recognition criteria.

Accounting standard setters have long concluded that disclosure is not a substitute for recognition. Disclosure in the notes may be used to provide additional information about recognized assets and liabilities or to otherwise assist readers in understanding the financial statements. So, for example, a note might describe contingent liabilities that might have a material effect on financial position but that do not meet the recognition criteria. Note disclosure may also be used as a first step in the evolution toward changes in how items are recognized and measured. This was the case, for example, in pensions and other postretirement benefits.

Concluding Observations

This chapter has examined the recognition and measurement issues surrounding internally generated intangible assets. Along the way, it has raised points that might form a project for the FASB and other standard setters. Those points include the following:

- Should internally generated intangibles be recognized in financial statements?
- If so, what are the characteristics of items that might be recognized that distinguish them from those that would not?
- Should the control criterion included in the definition of an asset be modified or eliminated?
- Should the project address all items that would qualify for recognition, or should it address subsets of that population? For example, might the project begin by addressing project intangibles (like R&D) and intangibles that seem closely linked to other items in financial statements (like customer deposit intangibles in financial institutions)?
- What events and circumstances trigger recognition?
- Should in-process intangibles be reported as assets or expensed subject to retroactive capitalization?
- What is the most relevant measurement attribute on initial recognition for intangible assets recognized in financial statements?
- What is the most relevant measurement attribute in periods following initial recognition?

CHAPTER 5—REPRISE AND CONCLUSION

Reprise

As mentioned in the preface, this Special Report is more a sampler than a catalog. Still, it covers most of the significant proposals of which I am aware.[62] The review of those proposals and the accounting and disclosure issues involved suggested a number of observations made in the course of the paper but worth repeating at the end.

Chapter 1. Labels and slogans abound in discussions of "intellectual capital" and the "new economy." Those labels and slogans do not help, and may hinder, any effort to improve business and financial reporting. The important question is whether business or financial information should be expanded or improved to make it more useful to investors and creditors.

Chapter 1. Similarly, prejudgments and assertions about the capacity of financial reporting to respond to perceived shortcomings are unhelpful. The conceptual frameworks of financial reporting pave the way for vital and resilient reporting systems. Accounting standard setters may decide that general-purpose financial statements *should not* incorporate particular items as assets, perhaps because those items lack the essential characteristics of assets or fail other recognition criteria. That decision is much different from the popular assertion that financial statements *cannot* accommodate intangible assets.

[62] *The Value Reporting Revolution*, a new work by PricewaterhouseCoopers partners Robert Eccles, Robert Herz, E. Mary Keegan, and David Phillips, was published as this Special Report was being prepared for publication (New York: John Wiley & Sons, Inc., 2001).

Chapter 2. The chapter discusses some of the difficulties with those proposals, especially their cost and complexity, and concludes that they are unlikely to prove useful in general-purpose business and financial reporting. Users value information about an entity's plans and prospects, but existing techniques and expanded use of nonfinancial metrics seem to offer a more cost-effective solution.

Chapter 3. Users value disclosure of nonfinancial information. Presentation of nonfinancial performance information in metrics that can be tracked from period to period would enhance the usefulness of that information. Presenting a "suite" of nonfinancial metrics would enhance both the usefulness and accessibility of that information.

Chapter 3. Current presentations of "new economy" or "intellectual capital" metrics tend to include a heavy dose of very traditional nonfinancial performance metrics. New and unusual information about customers, innovation, or workforce is limited and often hard to understand.

Chapter 3. Nonfinancial information is inherently idiosyncratic to particular industries and perhaps to individual enterprises. This militates against any detailed accounting standards, but not against standards for form, presentation, and disclosure of underlying assumptions.

Chapter 4. If one accepts the view that financial statements are not simple reconciliations to market capitalization, then some items proposed for recognition as intangible assets will probably be excluded from recognition. The recognition criteria found in the IASC *Framework* and FASB Concepts Statements provide the mechanism for understanding which intangibles are candidates for recognition and which are not.

Chapter 4. There is no conceptual basis in the definition of an asset for applying different recognition rules to intangible assets purchased from outsiders and the same assets created internally. Different recognition rules, if appropriate, require some other justification.

Chapter 4. Control is one of the essential characteristics of an asset. That criterion, or something like it, is a necessary part of describing an item in a way that allows for monetary measurement. The presence of a control criterion precludes some items (like customer satisfaction) from ever satisfying the definition of an asset. However, it does not preclude other items (like customer lists) from recognition. Nor does the control criterion eliminate the effect that an item not recognized as an asset (customer satisfaction) may have on the value of items (customer lists) that meet the definition.

Chapter 4. There are two "gaps" that frustrate attempts to recognize intangible assets in financial statements.

> **The time gap**. Expenditures and efforts to create an asset may happen long before the end product can be demonstrated to have probable future benefits. There are at least three approaches, discussed in Chapter 4, that might address the time gap.
>
> **The correlation gap**. Many argue that the general relationship between cost incurred and the value of future benefits, which they assert to be present in prices of tangible assets, does not exist for intangible assets. The second gap opens the risk of a standard-setting double bind. Some might argue first that cost-based measures are not relevant, owing to the correlation gap, and second that measures other than cost are not reliable, so accountants should abandon attempts to recognize intangible assets.

Chapter 4. While some question the relevance of cost-based measures, there are arguments for beginning work on intangible assets using traditional cost accounting techniques. Academic research suggests that cost-based information is useful. The problems in developing cost-based measures, at least for project intangibles like R&D, are well within the skills of accountants and

standard setters. If the alternative is nonrecognition, owing to inability to develop fair-value measures, an imperfect cost-based system may well be preferable.

Chapter 4. Companies' inability to identify and inventory intangible assets may be a significant obstacle to any comprehensive recognition of intangible assets.

Chapter 4. The rationale underlying FASB Statements 2 and 86 and IAS 38 does not provide a useful conceptual basis for a reconsideration of accounting for intangible assets.

Chapter 4. Standard setters should expect significant opposition to any proposal for recognition of internally generated intangibles.

Conclusion

The introduction decomposed the difference between a company's market capitalization and the net book value presented on its balance sheet. That table provides a useful device for characterizing the several studies, position papers, and academic papers described in this Special Report, as illustrated on page 110. None of those proposals offer a comprehensive solution to the perceived disconnect between business and financial reporting on one hand and the new economy on the other. Only a few recognize their limitations. Each attempts to address the "intangibles problem" by dealing with one of its attributes; they are like the blind men and elephant described in the ancient proverb.

The "intangibles problem" doesn't lend itself to a single answer because the problem has more than one dimension. We can observe the total market capitalization and accounting book value, but those are the only known amounts. Describing the entire difference between market capitalization and book value as intangibles is circular, it defines the thing in terms of itself, and

adds little to the discussion. Improved business and financial reporting of the "new economy" will require attention to:

- Recognition of internally generated intangible assets in financial statements and improved measures of those assets
- Expanded and systematic use of nonfinancial performance metrics
- Expanded use of forward-looking information.

Nor does the "intangibles problem" lend itself to an answer developed by a single accounting standard setter acting in isolation. Chapter 1 described important contributions from the United States, the United Kingdom, Canada, Denmark, the Netherlands, and the OECD. Swedish companies have been leaders in providing nonfinancial metrics. One standard setter might take the lead, but a successful effort should build on the range of talent and insight that is clearly available in the broader international arena.

Appendix A describes some projects that standard setters might consider.

1.	Accounting book value	$ XXX	
2.	± Market assessments of differences between accounting measurement and underlying value of recognized assets and liabilities	XXX	
3.	± Market assessments of the underlying value of items that meet the definition of assets and liabilities but are not recognized in financial statements (for example, patents developed through internal research and development)	XXX	Recognition and measurement proposals, Chapter 4
4.	± Market assessments of intangible value drivers or value impairers that do not meet the definition of assets and liabilities (for example, employee morale)	XXX	New metric proposals, Chapters 1 and 3
5.	± Market assessments of the entity's future plans, opportunities, and business risks	XXX	New paradigm proposals, Chapter 2
6.	± Other factors, including puffery, pessimism, and market psychology	XXX	Here abide monsters
7.	Market capitalization	$ XXXX	

Appendix A

FOUR POSSIBLE PROJECTS

Disclosure of Nonfinancial Metrics

This project would address the format and content of disclosure, in the notes or elsewhere, of nonfinancial metrics. Issues would include:

- Should standard setters develop a standard format for presentation of metrics? If so, what format is best?
- How should an entity select the metrics it portrays? Should it follow the management approach proposed by the AICPA Special Committee (page 56)? Alternatively, should standard setters describe specific metrics or the characteristics of metrics to be disclosed?
- Should metrics be presented for the entity, for reportable business segments, or on some other basis?
- How much description should the entity provide about its metrics?
- Should the disclosure be voluntary or required?

Chapter 3 (pages 57 and 58) proposed a "suite" of nonfinancial metrics developed from existing voluntary and required disclosures. That proposal, or something like it, might serve as a starting point for this project. This project might also offer an opportunity for experimentation and involvement by industry and trade associations. The project might develop a framework within which those groups could suggest nonfinancial metrics best suited to their industries.

Disclosure about Intangible Assets

This project would address the format and content of disclosure about recognized and unrecognized intangible assets. It might be taken as a first step in an evolution toward recognition of internally generated intangible assets or without any presumption about eventual recognition. It would allow companies to begin the identification of intangible assets and collection of information not previously captured in management reporting systems. It would

also allow standard setters to refine the definition of an intangible asset. Possible disclosures might include:

- Major classes of intangible assets
- Expenditures to develop and maintain intangible assets
- Values of those assets, if available
- Significant events that change the anticipated future benefits arising from intangible assets.

Recognition of Project Intangibles

This project would address the recognition of intangible assets created as the result of a "project" effort. The project's largest component would be research and development projects, but it might include discrete efforts to expand or enhance other intangibles. Issues would include:

- Should the asset be recognized from the beginning of the project (a work-in-process approach), or should the asset be recognized at some other point (a discovery approach)?
- Is the technological-feasibility test workable, or should all costs be included?
- Is the unit of measure the individual project, or should all projects of a type be considered together (successful-efforts versus full-cost)?
- Should a standard provide guidance on determining the cost of a project intangible (page 83)?
- Should a standard provide additional guidance about the amortization of costs and recognition of impairment?

There is a reason why most discussions of internally generated intangible assets concentrate on project intangibles. From a bookkeeping standpoint, they are the easiest to identify, circumscribe, and account for. They are also a large part of the population of unrecognized intangibles and of the difference between old economy and new economy. Comprehensive recognition of internally generated intangible assets seems unlikely, given the very real practical obstacles. Recognition of project intangibles might provide a useful starting point.

Recognition of Embedded Intangibles and Service Obligations

Some have observed that many financial instruments are not easily separated from related intangible assets (like a bank's core deposit intangible) and service obligations (like an insurer's

claim-handling obligation). This project would address the recognition and measurement of those items, especially in cases when the observed price of the financial instrument appears to include both the instrument and the related intangible or service obligation. Issues would include:

- Should the intangible assets and obligations be reported separately from the financial instrument or as a single amount?
- What is the relevant measurement attribute?
- What guidance should a standard provide concerning the measurement?

Many assets include embedded intangibles, like the software bundled in every personal computer. Embedded intangibles associated with financial instruments have proven a difficult conceptual issue, but they offer some advantages as a starting point. The host contract is already a recognized asset or liability, so identification is less a problem than with other intangible assets. Finally, these intangibles may pose fewer measurement problems than others.

Appendix B

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