MEASURING AND REPRESENTING THE KNOWLEDGE ECONOMY:
ACCOUNTING FOR ECONOMIC REALITY UNDER THE INTANGIBLES PARADIGM

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Abstract

Enron has become a symbol: a symbol of excess, an illustration of how a company can base its business on fraudulent, deceptive or even largely non-existent business transactions. The collapse of Enron had a significant impact on the adoption of legislation such as the Sarbanes-Oxley Act, which was intended to prevent the types of fraudulent behavior that occurred at Enron. However, Sarbanes-Oxley and other responses to the business practices of many companies during the late 1990s do not fully address some of the underlying factors that permitted and in fact encouraged the Enrons of the world to represent their companies in a particular fashion. Such legal interventions further do not address underlying factors rooted in the fact that many companies now operate within the context of knowledge economy intangibles paradigm business practices. Current securities law disclosure frameworks are largely based on an implicit assumption about the nature of companies’ business operations. Such frameworks were developed during a time period in which the principal business model was one based on the exploitation of tangible assets. Since the latter half of the twentieth century and the advent of the knowledge economy or digital era, an increasing number of companies have begun operating under businesses models in which the predominant source of value comes from intangible resources. As a result of this fundamental change in business models, an intangibles “haze” has come to characterize the application of securities disclosure and accounting rules. This intangibles haze has meant that securities disclosures made by such companies, particularly as reflected in financial statements such as balance sheets, increasingly do not reflect underlying economic reality.

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INTRODUCTION

In some ways the history of Enron reflects a standard story of corporate fraud and malfeasance in which certain officers intentionally misrepresented the nature of the company’s business and practices. This fraud was reflected in Enron’s securities disclosure, including Enron financial statements. This version of the Enron saga leaves out an important element of the broader business context within which Enron operated. This aspect of the business context relates to the changing nature and sources from which companies now derive value today. Another way to read the Enron story is to consider the fact that companies today operate in a post-industrial knowledge economy that is largely based on the use and exploitation of intangible assets such as information technology, research and development, brand equity and intellectual property rights.1 Existing securities disclosure frameworks were developed in the context of companies that operated under a tangible industrial business model in which tangible assets such as property, plant and equipment were the predominant source of value. Current securities disclosure frameworks and the accounting regimes incorporated within such frameworks fail to address the full implications of this new intangibles paradigm that is a key characteristic of knowledge economy business worldview and practice. This failure represents an important and often omitted aspect of the story of not only of Enron and other cases of corporate fraud in the late 1990s, but more importantly of many corporations operating in today’s business environment.

The history of Enron reflects an extreme example of the types of behaviors that are made possible and even encouraged as a result of an accounting and disclosure “haze” that currently surrounds intangibles.2 Enron’s public discourse focused on presenting the company as at the forefront of the knowledge economy:

[W]e are participating in a new economy, and the rules have changed dramatically. What you own is not as important as what you know. Hard-wired businesses, such as energy and communications, have turned into knowledge-based industries that place a premium on creativity. Enron has been and always will be the consummate innovator because of our

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1 ADAM B. JAFFE & MANUEL TRAJTENBERG, PATENTS, CITATIONS AND INNOVATIONS: A WINDOW ON THE KNOWLEDGE ECONOMY 1 (2002) (“In the last few decades we have experienced what have come to be called the ‘information age’ and the ‘knowledge economy’ . . . it is now ‘knowledge’—not labor, machines, land or natural resources—that is the key economic asset drives long-run economic performance.”).

extraordinary people. It is our intellectual capital—not only our physical assets—that makes us Enron.3

Although Enron aggressively advanced itself as a “new economy” knowledge-based company within the intangibles paradigm,4 the reality was quite different, and Enron did not actually have many intangible assets. Enron’s required securities disclosures, however, did not always clearly illustrate this fact, at least partly because Enron was quite effective in taking advantage of the fact that current securities disclosure and accounting requirements do not fully or adequately address how companies should treat intangibles. This omission facilitated Enron’s ability to present a fundamentally inaccurate representation of the economic reality of its business and business operations. The ability of Enron and other companies to represent economic reality in such an inaccurate fashion is exacerbated by the mismatch between intangibles paradigm business practices and tangibles paradigm regulatory standards.

Enron demonstrates one strategy that companies have used to emphasize the role of intangibles in their business operations by means of what might be termed intangibles paradigm discourse. Intangibles paradigm discourse may be characterized as a manner of communication about intangibles such as information technology and intellectual property that emphasizes the role of such intangibles in business organization and practice.5 Through use of such discourse, Enron took advantage of the lack of fit between disclosure requirements and business practices. Enron and other companies have thus benefited from the fact that current securities disclosure and accounting rules currently require only limited disclosure with respect to intangibles.6

A significant commentary exists, in the accounting field in particular, concerning the implications of intangibles for accounting frameworks.7 From a legal perspective, much has been written concerning the link between recent cases of corporate fraud and questionable accounting practices,8 as well as the implications of information and communication technologies (ICTs) for existing securities

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4 See infra notes 123 to 258 and accompanying text for discussion of the intangibles paradigm.
5 See infra notes 349 to 383 and accompanying text for additional discussion concerning Enron’s intangibles paradigm discourse.
6 See Baruch Lev, Sharpening the Intangibles Edge, 82 HARV. BUS. REV. 109, 112 (June 2004) (noting that GAAP does not require meaningful disclosure from companies about intangibles investment except for aggregate research and development expenditures).
7 See infra notes 265 to 331 and accompanying text.
8 See, e.g., infra notes 33, 358, 363, 366, 382 and 404 and accompanying text.
regulation frameworks. This Article seeks to mediate between these existing discourses in the legal and accounting fields by drawing attention to the fact that a fundamental paradigm shift in business organization and practice became apparent in the latter half of the twentieth century. Although many of the elements of this paradigm shift are at least implicitly recognized in some existing accounting and legal commentary, this Article examines some of the specific ways in which evidence of this paradigm shift is apparent as well as the effects of this shift for business organization and practice.

This Article focuses on the fact that a common key element underlying issues discussed by commentators from the legal and accounting fields is perceptible changes in business organization and practices under the intangibles paradigm. This changing business environment has facilitated the “creative” accounting practices that came to typify the securities disclosure and accounting presentations of many companies during the Internet boom of the late 1990s, and which may have even facilitated fraud at companies such as Enron. These creative accounting practices are facilitated by the current ways in which existing regulatory structures have approached the intangibles paradigm. As a result, a key element in confronting the reality of the intangibles paradigm will be the development of regulatory structures that truly incorporate recognition and understanding of the implications of the intangibles paradigm for actual business practice.

The implications of changing business practices for securities disclosure and accounting frameworks are quite significant. Although accounting deals with numbers, which seem fixed and determinate in the minds of many, accounting decisions often involve both art and science and include choices about


\[10 \text{ See infra notes 334 to 345 and accompanying text.}

\[11 \text{ See infra notes 388 to 421 and accompanying text.} \]
characterizations and framing that can be flexible.\textsuperscript{12} Part I of this Article focuses on the operation of securities disclosure and accounting rules in contemporary business contexts and the fact that companies often have and exercise choices about how to frame and present financial and operational data. Part II discusses the intangibles “paradigm” and moves to specific consideration of the relationship between securities disclosure and accounting frameworks and business organization, characteristics of the intangibles paradigm shift and the implications of the intangibles paradigm for accounting systems and business practices. Part III looks at the intangibles “haze” resulting from the intangibles paradigm. This haze involves uncertainty about the extent to which accounting treatment of intangibles adequately represents the underlying economic reality of business practices and transactions under the intangibles paradigm and the potential ramifications of such uncertainty. Part IV touches on additional legal issues, including ones related to corporate governance in the intangibles paradigm. Part V assesses the regulatory implications of the intangibles paradigms and makes suggestions for how to incorporate better recognition of the intangibles paradigm into existing regulatory structures.

I. \textbf{SECURITIES DISCLOSURE AND ACCOUNTING CHOICES: THE FLEXIBILITY OF COMPANY PRESENTATIONS}

A. \textit{The Challenges and Economic Importance of Intangibles}

The intangibles haze is compounded by the ever increasing magnitude of intangibles. Although the current magnitude of intangibles in the broader economy is difficult to know with precision, one estimate suggests that at least 6 to 10 percent of United States gross domestic product is spent annually on intangibles.\textsuperscript{13} Annual investment in intangibles has been estimated to be at least

\textsuperscript{12} See WILLIAM J. CARNEY, CORPORATE FINANCE: PRINCIPLES AND PRACTICE 9 (2005) (“[A]ccounting is an art, not a science. While lawyers may think of GAAP as a single set of rules that must be followed, it is perhaps better to think of it as a set of standards that leave considerable discretion for management and its accountants to choose the method of reporting some transactions.”); DAVID F. HAWKINS, CORPORATE FINANCIAL REPORTING AND ANALYSIS: TEXTS AND CASES v (3d ed. 1986) (“Today corporations have considerable leeway in how they report their financial condition and results of operation. Despite recent progress in eliminating undesirable reporting practices, many areas remain in which alternative practices are equally acceptable for reporting essentially identical business situations. The profits of the reporting company will vary depending on which alternative is used.”).

$1 trillion, with an estimated current equilibrium value of intangibles of more
than $5 trillion. This suggests that some one-third of the value of corporate
assets in the United States comes from intangibles. Intangibles now also
constitute on average 60 to 75 percent of corporate market value.

The fact that intangibles are an increasingly important source of value for
companies today reflects a shift in dominant business production and operation
models to ones involving significant utilization of intangibles. Intangibles have
become important largely as a result of economic factors that have intensified
since the mid-1980s, particularly increased competition resulting from
globalization and deregulation and an upsurge ICTs.

As a result of these changes, a significant number of businesses now operate
under a paradigm based on accumulation and utilization of intangibles, both
alone and in conjunction with tangible assets or products, whereas prior to this
shift, most businesses operated under a tangible asset paradigm. In addition to

14 Nakamura, supra note 13, at 1, 5.
15 Id.
16 See Letter from Baruch Lev to Representative S.J. “Billy” Tauzin, Chairman, Committee on
http://pages.stern.ny.edu/~blev/.
17 See infra notes 124 to 236 and accompanying text.
18 See infra notes 123 to 258 and accompanying text for discussion of this paradigm shift. See
also BARUCH LEV, INTANGIBLES 9 (2001) (discussing the factors underlying increased
competition); Organisation for Economic Co-operation and Development (hereinafter, “OECD”),
Directorate for Science, Technology and Industry, Industrial Performance and Competitiveness in
an Era of Globalisation and Technological Change 3 (Jun. 9, 1998), DSTI/IND(97)23/FINAL, at
19 As used herein, the term paradigm reflects and is based upon the model of scientific worldview
and practice based on paradigm shifts developed by Thomas Kuhn. See THOMAS S. KUHN, THE
Bradford DeLong, Claudia Goldin & Lawrence F. Katz, Sustaining U.S. Economic Growth, in
AGENDA FOR THE NATION 19, 20 (H. Aaron, et al. eds., 2003), at
http://www.economics.harvard.edu/~goldin/papers/dgk_brook.pdf; Leonard Nakamura,
Intangibles: What Put the New in the New Economy, FEDERAL RESERVE BANK OF PHILADELPHIA
BUSINESS REVIEW 3 (July/Aug. 1999); Claudia Goldin, Labor Markets in the Twentieth Century
50, National Bureau of Economic Research (April 28, 1998) (stating that human capital
accumulation and technological in the twentieth century plays the role that physical
capital accumulation played in nineteenth century in serving as the engine of growth), at
http://econweb.fas.harvard.edu/~goldin/papers/labor20th.pdf; Lionel Nesta & Pier Paolo Saviotti,
Intangible Assets and Market Value: Evidence from Biotechnology Firms 3 (2003), at
increased use of intangibles in the production of goods and services, an expansion has also occurred in the consumption of goods that are themselves nonphysical, such as digital products, services and entertainment.\textsuperscript{21}

The dominant nineteenth century model of industrial production, which persisted well into the twentieth century, was founded on the use of economies of scale and mass production based on exploitation of physical assets.\textsuperscript{22} Some argue that the electronics revolution that began in the 1970s led to an increase in intangibles, at least partly because the electronics revolution made intangibles investment more remunerative.\textsuperscript{23}

Consequently, included within and closely associated with the intangibles paradigm is the increasingly dominant ICT sector.\textsuperscript{24} Although increased investment in intangibles has emerged as a core feature of the ICT sector, the intangibles phenomenon is broader, and intangibles have become associated with


\textsuperscript{22} See Gröjer & Johanson, supra note 20, at 2; DeLong et al., supra note 20, at 37-38; Nakamura, supra note 13, at 6-9 (noting that historically tangible assets were the resources that produced wealth); Wendy J. Gordon, \textit{Toward a Jurisprudence of Benefits: The Norms of Copyright and the Problem of Private Censorship}, 57 U. CHI. L. REV. 1009, 1012 (1990) (Review of PAUL GOLDSTEIN, \textit{COPYRIGHT: PRINCIPLES, LAW AND PRACTICE} (1989)) (“The United States has witnessed a steady decline in heavy manufacturing, while the industries most affected by intellectual property law—such as entertainment and computer software—have flourished.”).

\textsuperscript{23} See DeLong et al., supra note 20, at 19; Nakamura, supra note 13, at 5; see also OECD, supra note 18, at 3 (indicating that core mechanism of new model is increasing returns on knowledge across broad spectrum); Erik Brynjolfsson, Lorin M. Hitt & Shinkyu Yang, \textit{Intangible Assets: How the Interaction of Computers and Organizational Structure Affects Stock Market Valuations} 4, at http://grace.wharton.upenn.edu/~lhitt/itqo.pdf (finding in empirical study that each dollar invested in computers is associated with an increase in firm market valuation of $5 to $20 as compared with an increase of $1 for investments in other areas and that high information technology user firms were more likely to adopt modified business organization and work practices, which increased firm value of certain technology intensive companies beyond what would be accounted for by tangible assets alone).

\textsuperscript{24} Goldfinger, supra note 21 (exploring hypothesis that complementary relationship between new intangible organization assets and information technology capital parallels that of memos and filing systems and the printing press and factory redesign and the adoption of electric motors); see also DeLong et al., supra note 20, at 37-38; Brynjolfsson et al., supra note 23, at 2. For further discussion of how intangibles may be defined, see infra notes 34 to 45 and accompanying text.
increased business value for both ICT and non-ICT intensive companies and for uses both involving and not involving ICTs.\textsuperscript{25}

As intangibles have become increasingly pervasive, the challenges such resources pose for existing systems and practices have become all the more apparent. Further, questions have arisen that are not yet resolved regarding how such resources should be treated under existing regimes and systems of measurement such as securities disclosure requirements, accounting rules, intellectual property laws and national income accounting systems.\textsuperscript{26} Such regimes and systems were not developed in contemplation of the current business environment in which intangibles form a critical core.\textsuperscript{27} As a result, the advent of intangibles has diminished the effectiveness of certain regulatory systems and checks.\textsuperscript{28}

With the rise of intangibles has thus come a certain level of confusion as to how existing categories, rules and regulations initially drawn up in the context of a tangibles paradigm should apply under an intangibles paradigm. This confusion is evident in the application of legal rules, including intellectual property and securities laws, as well as in the accounting area.\textsuperscript{29} Although existing securities disclosure and accounting practices may be applied in this new intangibles oriented context, new regulatory systems to deal with the implications of intangibles and ICTs have not been developed.\textsuperscript{30}

\textsuperscript{26} See generally Lev, supra note 18 (giving general overview of the role of intangibles largely from an accounting and policy perspective); see also Bart van Ark, Understanding Productivity and Income Gaps in the OECD Area: Are ICT and Intangibles the Missing Link, Groningen Growth and Development Centre and the Conference Board (March 2002) (discussing the extent to which ICT and intangibles may explain gaps in labor and productivity national income statistics).
\textsuperscript{27} See, e.g., Arthur Levitt, Quality Information: The Lifeblood of Our Markets (Oct. 1999), Speech at Economic Club (noting that as intangibles become more important questions have arisen about whether existing disclosures standards reflect the true value of intangibles as drivers of value), at http://www.sec.gov/news/speech/speecharchive/1999/spch304.htm.
\textsuperscript{28} See infra notes 299 to 331 and accompanying text.
\textsuperscript{29} See infra notes 266 to 331 and accompanying text for a discussion of this issue with respect to accounting; see also Olufumilayo B. Arewa, Strategic Behaviors and Competition: Intangibles, Intellectual Property and Innovation (2006) (manuscript on file with author) (discussing the implications of the increasing predominance of intangibles for intellectual property frameworks) [hereinafter, “Arewa, Strategic Behaviors”]; Olufumilayo B. Arewa, Securities Regulation of Private Offerings in the Cyberspace Era: Legal Translation, Advertising and Business Context, 37 U. Tol. L. REV. ___ (forthcoming 2005) (discussing some implications of the cyberspace era for private securities offerings).
Changes have been made in legal and accounting rules as a result of Enron and other instances of corporate fraud. These changes include adoption of the Sarbanes-Oxley Act of 2002, as well as modification of accounting requirements with respect to the special purpose entities (SPEs) that played such a prominent role in Enron’s activities. Despite these modifications, the lack of attention to issues relating to accounting treatment generally and the changing nature and role of intangibles in business practice more specifically, makes such reforms unlikely to clear the intangibles haze.

B. Defining and Classifying Intangibles

Intangibles, which include, among other things, information technology, research and development, brand equity, intellectual property rights, corporate culture, stockholder relations, access to markets, knowledgeable workers and management and human resources, are also referred to as knowledge assets and intellectual capital. Intangibles may include discovery/innovation aspects, such as new products and patents, human resources factors such as compensation and work practice and organizational capital aspects, which would include Cisco’s web-based virtual organization, Wal-Mart’s integrated inventory and supply operations and Dell’s built-to-order computer distribution channels.

Although the term asset is often used to refer to intangibles, many intangibles are not accounting assets in the traditional sense. A clear lack of consensus exists asset paradigm in which concern may have existed about booking nonexistent assets and that keeping such treatment “in place for decades, while the importance of wealth created by R&D has increased, is inexcusable”).


32 See infra notes 93 to 94 and accompanying text.

33 Cf. William W. Bratton, Enron, Sarbanes-Oxley and Accounting: Rules versus Principles versus Rents, 48 VILLANOVA L. REV. 1023, 1024, 1027 (2003) (noting that an uncertain regulatory outcome is likely for Sarbanes-Oxley, which was intended to address the scandals and restore confidence in securities markets, but which was a response that essentially regulates the accounting profession, while containing “very little direct regulation of accounting treatments and audit practice”).


35 See David Aboody & Baruch Lev, Research and Development Productivity in the Chemical Industry 6-7 (Mar. 2001) (noting that Cisco’s web-based product installation system was estimated by Cisco’s Chief Financial Officer to save $1.5 billion over 3 years), at www.stern.nyu.edu/~blev/chemical-industry.doc.

36 An accounting asset can be treated as a capital expense and recorded on a company’s balance sheet. See Gregory H. Bentson, Accounting Numbers and Economic Values, 27 ANTITRUST
as to how intangible assets should be defined, and how intangibles are classified may depend on the person making the definition. The most basic definition of intangible assets is a negative definition in which intangibles are considered to be nonphysical, nonfinancial assets. However, a wide range of definitions exists. Most would probably agree that intangible assets are capital assets that lack physical substance, but which are likely to yield future benefits. A three-fold classification of intangibles frequently proposed is one that distinguishes structural, human and market intangibles. Intangibles may also be embedded

BULLETIN 161, 166 (1982) (noting that assets and liabilities are recorded following an arms-length transactions where a change in legal title to goods or the establishment of a legal obligation to pay in the future occurs).

37 Ulf Johanson, Mobilizing Change: Characteristics of Intangibles Proposed by 11 Swedish Firms 17 (June 9-10, 1999), International Symposium, Measuring and Reporting Intellectual Capital, Experience, Issues, and Prospects, Amsterdam (noting that intangibles are poorly defined and any consensus in classifications is the exception rather than the rule).

38 Id.; see also Croes, supra note 13, at 4 (noting that accountant, managers, policy makers and statisticians would define intangible assets differently).

39 Croes, supra note 13, at 4; Lev, supra note 18, at 8-10 (noting that such nonfinancial, nonphysical factors are expected to generate future productive benefits to the individuals or firms that control their use and contribute to or are used in the production of goods or provision of services).

40 Magali Demotes-Mainard, Statistical Information on Intangibles 2 (Oct. 6-10, 2003), Voorburg Group on Service Statistics 18th Meeting, Tokyo, at www.stat.go.jp/english/info/meetings/voorburg/pdf/mag_stat.pdf (noting that this negative definition may be a hollow definition); see also GORDON V. SMITH & RUSSELL L. PARR, VALUATION OF INTELLECTUAL PROPERTY AND INTANGIBLE ASSETS 15-54 (3d ed. 2000) for a comprehensive overview of various types of intangibles.


within and interact extensively with physical assets.\textsuperscript{43} As a result, a clear-cut delineation between tangible and intangible assets is not always possible, particularly in the ICT arena.

Part of the reason intangibles are so difficult to define is a consequence of the polymorphic and ubiquitous nature of the information or knowledge upon which they are often based.\textsuperscript{44} This is also a reason why so much confusion exists with respect to intangibles in the accounting and legal spheres. Establishing boundaries, practices and procedures with respect to resources and assets for which definitions vary, potentially significantly, presents certain challenges.\textsuperscript{45} These definitional issues have serious implications not only for accounting treatment and consequently securities disclosure, but also for the uses of intangibles by companies under the intangibles paradigm.

C. Securities Disclosure Requirements and Accounting Rules

A major factor in the uncertainty and resulting higher risk for intangibles is the fact that the true economic value and nature of intangibles are not adequately addressed by financial statements prepared in accordance with United States Generally Accepted Accounting Principles (“GAAP”). GAAP is the principal source of guidance and authority for the preparation of company financial statements in the U.S.\textsuperscript{46} The development of accounting and auditing standards in the U.S. has historically included both the SEC and private standards setting organizations. The SEC has largely, although not entirely, ceded responsibility for setting accounting standards to private organizations such as the Financial Accounting Standards Board (“FASB”),\textsuperscript{47} whose standards are treated as generally accepted under current securities disclosure requirements.\textsuperscript{48}

\textsuperscript{43} See Lev, supra note 18, at 7.
\textsuperscript{44} Charles Goldfinger, Intangible Economy and its Implications for Statistics and Statisticians, 65 INT’L STAT. REV. 191, 198 (1997) (“More generally, economists have difficulties coming to grips with the polymorphic and ubiquitous nature of information, simultaneously a good, a production asset and a market attribute.”).
\textsuperscript{45} For a discussion of the implications of this boundary-marking process from a legal perspective, see Arewa, Strategic Behaviors, supra note 29.
\textsuperscript{46} Gary Shorter, Auditing and Accounting Regulation: Key SEC Powers 2 (July 8, 2002), Congressional Research Service Report for Congress RS21257 (noting that financial statement preparation rules such as GAAP are intended to help ensure that financial data are presented fairly and are comparable between firms and industries), at http://www.shelby.senate.gov/legislation/leg_pdf/account3.pdf.
\textsuperscript{47} See infra notes 55 to 61 and accompanying text.
\textsuperscript{48} See infra note 55.
The SEC has considerable statutory authority to establish accounting and auditing standards. Both the Securities Act of 1933 (the “Securities Act”) and the Securities Exchange Act of 1934 (the “Exchange Act”) set minimum standards for accountants that prepare company financial statements. The Exchange Act and the Investment Company Act of 1940 give the SEC authority to set accounting standards to be used to prepare required financial statements as well as auditing standards. In addition, the SEC has promulgated Regulation S-X, an extensive body of regulation that governs registrant preparation of financial statements.

Despite this statutory and regulatory authority and framework, the SEC has largely delegated GAAP rule making authority to FASB, which is the primary authority that makes accounting determinations in the United States. As the primary accounting rule making authority, FASB is at times subject to heavy industry lobbying and pressure with regard to its policies and pronouncements,
which in the past has influenced its decisions in connection with accounting standards.\textsuperscript{56} Although the SEC typically defers to FASB, it does at times issue its own accounting standards and may impose particular standards for accounting statements in SEC filings.\textsuperscript{57} On the audit side, the American Institute of Certified Public Accountants (“AICPA”) has historically largely controlled generally accepted auditing standards (“GAAS”),\textsuperscript{58} which are related to GAAP.\textsuperscript{59} The AICPA was displaced by the Public Company Accounting Oversight Board (“PCAOB”) established under Sarbanes-Oxley.\textsuperscript{60}

GAAP is an important standard with respect to company financial statements, and a statement of compliance with GAAP is a standard part of audited financial statements for public and private companies.\textsuperscript{61} Such audited financial statements

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\textsuperscript{56} See Bratton, supra note 33, at 1033 (noting that the accounting profession “used its influence to stifle FASB’s reform initiatives concerning accounting for stock options”); Stephen A. Zeff, \textit{Evolution of U.S. Generally Accepted Accounting Principles} 27-29, Outline of a presentation at an International Symposium on Accounting Standards sponsored by the Ministry of Finance of the People's Republic of China, Beijing, July 12, 2004, at www.iasplus.com/resource/0407zeffusgaap.pdf (discussing FASB failure, in face of considerable opposition from the high technology industry in particular, to issue SFAS 123, which concerned expensing of employee stock options, after Congress indicated its intent to put FASB out of business if the standard was issued).


\textsuperscript{58} Audits are comprehensive reviews and certifications of a company’s financial statements conducted by Certified Public Accountants (“CPAs”), who are qualified to conduct audits and certify a company’s books and records. See Markham, supra note 57, at 765-766 (noting that audits are conducted by qualified CPAs).

\textsuperscript{59} Shorter, supra note 46, at 2-3 (noting that GAAS and GAAP have a complementary relationship; audits, which are governed by GAAS, are the expression of an opinion on a company’s financial statements, which are normally prepared in compliance with GAAP).

\textsuperscript{60} See Sarbanes-Oxley, supra note 31; see also Benston, supra note 52, at 1325; Perry E. Wallace, \textit{Accounting, Auditing and Audit Committees After Enron, et al.: Governing Outside the Box Without Stepping Off the Edge in the Modern Economy}, 43 WASHBURN L.J. 91, 117-120 (2003) (discussing the PCAOB and FASB).

\textsuperscript{61} An auditor’s opinion is a critical part of audited financial statements, and companies do their utmost to ensure that they receive a clean opinion (i.e., without qualification) from their auditors. See Hawkins, supra note 12, at 3 (noting that management of a company is responsible for the content of financial statements and that statements issued by independent certified public accounts reflect the accountant’s personal opinion as to their fairness, degree of conformity with GAAP and consistency with accounting practices in previous accounting periods). Enron’s 2000 Annual Report includes such an opinion from Arthur Andersen, which reflects the critical language in an auditor’s opinion regarding a company’s financials comply with GAAP. An audit opinion that reflects the language below is considered a “clean” audit opinion. Arthur Andersen’s Enron audit opinion included the following language: “In our opinion, the financial statements referred to
form an important and prominent aspect of companies’ required securities disclosure. Company securities disclosures may also include unaudited financial statements that are not strictly in compliance with GAAP in quarterly 10-Q Reports, for example. The exclusion under GAAP from company balance sheets of an increasingly large portion of the value of firms, including value derived from knowledge, technology, clients, and other factors, is at the core of concerns about accounting measurements and consequently securities disclosure standards under the intangibles paradigm.

The lack of comprehensive disclosure requirements for intangibles has given companies greater latitude to represent economic reality with regard to intangibles. Consequently, in addition to being a dominant factor in the market to book gap, the intangibles paradigm has significantly affected business structure and business practice in a multitude of ways. Of particular interest is how the intangibles paradigm has influenced company representations of economic reality in presentations of themselves vis-à-vis public markets and the implications of such framing.

D. Financial Statement Presentations

1. Core Aspects of Financial Statement Presentations

Financial statements are core elements of companies’ representations of the economic reality of their business and form an important element of companies’ securities disclosure. In addition, investors and others rely on financial statement
presentations in evaluating companies for investment and other decisions. The basic financial statements of companies are generally standardized, with the balance sheet, income statement and cash flow statement being important aspects of most financial statement presentations. These standard accounting statements are incorporated into securities disclosure requirements by virtue of Regulation S-X, which requires that registrants file certain specified financial statements, including balance sheets,\textsuperscript{67} income statements,\textsuperscript{68} cash flow statements\textsuperscript{69} and statements of changes in stockholders’ equity.\textsuperscript{70}

In general, balance sheets are statements as of a specified point in time that describe the assets and liabilities of a company.\textsuperscript{71} Balance sheets are indicative of a company’s liquidity, solvency and financial flexibility.\textsuperscript{72} In contrast, income statements cover a specified period of time and describe the sources of revenues and expense for a company during that time period\textsuperscript{73}. Income statements generally give an indication of the profitability, investment value and creditworthiness of a company’s business operations.\textsuperscript{74} A cash flow statement, which can be derived from the numbers in the balance sheet and income statement, reconciles financial statements, which are often based on accrual principles, to actual flows of cash in a business operation during a specified period of time.\textsuperscript{75}

In contrast to cash accounting, which records revenues and expenses as cash is received or spent, accrual principles would recognize such revenues or expenses and record them in financial statements based on certain accounting rules that govern accruals.\textsuperscript{76} These rules often have nothing to do with the time of receipt or payment of cash.\textsuperscript{77} In addition to the actual numbers in the financial statements, financial statements are usually accompanied by extensive notes that give further detail concerning application of relevant accounting principles and other factors.

\textsuperscript{67} 17 C.F.R. §210.3-01 (2005) (outlining requirements for registrant balance sheets).
\textsuperscript{68} 17 C.F.R. §210.3-02 and 210.3-03 (2005) (outlining requirements and instructions for registrant income statements).
\textsuperscript{69} 17 C.F.R. §210.3-02 (2005) (outlining requirements for registrant cash flow statements).
\textsuperscript{70} 17 C.F.R. §210.3-02 (2005) (outlining requirements for registrant statement of changes in stockholders’ equity).
\textsuperscript{71} DONALD E. KIESO, JERRY J. WEYGANDT & TERRY D. WARFIELD, INTERMEDIATE ACCOUNTING 170 (2004).
\textsuperscript{72} \textit{Id.} at 170-171.
\textsuperscript{73} \textit{Id.} at 124.
\textsuperscript{74} \textit{Id.} at 124.
\textsuperscript{75} \textit{Id.} at 190.
\textsuperscript{76} \textit{Id.} at 93.
\textsuperscript{77} \textit{Id.}
underlying the numbers that appear in the financial statements. The balance sheet, income statement and cash flow statement are core aspects of most financial statements. These financial statements, together with their notes, are intended to give a fairly complete picture of a company’s business operations.

Despite the use of the same core financial statements to measure and depict company performance, financial statement presentations are by no means uniform and will often vary, for example, depending on the nature and substance of a company’s business. As a result, a venture capital fund’s financial statements will typically look different than an operating company’s financial statements in terms of the sorts of assets and liabilities that are evident in each and the nature of sources of revenues and expenses. Similarly, the financial statements of a manufacturing company will generally look in terms of types of assets and liabilities and sources of revenue and expenses unlike those of a company that primarily produces software.

2. Framing and Financial Statement Presentations under the Intangibles Paradigm

In addition to variations in financial statements that reflect fundamental differences in companies’ businesses and operations, companies may choose to represent a given economic or business reality in disparate ways. The intangibles paradigm has intensified pressure on existing fault lines in accounting regimes that govern business. Accounting rules relating to revenue recognition and the capitalization or expensing of expenditures, among others, are areas in which accounting treatment is particularly significant and frequently material to a company’s business operations and stock market valuation. As such, companies have considerable interest in framing their businesses and operations using accounting measures that depict them in the best possible light. This framing is apparent, for example, in how companies manage earnings in order to meet and

78 Id. at 42.
79 See infra notes 83 to 87 and accompanying text.
80 A venture capital balance sheet, for example, would typically primarily include assets such as cash and portfolio company investments. A typical operating company would likely have far more assets connected to business operations, such as plant, property and equipment, for example.
81 A manufacturing company is far more likely to have significant amounts of fixed assets such as real estate and plant, property and equipment.
82 This is reflected, for example, in the fact that revenue recognition has been the principal reason for financial restatements in recent years. See Huron Consulting Group, supra note 62, at 10 (noting that revenue recognition was the leading cause of financial restatements between 1997 and 2002, causing 20.7% of such restatements, while capitalization and expensing of assets was the fifth leading cause, contributing to 7.9% of such restatements).
beat analysts’ expectations of earnings and is particularly evident in the accounting practices companies use to accomplish this objective.83

Securities disclosure requirements incorporate accounting rules and practices that often give companies some degree of flexibility in how they may characterize their business and operations. The accounting choices a company makes often reflect management conceptions about the company’s business model. Such framing occurs in the context of existing accounting rules and standards that are used to determine appropriate accounting treatment for a particular transaction. The goal of these accounting rules and standards is to present a fair picture of a company’s financial condition and operations,84 which may at times be at tension with the company’s desire to frame its business operations or a particular transaction in a certain manner.

Choices companies make about accounting treatment are influenced by accounting rules as well as companies’ framing of their business and operations and consequently representations of economic reality. The decision as to whether to capitalize an expenditure, and place the purchased item on the company’s balance sheet, for example, may differ depending on the nature of the expenditure and whether the expenditure relates to intangible or tangible goods or services. Under current accounting rules, physical property such as buildings are generally treated differently than expenditures for intangibles such as the development of a web-based virtual organization to handle internal and external business operations.85 This differential treatment results in buildings appearing on balance sheets as capital expenses, while the majority of the value associated with building the virtual organization would most likely be treated as an operating expense on the company’s income statement during the time periods in which such expenditures occur.86

84 Christine E. Earley, Kate Odabashian & Michael Wilenborg, Some Thoughts on the Audit Failure at Enron, the Demise of Andersen, and the Ethical Climate of Public Accounting Firms, 35 CONN. L. REV. 1013, 1015-1016 (2003) (discussing requirement under GAAP that financial statements fairly present the financial condition of a company and its operations); GAO Report, supra note 54, at 43 (noting that the “SEC views the integrity of financial reporting as a “fundamental building block” of the full and fair disclosure that gives investors confidence in U.S. markets.”).
85 See infra notes 266 to 299 and accompanying text.
86 See infra notes 272 to 290 and accompanying text for a discussion of Cisco’s virtual organization.
The consequences of this differential treatment can be illustrated by a simplified example.\footnote{This example is simplified in many ways, including in assuming, for example, that no other expenses are associated with the building purchase or mortgage, that no tangible assets are recorded on the balance sheet as part of the development or the virtual organization and that the building does not depreciate.} For the purposes of this example, assume a company has an income statement reflecting $100 in revenues and $50 in expenses in a given time period, giving the company $50 in profit during that period, and a balance sheet with $100 in assets and $100 in liabilities as of that point in time. If this company were to spend $50 to purchase a building, which is a tangible asset, the accounting treatment for the purchase of the building would likely be different from $50 spent to develop an intangible web-based virtual organization. In the case of the $50 spent to finance the building, assuming that the company takes out a mortgage loan for the entire $50 expenditure, the company’s balance sheet would change. The $50 building would now be added as an asset on the balance sheet, offset on the liability side by a debt of $50, reflecting the mortgage the company has taken out to finance its purchase. The result would be that the company would now have $150 in assets and $150 in liabilities. In contrast, the company’s expenditure of $50 for the web-based virtual organization would not change the company’s balance sheet, because the web-based virtual organization, as an intangible, would typically be considered an operating expense, not a capital expense. As a result, the $50 spent for the virtual organization would be recorded as an expense on the company’s income statement. This would mean that the company would now have $50 in additional expenses or $100 in revenues and $100 in expenses, which would mean that the company’s profitability has been reduced because where it previously had $50 in profit, it now has $0 profit since revenues and expenses are now equal. This simple example illustrates in a small sense the potential variations that may emerge in company financial statements just as a result of the relative intensity and scope of intangibles in company business operations. In aggregate, such differences are potentially quite significant and in some instances problematic.\footnote{See infra notes 265 to 298 and accompanying text.}

However, accounting rules also offer companies choices about the accounting treatment they use to represent the economic reality of a particular transaction. In the case of a building, a company could buy a building and record it as an asset on the company’s balance sheet, offset on the liability side by a debt that might reflect a mortgage that the company might have taken out in connection with the purchase of the building, for example. Alternatively, the company could transform the characterization of this building for financial statement purposes by
constructing a synthetic lease.\textsuperscript{89} This ability to transform representations of economic reality in financial statements has significant implications under the intangibles paradigm by virtue of the nature and treatment of intangibles under current accounting rules.

E. Synthetic Leases and Financial Statement Transformations

1. The Structure and Magnitude of Synthetic Lease Transactions

A synthetic lease transaction would typically involve a company establishing up a third party SPE that would be characterizable as independent from the company for financial statement purposes. Such independence would mean that SPE financial statements would not need to be consolidated or combined with the financial statements of the company setting up the synthetic lease transaction (the “sponsor company”). By removing this transaction from the company’s balance sheet and making it appear “off balance sheet,” the company may be able to keep any debt associated with the building purchase from influencing its financial ratios.\textsuperscript{90} SPEs are typically created for the particular transaction or series of transactions.\textsuperscript{91} Prior to the Enron controversy, accounting rules for independence for an SPE were generally interpreted by FASB and the SEC to require that 3 percent of the capitalization of the SPE be comprised of equity contribution from an owner not connected to the sponsoring company setting up the SPE.\textsuperscript{92} In addition, the owner of such equity actually needed to be at risk with respect to its equity contribution to the SPE.\textsuperscript{93} Following the Enron controversy, FASB issued

\textsuperscript{89} See Donald J. Weidner, Synthetic Leases: Structured Finance, Financial Accounting and Tax Ownership, 25 IOWA J. CORP. L. 445, 446 (2000) (“In a synthetic lease transaction, money is borrowed based on the financial strength of a tenant of property and on that tenant’s agreement to pay rent. The lender expects the debt to be serviced from the rental obligation of the tenant rather than from the financial resources of the nominal owner and borrower. The lease is ‘synthetic’ insofar as it is designed to achieve a blended treatment: the tenant reports it as an operating lease for financial accounting purposes but as a mortgage for federal income tax purposes.”)

\textsuperscript{90} See infra notes 103 to 107 and accompanying text.

\textsuperscript{91} See Weidner, supra note 89, at 448 (noting that SPEs are created solely for the purpose of entering into a financing transaction or transactions); Jalal Soroosh & Jack T. Ciesielski, Accounting for Special Purpose Entities Revised: FASB Interpretation 46(R), CPA J. ONLINE (July 2004) (noting that SPEs are created by a party to carry out a “specific purpose, activity, or series of transactions” and “have no purpose other than the transactions for which they are created.”), at http://www.nysscpa.org/cpajournal/2004/704/essentials/p30.htm.

\textsuperscript{92} Soroosh & Ciesielski, supra note 91.

\textsuperscript{93} Id.; see also FASB, EITF Issue 90-15 (setting 3 percent as the minimum third-party interest in an SPE to avoid consolidation of the SPE with sponsor company financial statements); Balaji G. Dharan, Financial Engineering with Special Purpose Entities, in ENRON AND BEYOND: TECHNICAL ANALYSIS OF THE ACCOUNTING, CORPORATE GOVERNANCE, AND SECURITIES ISSUES 103, 114-116 (Julia K. Brazelton & Janice L. Ammons eds., 2002) (discussing changing
new criterion increasing the 3 percent standard to 10 percent, although the revised rule does not establish a bright-line test.\footnote{94}

SPEs are widely used by businesses in the U.S., particularly in securitization transactions. A random review of 66 public companies in 2001 found that disclosed SPE transactions accounted for close to $230 billion in value, with 92\% involving securitizations of receivables and the remaining 8\% involving leases.\footnote{95} These figures may reflect only a portion of actual transactions involving SPEs since under current financial statement reporting requirements, SPEs established by a sponsor company may remain undisclosed and thus essentially hidden from readers of sponsor company financial statements.\footnote{96} The total size of just the synthetic lease market for real estate, equipment and other assets may be as large as $600 billion.\footnote{97} The dangers of undisclosed SPEs are illustrated by Enron, which developed thousands of such SPEs as a way to remove and conceal losses as well as debts and other liabilities.\footnote{98} In most cases, however, Enron’s financials did not comply with applicable accounting rules.\footnote{99} The accuracy of representations of economic reality in accounting presentations involving SPEs is largely dependent on the adequacy and transparency of securities disclosure, the nature of the underlying accounting treatment and extent to which such accounting treatment is actually disclosed.

In a typical synthetic lease transaction, an SPE would acquire or construct the building and would be the borrower on paper of any mortgage associated with the building.\footnote{100} The SPE would then enter into a short-term lease (usually less than consolidation rules for SPEs and noting that the 3 percent rule was an ad-hoc solution intended as a short term band-aid that subsequently became standard practice).  
\footnote{94} See Soroosh & Cisielski, supra note 91; see also FASB Interpretation No. 46(R) (Dec. 2003).  
\footnote{95} See Soroosh & Cisielski, supra note 91.  
\footnote{96} Id.  
\footnote{97} Dharan, supra note 93, at 107 (noting that estimates of the size of the synthetic lease market vary, and that as much as $600 billion in real estate, equipment and other assets may be accounted for using synthetic leases in the U.S.).  
\footnote{99} See generally POWERS REPORT, supra note 98; Dharan, supra note 93, at 103 (noting that Enron’s failure is “a case of SPEs run amok”); Bratton, supra note 33, at 1042 (“Enron’s financials would have been out of compliance with GAAP even with its SPEs in compliance with the rules on consolidation at all times.”).  
\footnote{100} Anthony J. Luppino, Stopping the Enron End-Runs and Other Trick Plays: The Book-Tax Accounting Conformity Defense, 2003 COLUM. BUS. L. REV. 35, 54-58; Weidner, supra note 89, at 447 (“In terms of the desired outcome, a synthetic lease is a transaction in the form of a lease
ten years) with the typically high credit rating sponsor company. The transaction documents between the SPE and the mortgage lender would give the mortgage lender “assurance that its debt is secure and provide the corporate user [sponsor company] with essentially all of the material benefits and burdens of ownership of the real estate including, importantly, the right to capture the benefit of appreciation in the value of the property.”

This would mean that the company would report less debt on its balance sheet than it would without the synthetic lease, all other things equal. The synthetic lease transaction would enable the company to treat its payment obligations under the synthetic lease transaction as a lease obligation that it can footnote as a long term rental obligation (operating lease) as opposed to a debt obligation that would be reported as a balance sheet liability (capital lease). Synthetic leases thus allow a particular representation of a certain economic reality for financial statement reporting purposes that may permit the sponsoring company to transform its depiction of such underlying economic reality. The SPE involved

that embodies a blend of characteristics that enables it to be characterized as a lease for financial accounting purposes, while also permitting it to be treated as the nominal tenant’s mortgage or ‘financing transaction’ for federal income tax purposes.”)

101 Luppino, supra note 100, at 447.

102 Id. at 55.

103 Id. at 50 (noting that management avoids balance sheet debt because “various ratios used by analysts to value companies are negatively affected by high debt”); Weidner, supra note 89, at 450-51 (“Synthetic leases keep certain assets and liabilities off balance sheet and also improve the ratios by which businesses are judged. In general, a business looks less leveraged when it can take a long-term liability off its books. In addition, the business may improve certain calculations and financial ratios that are often closely monitored. For example, because no asset is booked if a lease is classified as an operating lease, the lessee need not take a charge against earnings for depreciation. This favorably impacts the share price-to-earnings ratio and the earnings-to-assets ratio. In short, by keeping a heavily encumbered asset off the books, a user may preserve a more favorable return-on-assets ratio, a more favorable return-on-equity ratio, and a more favorable debt-to-equity ratio.”).

104 Luppino, supra note 100, at 57-69. Compliance with several FASB requirements would need to be met for the company to treat the synthetic lease transaction as a lease obligation (operating lease) as opposed to a debt obligation (capital lease). See FASB, Statement of Accounting Standards No. 13, Accounting for Leases (Nov. 1976) (hereinafter, “FASB 13”) (discussing treatment of capital and operating leases); FASB, Statement of Accounting Standards No. 98, Accounting for Leases: Sale-Leaseback Transactions Involving Real Estate, Sales-Type Leases of Real Estate, Definition of the Lease Term, Initial Direct Costs of Direct Financing Leases (May 1988) (amending FASB 13 and other FASB statements) (hereinafter, “FASB 98”); see also Weidner, supra note 89, at 454-55 (noting that lessees [sponsor companies] seek to avoid application of FASB 98 in constructing synthetic lease transactions since FASB 98 has a stricter requirement with respect to debt obligations appearing on the lessee’s balance sheet).

105 Weidner, supra note 89, at 487 (“Unlike the federal income tax law, the financial accounting standards have been less stable and definitely need fixing. Most simply, FASB currently permits
in a synthetic lease would not, however, necessarily be independent from the company in any real economic terms. As a result, in contrast to financial statement presentation, tax treatment of the synthetic lease would reflect the actual underlying economic reality of the transaction, and the sponsor company would be considered the owner with regard to the tax treatment of any debt liability associated with the synthetic lease transaction. The differential treatment of synthetic leases for book and tax purposes reflects the potentially varying ways in which companies can depict a given economic reality in different contexts of presentation. Such differential presentations are by no means limited to synthetic leases and other financial statement transformations.

2. Synthetic Leases, SPEs and Transforming Representations of Economic Reality

Although SPEs such as those associated with synthetic leases may have a genuine underlying business purpose, they can also be entered into with the specific accounting goal of removing debt or other liabilities from a balance sheet or managing income statement earnings by being able to report gains or losses when desired. Synthetic leases and other off-balance sheet financing transactions enormous amounts of debt to vanish from a company's balance sheet. Corporations are permitted to appear far less leveraged than they are by recasting mortgages as leases. In a system that prides itself on transparency, this transactional sleight-of-hand should not be permitted.

The differential tax treatment of synthetic lease transactions and fact that the company would generally be considered an owner for tax purposes is indicative of the underlying economic reality of the transaction. The existence and role played by the SPE does not change this fundamental economic reality. Luppino, supra note 100, at 57-59 (discussing tax treatment of synthetic leases); Weidner, supra note 89, at 486-87 (comparing financial accounting and tax treatment of synthetic leases).

Luppino, supra note 100, at 51, 59 (noting that the tenant (sponsor company) in a typical synthetic lease transaction is the owner of the property for tax purposes, enabling the sponsor company to use such debt to its benefit for tax purposes, which permits the company to “support loss deductions, allow for nontaxable receipts of cash, and, in general, drive tax deferral.”); Soroosh & Ciesielski, supra note 91 (noting that synthetic leases serve two important purposes, enabling a company to treat a lease as an operating expense, recording payments as rent expense while keeping the underlying assets and liabilities off its balance sheet and allowing a company to treat the transaction as if it owned the leased property for tax purposes); Dharan, supra note 93, at 108 (noting that the sponsor company does not have to report the building in a synthetic lease transaction as a capital lease because control of the building is held by an SPE whose legal structure prohibits the sponsor company from “controlling” it).

See infra notes 189 to 210 and accompanying text.

See Bala G. Dharan, Enron’s Accounting Issues: What Can We Learn to Prevent Future Enrons?, in ENRON: CORPORATE FIASCOS AND THEIR IMPLICATIONS 113, 117-118 (Nancy B. Rapoport & Bala G. Dharan eds., 2003) (noting that SPEs may serve a number of purposes, including hiding debt or poor performing assets, earnings management or quick execution of related party transactions at desired prices).
facilitated by SPEs highlight important aspects of financial statement rules. The first is that, in addition to having a goal of presenting a fair and accurate picture of a company’s finances and operations, accounting rules may be used legitimately in such a way as to obscure underlying economic reality. In addition, accounting rules have the potential to transform the depiction of this underlying reality by, for example, turning an owner of a building into a tenant for financial statement reporting purposes. The extent to which financial engineering or any transformative or obscuring representations are apparent to readers of financial statements is dependent on how a company chooses to frame its business and financial statement presentations, the structure of the transformative transaction and the adequacy of the company’s disclosure.\textsuperscript{110}

Accounting treatment of intangibles more generally illustrates another area where securities disclosure requirements and the accounting rules that they incorporate may not fully reflect or accurately represent underlying economic reality. Intangibles are typically not capitalized and placed on a company’s balance sheet and are now a predominant source of value for many companies. As a result, the information that a reader of a financial statement may receive from reading a balance sheet, for example, is potentially quite different for companies operating under an intangibles as opposed to tangibles paradigm business model. Under the intangibles paradigm, present accounting treatment leads to many of the most valuable assets of a company not even appearing on a balance sheet to the extent that such value is associated with intangibles. This is the reason why financial statements, particularly balance sheets, have under the intangibles paradigm become less informative and less reflective of economic and business fundamentals.\textsuperscript{111}

F. \textit{Intangibles and Financial Statements}

Part of the uncertainty in the application of accounting rules to intangibles and ICT era business practices is rooted in the nature of intangibles themselves. Also relevant is the fact that existing accounting systems now applied to intangibles were developed largely in the context of a business milieu built around a physical asset industrial production paradigm.\textsuperscript{112} Existing accounting systems have been

\textsuperscript{110}See Dharan, \textit{supra} note 93, at 103 (noting the “power of SPEs as financial engineering tools”).

\textsuperscript{111}See \textit{infra} notes 317 to 331 and accompanying text.

characterized as obsolete in light of the changing business context of their use.\textsuperscript{113} Current accounting and securities disclosure frameworks are based on assumptions rooted in the past about tangibles paradigm business operations that are no longer valid for a significant number of companies.\textsuperscript{114} For example, the concept of “cost” inherent in existing accounting systems only makes sense in light of costs being viewed under the assumptions of tangibles paradigm manufacturing business practices and operations as attaching to a product as it flows through a factory.\textsuperscript{115} This mismatch between tangibles paradigm accounting rules and disclosure standards and increasingly prevalent intangibles paradigm business operations is a factor in the increasing failure of accounting systems to provide accurate information that is reflective of the true economic value of a business.\textsuperscript{116} The divergence between regulatory structures and business practice is intensified by the typically incremental nature of change in accounting regulation as compared to the relatively rapid nature of changing business practices associated with the intangibles paradigm.\textsuperscript{117}

At the same time, with the intangibles paradigm, a significant amount of value is now attributed to intangibles by public markets, which has contributed to strategic behavior by businesses with respect to intangibles.\textsuperscript{118} The ethos underlying such behaviors is recreated and reinforced through framing and business discourse at two levels: externally in the strategic intellectual property management literature and internally by virtue of business documents such as annual reports that position companies within the midst of this intangibles paradigm in a way intended to maximize company market valuations.\textsuperscript{119} The strategic intellectual property management literature is supplemented and reinforced by such internally generated company business documents, which include annual reports, SEC filings, company websites and articles in the financial and mainstream press.

This association between intangibles and business and market value has

\textsuperscript{113} See Johnson & Kaplan, supra note 112, at 183-207.
\textsuperscript{114} See Walton, supra note 112, at 1 (noting that “the ensemble of accounting practices and regulations in any one country at any given time are not representative of the present but are rather an accumulation of past decisions which have been modified in response to many different stimuli over a span of time”).
\textsuperscript{115} See Johnson & Kaplan, supra note 112, at 187 (noting that factory analogy provides the best explanation of how the accounting system works).
\textsuperscript{116} Id. at 205.
\textsuperscript{117} See Walton, supra note 112, at 3 (noting incremental nature of accounting regulation).
\textsuperscript{118} See Arewa, Strategic Behavior, supra note 29.
\textsuperscript{119} The strategic intellectual property management literature is a body of works in the business field that discusses the appropriate uses of intellectual property assets by companies. See infra note 221 and accompanying text.
significantly affected how businesses are organized and operate. More specifically, the changes in business organizational structure and operational strategy associated with the intangibles paradigm have implications for systems that regulate business behavior. The full magnitude of the effects of intangibles for business enterprises remains uncertain. Assessment of the nature and uses of intangibles and the shift to the intangibles paradigm provide further evidence of exactly how accounting and other regulatory systems fail to require disclosure of information that accurately represents the economic reality of the intangibles paradigm economy and business practices.

II. THE INTANGIBLES “PARADIGM”: THE CHANGING CONTEXT OF BUSINESS INVESTMENT

Intangibles are inherently different from physical and financial assets. Managerial and regulatory systems are slow to adapt to these differences, resulting in widespread adverse private and social consequences. A productive discourse on intangibles should be based on a thorough analysis of the economics of intangibles, an understanding of the incentives and motives of the major players and a careful empirical documentation of the economic consequences of the rise of intangibles.

A. Accounting Systems and Business Organization

1. Tangibles paradigm Business Organization from an Historical Perspective

One critical aspect of the shift to an intangibles paradigm is increased

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120 See infra notes 158 to 163 and accompanying text; see also Brynjolfsson et al., supra note 23.
122 OECD, supra note 18, at 10 (“Overall, public policy is hampered by lack of knowledge and understanding of the extent and importance of intangible assets in enterprise strategies and practices. Intangibles need to be measured, reported and accounted for more explicitly, to strengthen their internal management and develop reliable external guides to their value for capital markets and resource providers.”).
123 Lev, supra note 18, at 20.
internalization of corporate transactions and sources of value. This distinguishes the intangibles paradigm from business paradigms that have arisen in the past. Accounting and bookkeeping systems developed to record information relating to transactions and existed even in the ancient world. The nature of the information that accounting systems need to explain may differ depending on the dominant organizational paradigms of businesses that use such systems. For example, before the nineteenth century, under a pre-industrial business paradigm, the dominant forms of business organization tended to be characterized by exchange transactions between owners-entrepreneurs and external individuals involving raw material suppliers, piecework labor and customers. In such a pre-factory system, a piece rate, or market-based price, was paid for “the output of independent artisans or subcontractors who carried out almost every process involved in the manufacture of a product.”

With the tangibles paradigm that came to be ascendant during the Industrial Revolution, business owners began to exploit economies of scale to achieve gain and commit large sums of capital to production processes with an overall business focus on accumulating physical capital. This led to a business focus on managing hierarchical organizations rather than conducting all business through market transactions and is exemplified in the dominant industrial factories that emerged under that paradigm in the textile and steel industries, for example.

124 See infra notes 282 to 290 and accompanying text. The importance of internally generated intangibles is reflective of this phenomenon.
125 Johnson & Kaplan, supra note 112, at 6.
126 Id. at 6, 19-21.
127 Id. at 22-23; see also JOEL MOKYR, THE GIFTS OF ATHENA: HISTORICAL ORIGINS OF THE KNOWLEDGE ECONOMY 121 (2002) (noting that, although large firms were widespread prior to the Industrial Revolution, “most of their employees were domestic laborers (working in a cottage industry).”).
128 Johnson & Kaplan, supra note 112, at 6-7 (noting commitment of significant sums of capital to production processes); Goldin, supra note 20, at 50 (noting focus on accumulation of physical capital as characteristic of nineteenth century industrial production).
129 Johnson & Kaplan, supra note 112, at 7, 21-45; see also William L. Baldwin, The Corporation and Society: An Evolutionary/Institutional Approach, 27 VT. L. REV. 841, 843-844 (2003) (discussing how dominant nineteenth century business models resulted in the demand for forms of business organizations that could efficiently manage capital investments and technical economics of scale and scope); see also John Richard Edwards & Edmund Newell, The Development of Industrial Cost and Management Accounting before 1850: A Survey of the Evidence, 33 BUS. HIST. 35, 38, 53 (1990) (placing the origins of industrial accounting in the cotton and metal industries and suggesting that precursors of modern accounting frameworks are more varied than is often stated); James Foreman-Peck, Accounting in the Industrialization of Western Europe, in EUROPEAN FINANCIAL REPORTING: A HISTORY 11-28 (Peter Walton ed., 1995) (discussing the relationship between the history of European accounting and economic history, noting that with industrial capitalism, developments in accounting were dependent on the goals of management).
The emergence of these structures under a tangibles paradigm changed the nature of the accounting information that companies needed to operate. For example, steel magnate Andrew Carnegie’s operating strategy enabled him to make profits, even during economic recessions when he cut prices, and outlast competing firms that went out of business. Management accounting, which entails use of accounting information for planning, decision making and control, developed to accommodate and support these “profit-seeking activities of entrepreneurs for whom multiprocess, hierarchical, managed enterprises were more efficient than conversion processes through continual transactions in the marketplace.”

Nineteenth century managers of capital intensive companies thus made “sophisticated use of accounting information to rationalize the operations of large single-activity manufacturing concerns.”

The history of the relationship between accounting systems and business operations is thus one in which accounting frameworks have often adjusted to meet the needs of changing business operational and organizational structures. For example, the development of audited financial statements and auditing procedures is closely linked to the increased need for companies to raise funds from more widespread sources of outside capital. Current accounting frameworks were basically fully formed by 1925. These frameworks have not been fundamentally reassessed in light of the implications of the intangibles paradigm, which is an important factor in the intangibles haze. The structure and use of intangibles in contemporary business operations demonstrates how

130 Johnson & Kaplan, supra note 112, at 6 (noting that a need arose for measures “to determine the ‘price’ of output from internal operations,” in order to determine profits).
131 Id. at 33-34 (noting that Carnegie’s strategy “[w]as to push his own direct costs below his competitors’ so that he could charge prices that would always ensure enough demand to keep his plants running at full capacity.”).
132 Edwards & Newell, supra note 129, at 39 (noting that management accounting may be distinguished from cost accounting, which focuses on identification and accumulation of cost, and financial accounting, which has the goal of providing accounting information to external parties).
133 Johnson & Kaplan, supra note 112, at 35.
134 Id. at 130 (noting that prior to 1900, although a few American industrial companies issued periodic financial statements, virtually none of these financial reports were audited and that firms were eventually able to tap outside resources by providing investors with audited financial statements).
135 Id. at 12, 125.
136 Id. at 14 (“When cost systems became automated on digital computers, starting in the mid-1960s, the system designers basically automated the manual systems they found in the factory. Left unquestioned was whether these systems were still sensible given the great expansion in information technology represented by electronic, digital computers and the already changed nature of the organization’s operations.”).
137 See infra notes 265 to 331 and accompanying text.
current accounting and disclosure frameworks function in today’s intangibles oriented business and economic climate.

2. Virtual Business Organization: The Case of Cisco

The use of information systems by Cisco Systems, the world’s largest networking equipment company, illustrates some of the organizational and operational effects of engagement with the intangibles paradigm in the ICT sector. Cisco’s Internet Protocol (IP)-based networking solutions form the foundation of many Internet networks worldwide.  

Founded in 1984 by a group of Stanford computer scientists, Cisco began operations as a company that made routers, physical devices developed at Stanford University that join multiple computer networks together. Cisco shipped its first product in 1986 and expanded its range of product offerings in the 1990s to include switches, which are devices that join multiple computers together. Cisco also grew at an extraordinary rate, with annual revenues increasing from $70 million in 1990 to more than $18.9 billion in 2000 and $24.8 billion in 2005.

Cisco has created “a virtual organization that incorporates its suppliers and business partners to make its value chain more efficient.” As part of its global networked business model, Cisco supports its business strategy by making extensive use of the Internet and e-commerce and integrates its customers, suppliers, channel partners and service partners into its own information systems. Cisco describes itself as a “business is based on a networked fabric of communications and collaboration that uses Internet applications to improve productivity, reduce time to market, increase revenue, and build relationships.”

Cisco’s business strategy enabled it to automate routine customer questions through use of the Internet and thus more effectively use the time of its engineers

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139 Kraemer & Dedrick, *supra* note 34, at 5.

140 *Id.*


143 *Id.* at 17, 20.

who could then spend time on more challenging technical questions.\textsuperscript{145} This strategy also meant that Cisco could avoid a serious constraint on its growth that would have resulted from engineers spending time on routine questions instead of supporting Cisco’s sales of its core router and switch products.\textsuperscript{146} Rather than hire new engineers or have existing engineers handle routine customer needs, Cisco automated such requests, developing the Cisco Connection Online (CCO), Cisco’s virtual organization that extends to all aspects of Cisco’s operations, including internal operations.\textsuperscript{147} Cisco has a virtual finance organization (VFO) that permits company management to view financial information through Web-based applications on a daily and hourly basis.\textsuperscript{148}

Cisco also uses the Cisco Employee Connection (CEC), an Intranet, internally to provide human resources information and support Cisco employees. Interactive tools have been developed for facilities, travel arrangements, technical documents, human resources, training, sales and marketing and financial matters.\textsuperscript{149} Cisco has described itself as the “single largest user of e-commerce in the world.”\textsuperscript{150} which reflects the pervasive use of information systems at Cisco. In fiscal year 2000, 90% of Cisco’s $18.9 billion in sales came from online purchases, and 82% of customer inquiries were handled online.\textsuperscript{151}

Examination of Cisco’s financial statements in light of its extensive use of intangibles and ICT technology in its organizational and operational structure reveals one of the paradoxes of intangibles paradigm financial statements. Cisco’s virtual organization is clearly a core aspect of the operation of Cisco’s business both externally in relation to customers and internally with respect to company organization and operations. The importance of Cisco’s virtual organization is also discussed widely in commentary about the company and at least mentioned in most discussions of the company’s business in financial and other publications, for example.\textsuperscript{152}

The place where extensive discussion of Cisco’s virtual organization is most

\textsuperscript{146} Id.
\textsuperscript{149} See Kraemer & Dedrick, supra note 34, at 20.
\textsuperscript{150} Id. at 22.
\textsuperscript{151} Id. at 22.
\textsuperscript{152} See supra notes 34, 138, 145 and 148 and accompanying text.
noticeably lacking is in Cisco financial statements and its disclosure in reports and SEC required filings in general. As a result, the costs of this virtual organization are difficult to assess and evaluate from the perspective of such financial statements and disclosure. This virtual organization is thus virtually unreflected as a separate entry on Cisco’s balance sheet, income statement or in the notes to Cisco’s financial statements because it is characterized by a high degree of intangible resources.\(^{153}\) The expenditures Cisco has made with respect to this virtual organization are likely contained within the General and Administrative expenses of the Cisco income statement during the years that expenditures have occurred in connection with the virtual organization.\(^{154}\) The exact nature and amount of expenditures in building this virtual organization remain remarkably unclear from the perspective of Cisco’s financial statements and other disclosure. The absence of disclosure about Cisco’s intangibles investments is of particular concern given the significance of the virtual organization for Cisco’s operations. As a result of this lack of disclosure, the actual operation of this virtual organization is not at all transparent. In fact, more is disclosed concerning this critical aspect of Cisco’s operations in magazines and business articles on Cisco than is typically evident in Cisco’s financial statements or other disclosure.\(^{155}\) The role of the virtual organization at Cisco, including the CCO and CEC, is comparable to the role that factories played with industrial companies operating under tangibles paradigm business models. As was characteristic of the factory...

\(^{153}\) Some of the costs of Cisco’s virtual organization may be reflected in the breakdown of net property and equipment on Cisco’s balance sheet. For the fiscal year ended July 26, 2003, for example, the total amount of computer equipment and related software carried on Cisco’s balance sheet was approximately $1.15 billion out of total assets of $3.7 billion, as compared with $1.02 billion and $4.10 billion for the prior fiscal year. Cisco 2003 Annual Report (2004), at http://www.cisco.com/en/US/about/ac49/ac20/ac19/ac15/about_cisco_annual_report_links_launch .html. However, since Cisco has a history of making many acquisitions, some portion of these assets on its balance sheet may be a result of its accounting for acquisition transactions. The allocation if the purchase price in an acquisition is reflected, for example, in the discussion of the allocation of the purchase price of the January 1995 Cisco acquisition LightStream Corporation. See Cisco 1997 Annual Report, supra note 147, at 41. The allocation of the $120 million LightStream purchase price was primarily for purchased research and development ($95.8 million), plant and equipment ($1.8 million) and goodwill ($19.7 million). Id. The remaining purchase reflected cash, accounts receivable and other current assets. See infra notes 265 to 298 and accompanying text for a discussion of the accounting treatment of intangibles.

\(^{154}\) For example, the Management Discussion and Analysis portion of the Cisco 1997 Annual Report suggests that at least some expenses connected to the development of information systems are included in the General and Administrative Expenses portion of Cisco’s income statement, noting:“‘The dollar increase reflects increased personnel costs necessary to support the Company’s business infrastructure, including those associated with its new European Logistics Center, as well as the further development of its information systems.’” Cisco 1997 Annual Report, supra note 147, at 25 (emphasis added).

\(^{155}\) See, e.g., supra notes 34 and 138 for articles discussing Cisco’s virtual organization.
that was at the center of many tangibles paradigm business operations, the virtual
organizations involving information systems and other largely intangible and
internally generated resources developed by companies under the intangibles
paradigm are often critical to such companies’ business success as well as the
scalability of their operations.

The lack of disclosure concerning a fundamental aspect of Cisco’s operations is
remarkable when contrasted with accounting treatment of core tangible assets.
Existing financial statement reporting and SEC disclosure requirements reflect
tangibles paradigm assumptions by requiring specific disclosures with regard to
tangible assets.156 Comparable specific required disclosure does not exist with
respect to intangible resources. This means that existing frameworks do not
adequately delineate what may need to be modified such that required disclosures
may more fully and adequately represent economic reality under the intangibles
paradigm.157 Identifying how intangibles are used will help illustrate their
pervasive presence in business today and why the relative absence and lack of
transparency of internally developed intangibles in the financial statements of
companies such as Cisco may be problematic.

B. Intangibles and Business Practice: The Uses of Intangible Resources

1. The Role of Intangibles

Intangibles play a growing role in American business and both the U.S. and
global economies.158 Market services and intangible goods now account for more
than two-thirds of U.S. GDP.159 Services increased from 22 percent of GDP in
1950 to some 39 percent in 1999.160 Intangibles are primary drivers in the post-
industrial era and are increasingly important factors in wealth creation and
economic growth.161 Intangibles are also increasingly viewed by businesses as
critical to the enhancement of their competitive advantage and productivity.162

156 Item 102 of Regulation S-K (“Description of Property”), for example, requires specific
disclosures with respect to physical properties. See Regulation S-K, 17 C.F.R. § 229.102.
157 See infra notes 390 to 422 and accompanying text.
158 See supra notes 13 to 16 and accompanying text.
159 See MARGARET M. BLAIR & STEVEN M.H. WALLMAN, UNSEEN WEALTH 7 (2001).
160 Id. at 11. See also Margaret M. Blair, Gary M. Hoffman & Salvatore P. Tamburo, Clarifying
Intellectual Property Rights for the New Economy (2001), Georgetown University Law Center,
note 13.
161 See DeLong et al., supra note 20, at 17 (noting that ideas and technology deriving from such
ideas are primary long-term cause of economic growth, with information technology and the
manufacture of physical goods relating to such information technology boosting growth rates of
gross output by an estimated 1 percent per year); Federal Reserve Chairman Alan Greenspan,
At the same time as intangibles are becoming more important, the relevance of financial statements is decreasing.\(^{163}\) When, as has been the case at companies such as Cisco and Microsoft, a balance sheet includes assets that reflect only 5 to 10 percent of the market value of a company, reasonable questions may arise as to the usefulness of such balance sheets as a source of information.\(^{164}\) The effectiveness of balance sheets as measures of economic value is integrally connected to the gap between market values and book values of assets.

2. The Market to Book Ratio: A Reflection of Intangibles?

In 1982, $62.30 of every $100 invested in stocks was spent on tangible assets, while in 1992, only $37.90 of every $100 was spent on such assets,\(^{165}\) a decrease of 39 percent during the course of the decade. One indicator seen as a marker of the importance of intangibles as sources of business value for companies is the divergence between two measures of company value: the market value of public...
companies as reflected in the companies’ stock prices and the book value of such companies’ assets on their balance sheets. This gap between market value and book value is at least partially associated with the value placed on companies’ intangibles by investors.

**CHART 1**

**Market-to-Book Ratio**

Sources: Lev, infra note 169; Lev, infra note 170.

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166 Lev, supra note 18, at 31-33; Patrick H. Sullivan, Introduction to Intellectual Capital Management, in Profiting From Intellectual Capital: Extracting Value From Innovation 4 (Patrick H. Sullivan ed., 1998); Thomas A. Stewart, Intellectual Capital 295-296 (1998) (stating that gap actually measures the intensity of knowledge assets rather than the relative amounts of intangibles versus tangible assets and is thus not an accurate measure of intangibles because market values rise and fall with exuberance and book value is based on historical cost while market value includes market valuation of future earnings).

167 See Sullivan, supra note 166, at 4; Lev, supra note 2, at 132 (noting that this gap also reflects the difference between current and historical cost values of physical assets); J.B. Backhuijs, W.G.M. Holterman, R.S. Oudman, R.P.M. Overgoor & S.M. Zijlstra, Reporting on Intangible Assets 6, Final Report for the Benefit of the Dutch Ministry of Economic Affairs and Intangible Assets Pilot Project Sounding Board Group (June 9-10, 1999), at www.oecd.org/dataoecd/61/43/1947807.pdf.
The trend during the intangibles era has been toward an increasing market to book gap. As is evident in Chart 1 above, the ratio of market to book value, which reflects this gap, progressively increased for Standard & Poors 500 (S&P 500) companies from level of 0.81 in 1973 to 1.69 in 1992,\textsuperscript{168} which means that in 1973 the book value of assets recorded on balance sheets was actually greater than the stock market values of these companies, constituting more than 120 percent of market value. By 1992, however, some 40 percent of total market value of S&P 500 companies was not reflected in assets on their balance sheets.\textsuperscript{169} This ratio was 6.25 in 1999,\textsuperscript{170} suggesting that six of every seven dollars of corporate market value was derived from knowledge assets,\textsuperscript{171} and reached its peak of 7.5 in March 2000.\textsuperscript{172} Following market adjustments in 2000 and 2001, the ratio was still 4.2 in August 2002,\textsuperscript{173} suggesting that over three-quarters of the total market value of S&P 500 companies was not reflected in assets on their balance sheets. Movement of the market to book value ratio reflects the fact that intangibles are a significant and quite volatile aspect of corporate value today,\textsuperscript{174} and signals a fundamental shift in corporate and societal asset bases.\textsuperscript{175} Despite the volatility of this measure and influence of at times exuberant broader market movements, the numbers indicate a fundamental change in aggregate S&P 500 balance sheets since 1972. The magnitude of market to book gap is also reflected in company specific numbers for both ICT and non-ICT companies.\textsuperscript{176} The

\begin{itemize}
  \item \textsuperscript{168} Prior to 1975, U.S. companies were permitted to capitalize research and development expenses. See Aswath Damodaran, Research and Development Expenses: Implications for Profitability Measurement and Valuation 3 (1999), Stern School of Business Working Paper, at www.stern.nyu.edu/~adamodar/pdfiles/papers/R&D.pdf.
  
  \item \textsuperscript{169} Baruch Lev, Remarks on the Measurement, Valuation and Reporting of Intangible Assets, FRBNY ECON. POL’Y REV. 17 (Sept. 17, 2003).
  
  \item \textsuperscript{170} S&P 500 companies account for 75 percent of the total assets in the U.S. economy. Baruch Lev, Knowledge and Shareholder Value 2, (Jan. 2000), at www.stern.nyu.edu/~blev/knowledge&shareholdervalue.doc.
  
  \item \textsuperscript{171} Id.
  
  \item \textsuperscript{172} Id.
  
  \item \textsuperscript{173} Id.
  
  \item \textsuperscript{174} Id.
  
  \item \textsuperscript{175} The European Commission, supra note 161, at §1 (discussing shift in the asset base of companies and societies).
  
  \item \textsuperscript{176} In early 1999, for example, the equity of Proctor & Gamble (P&G) had a market value of over $121.7 billion. The amount of equity recorded on P&G’s balance sheet was $12.2 billion. Smith & Parr, supra note 40, at 89. Since equity reflects a company’s net assets (or assets minus liabilities), this suggests a significant gap between financial statement value and market valuations of P&G. The P&G numbers highlight the significance of intangibles in companies outside the ICT sector.
\end{itemize}
magnitude of the gap between market and book value is, not surprisingly, typically greater for ICT companies.  

In late 2000, even after a major market correction earlier in the year, stock prices would have needed to decrease by two-thirds for the gap between market and book value to disappear. This gap reflects the fact that intangibles are now a major source of value for many companies in both the ICT and non-ICT sectors, which gives evidence of the pervasiveness of intangibles for businesses today. In addition, intangibles in recent years have accounted for more than 70 percent of the total market value of companies in a wide range of industries, including consumer goods, ICT, pharmaceuticals and entertainment at different times under varied stock market conditions and valuations. Other measures may also be used to demonstrate the significance of intangibles under the intangibles paradigm.

177 In June 2000, after a significant correction in the value of technology stocks earlier that year, Microsoft’s net physical and financial assets were still less than 10 percent of its market value, and Cisco’s physical and financial assets constituted 5 percent of its market value. Lev, supra note 18, at 31. In early August 2000, The Walt Disney Company had a market capitalization of $117 billion, but only $43.7 billion in balance sheet assets (including $11.3 billion in recognized intangible assets carried on Disney’s balance sheet), giving it some $85 billion in value attributable to intangibles. Blair & Wallman, supra note 158, at 12. For Sprint Corp., the gap in August 2000 was close to $31 billion, with a market capitalization of $60.2 billion and financial statement assets of $39 billion (including $9.6 billion in recognized intangibles). Id. Net assets of SAP, the German enterprise resource planning and e-business software company, were only 4.6 percent of SAP’s market value as of December 31, 1999. Daum, supra note 65, at 5.

178 Blair & Wallman, supra note 158, at 12.

179 Intangibles are the predominant source of value for a wide range of companies. The percentages below represent the percent of total company stock market value attributable to intangibles based on the company’s market value as of the stated date: The Walt Disney Company (70.9%, September 1998), H.J. Heinz Company (89.6%, April 1998), Johnson & Johnson (87.9%, December 1998), Merck & Company (93.5%, September 1998), Microsoft Corporation (97.8%, June 1998), Minnesota Mining & Manufacturing (3M) (71.8%, December 1998), Philip Morris Companies (78.8%, December 1998), Nike, Inc. (76.0%, May 1998), Proctor & Gamble Company (88.5%, September 1997), Yahoo! Inc. (98.9%, December 1998). See Smith & Parr, supra note 40, at 123-149. Similarly, in 1986, Merck’s book value was 12.3 percent of its market value, while in 1996, Coca-Cola’s book assets were 5 percent of its market value and Microsoft’s just 6 percent. In 2001, Cisco’s book value was 25 percent of its market value, while GE’s book assets were 10 percent of its market value. See Jeremy Galbreath, Twenty-First Century Management Rules: The Management of Relationships as Intangible Assets, 40 MGMT DESIGN 116, 117 (2002).

180 Tobin’s q is one such measure. Tobin’s q, developed by Nobel prize winning economist James Tobin, is the ratio of the stock market value of a firm to the replacement value of the firm’s capital assets. As such, it indirectly measures the rate of return of an asset. See Erik Brynjolfsson & Lorin M. Hitt, Beyond Computation: Information Technology, Organizational Transformation and Business Performance, 14 J. ECON. PERSPECTIVES 34 (2000); see also Steven R. Bond & Jason G. Cummins, The Stock Market and Investment in the New Economy: Some Tangible Facts and Intangible Fictions, in INTANGIBLE ASSETS 95, 96 (John R.M. Hand & Baruch Lev eds., 2003).
Underlying the book to market gap is the operation of the intangibles paradigm. Although the market to book ratio suggests that intangibles may be undervalued by markets, the picture is actually a bit more complex. The market to book gap reflects a persistent failure under the intangibles paradigm for financial reporting and other corporate disclosures to represent adequately and consistently the economic reality of business operations under the intangibles paradigm. In some instances, investments in intangibles by some companies may be undervalued, but in others companies may be overvalued. Market trends may further obscure individual company valuations as well. The bull market at the end of the 1990s, for example, have been associated with markets overvaluing intangibles, which is likely reflected in the 7.5 market to book ratio number in March 2000. The fact that the market may have overvalued intangibles in aggregate during the height of the bubble does not, however, obscure the operation of the intangibles paradigm or the fact that markets may in the case of individual companies either undervalue or overvalue the contribution of intangibles.

The market to book gap does, however, suggest that existing disclosure standards for intangibles are not adequate and too often result in distorted and inaccurate company financial statements and disclosures that do not match economic reality. This ultimately means that markets and investors may not always have information that would enable them to value the contribution of intangibles to companies consistently across different companies. Since one goal of financial statements is to provide for the fair presentation of financial data that can be also compared between firms and industries, the development of disclosure mechanisms on the financial reporting and securities regulation fronts are important avenues for dealing with the operation of the intangibles paradigm.

As a result of this paradigm shift, financial statements have become less informative from an accounting and economic perspective. One example of this is the diminishing extent to which balance sheets describe the sources from which companies derive value. If balance sheets reflected the entire value attributed to company by financial markets, the book value of assets should not diverge significantly from the company’s stock market value. In a strongly

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181 See infra notes 404 to 421 and accompanying text.
182 See infra notes 265 to 316 and accompanying text.
183 See Shorter, supra note 46, at 2 (“GAAP are guidelines and rules for use by accountants in preparing financial statements, that have evolved over years, and are designed to help ensure that financial data are presented fairly and are comparable from firm to firm and from industry to industry”).
184 See infra notes 390 to 421 to and accompanying text.
185 Cañibano et al., supra note 41, at 5; Lev, supra note 18, at 99-101; Lev & Zarowin, supra note 121.
efficient stock market, the market value of a company always equals its fundamental value. 186 Although, stock markets are not strongly efficient, the extent to which the market value of a company equals its fundamental economic value may be an indicator of the manner in which the market responds to information concerning a company as well as the extent to which fundamental economic reality is reflected or not reflected in resulting market valuations, all of which are closely tied to company representations, accounting presentations and disclosure. The reasons for the increasing divergence between market values and book values are rooted in the fact that accounting treatment for intangible and tangible assets is significantly different.187 The economic uncertainty associated with intangibles is also typically greater than for physical assets.188 The economic uncertainty of intangibles is magnified by the influence of company presentations of financial results, particularly in the current business milieu in which intangibles are increasingly predominant. Such presentations take on added significance given the potentially significant flexibility that companies may have to present their economic reality. This is particularly true since existing regulatory structures have not fully adapted to the economic reality of the knowledge economy.

C. Presentation and Performance: Company Framing Choices and Audience Impressions

1. Dramaturgical Aspects of Company Presentations

How businesses present themselves in different contexts is an important aspect of business behavior and practice. Business presentations are in fact often heavily context dependent. In fact, presentation opportunities represent points at which a company may demonstrate performance variations in its choice of the type, nature and content of its discourse and disclosure. Performance in the business context is reflected in the activity of individual representatives who speak on behalf of a business, as well as documents issued on behalf of or with respect to the company. Such performances may be seen as encompassing specific contexts of activity on behalf of or with respect to a company that occur “during a period marked by . . . continuous presence before a particular set of observers and which has some influence on the observers.”189

186 Bond & Cummins, supra note 180, at 96.
187 See infra notes 268 to 298 and accompanying text; Lev, supra note 18, at 79-103.
The individuals who comprise management are typically the principal actors involved in such performances, reflecting the established social roles that are expected in the business context. Such established social roles would include, among others, Chief Executive Officer (CEO), Chairman of the Board of Directors, Chief Financial Officer (CFO), Chief Operating Officer (COO) and other management positions. These roles are certainly not identical from company to company and individuals in these roles do have some ability to define their roles in the course of performance. Despite this, general societal and business expectations do typically exist as to the nature of these roles and their responsibilities. In addition, individuals in these roles may have a variety of “fronts” from which to choose.190

Such performance choices exist on a different plane than is typically envisaged in discussions about compliance with securities disclosure requirements or accounting rules. At one end of the spectrum, however, when such performances constitute fraud or a material misrepresentation, they implicate potentially serious legal and accounting compliance concerns. However, within this spectrum, as a result of the available range of choices, potentially many modes of presentation exist that a company might use to represent economic reality within the context of existing accounting and legal disclosure requirements.191 How and in what manner a company frames itself within such rules and regulations is thus important and potentially flexible depending on the context of presentation. Such framing is most evident in the choices companies make about how to present themselves both internally and externally.

The individuals in the management of a start-up company seeking venture capital financing, for example, may use different discourse when speaking with prospective venture capital investors than they might use with regard to existing investors or even potential strategic partners. This discourse may reflect the selection of a “front” or the “part of the individual’s performance which regularly functions in a general and fixed fashion to define the situation for those who observe the performance.”192 This reflects the fact that businesses often target such presentations or performances to suit the nature and expectations of the anticipated audience. As such, business presentations have dramaturgical

190 Id.; see also infra note 193 and accompanying text.
191 Cf. Richard Bauman, A World of Others’ Words: Cross-Cultural Perspectives on Intertextuality 124 (2004) (“[F]or the productiveness of considering performance not as any doing of an oral literary text, but as one of the range of interactionally defined presentation modes, or frames, which may be more or less functionally dominant in any act of spoken communication or at any given point during its course.”).
192 Goffman, supra note 189, at 22.
elements. Moreover, such presentations are ones in which “the individual infuses his activity with signs which dramatically heighten and portray confirmatory facts that might otherwise remain unapparent or obscure. For if the individual’s activity is to become significant to others, he must mobilize his activity so that it will express during the interaction what he wishes to convey.”\(^{193}\) For example, in the case of a representative of a business giving a presentation, the business person, by operating in a certain manner or mode, seeks to create a particular impression on the part of the audience.\(^{194}\) The creation of such impressions is an important aspect of the process by which corporations communicate in interpretable ways with various audiences in varied contexts.\(^{195}\)

The impression that the person making the presentation seeks to evoke may have a significant influence on how the presentation is received by the audience. By initiating a presentation seeking a particular impression, the presenter thus “implicitly requests his observers to take seriously the impression that is fostered before them.”\(^{196}\) Face-to-face meetings and other contexts in which companies make presentations suggest that contextually determined self-presentation is an important factor in how businesses create a particular impression of the company and its operations. Such business presentations highlight the fact that businesses choose elements for a particular characterization of the company in a particular context from a potentially wide range of choices. The dramaturgical aspects of company presentations thus suggest that companies have some ability to define the context within which they represent a particular economic reality. Such framing may have a potentially significant impact on how a particular representation of reality is both received and accepted.

2. Variations in Performance: The Implications of Presentation Choices

Company presentations may exhibit significant variations in both the style and content of performance in different contexts. Companies may, for instance, have characteristic internal presentations to employees or senior managers, for example, which may differ from external presentations, as well as varying presentations among different internal constituencies. The documentary film

\(^{193}\) Id. at 30.

\(^{194}\) Id. at [17].

\(^{195}\) See Bauman, supra note 191, at 123 (noting that performance rests on two dimensions of communicative competence: “knowledge and the ability to communicate in socially appropriate and interpretable ways”).

\(^{196}\) Goffman, supra note 189, at 17.
Startup.com, for example, illustrates this point clearly. This film contrasts internal presentations to employees by the Chief Executive Officer of GovWorks.com, the Internet startup depicted in the film, with meetings with external audiences, particularly venture capital firms. It also illustrates some potential differences in presentation between internal company-wide meetings and internal meetings of senior managers.

It is thus quite typical for senior management and those empowered to speak on behalf of companies to present entirely different portraits of the company for varied purposes and in different contexts. Such variances in presentations do not necessarily involve deception but may merely involve selective emphasis of relevant factors relating to a particular economic or business reality targeted to a particular audience or forum. In addition to face-to-face meetings, businesses also engage in such presentations to varied audiences through the medium of business documents such as annual reports, required SEC disclosure and by means of financial statements. Businesses also engage in presentations in other contexts such as web casts, newspaper and television coverage and analyst calls, for example.

One potential limitation on a company’s ability to engage in differential presentations for different audiences is legal requirements regarding company disclosures imposed by the SEC. Disclosures, particularly for companies subject to SEC periodic reporting requirements, could potentially subject a company to liability under securities laws that incorporate GAAP accounting standards that govern how particular transactions may be measured and reported. The recent SEC Regulation FD is an explicit recognition of the fact that businesses may make different presentations and may disclose different information to different audiences. Regulation FD, which became effective in October 2000, addresses

197 See STARTUP.COM (Artisan Entertainment 2001).
198 Different books for book and tax purposes are one example of this phenomenon. See e.g., Luppino, supra note 100 (discussing divergent tax and accounting treatment of synthetic leases); see also supra notes 100 to 111 and accompanying text.
199 The Exchange Act, for example, imposes periodic reporting requirements on companies with securities registered under the Exchange Act (e.g., Reports on Form 10-K and Reports on Form 10-Q). 15 U.S.C. §78m (2003). The Exchange Act and rules promulgated under the Exchange Act also contain anti-fraud provisions that govern disclosures made by all companies in the course of selling securities. See Rule 10b-5, 17 C.F.R. § 240.10b-5 (2005) (imposing securities law liabilities for any untrue statement or omission of a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading).
selective disclosure by companies to analysts. Regulation FD provides that companies disclosing material nonpublic information to securities market professionals (e.g., analysts) must also make public disclosure of such information. Regulation FD was proposed by the SEC as a result of a concern about selective disclosure of certain information to institutional investors and analysts before such information was disclosed to the general public.

Rules governing disclosures do not, however, fully address the phenomenon of contextual framing that may create a particular impression within which company representations of economic reality may be received and accepted. As a result, although guidelines primarily in the form of SEC rules and regulations such as Regulation FD exist with respect to disclosure in general, companies have flexibility particularly in face-to-face presentations as well as in written documents. Business documents, for example, are not all identical and different companies clearly have different styles of presentation.

The styles of presentation for a particular company may change over time as a reflection of changing business strategy, changing external conditions or other factors. It is not at all uncommon, for example, for a new CEO coming to a company to make changes in business strategy from prior management. The recent selection of a new CEO at Delta underscores how this process may occur. The new CEO of Delta has presented himself as a change in direction from prior management, despite the fact that he served as a member of the Delta board of directors for 17 years. Such strategic changes are often underscored by how new management chooses to present the company and its business strategy in face-to-face and other contexts of performance. This presentation process essentially entails framing the company within the broader business context.

201 Regulation FD Release, supra note 200, at ___.
202 Id. at ___.
203 See infra notes 230 to 235 and accompanying text for a discussion of changing business strategy at IBM.
204 See Evan Perez, With Delta Reeling, Chief Plans Unusual Bet on Premium Routes, WALL ST. J. (Aug. 16, 2004), at A1, A6 (noting that new Delta CEO “in talks with the rank and file . . . has criticized prior management’s mistakes and presented himself as a sharp departure, despite having been a Delta director for the past 17 years,” and commenting that “[p]erhaps Mr. Grinstein’s most remarkable achievement has been to convince many employees that he represents a clear departure from prior management – no small feat given his many years as a powerful board member.”).
The shift to the intangibles paradigm reveals at times sharp delineation in the content of company self-presentations as companies seek to characterize economic reality and their business strategies as incorporating intangibles and existing within what might be termed intangibles paradigm discourse. The primary audience for such presentations is financial markets and market participants such as investment managers, investment bankers, analysts and others. The Internet bubble in the stock market in the late 1990s also resulted in a great deal of media attention being directed toward companies, both technology start-up and other companies.205

The proliferation of media coverage and advertising concerning the economy, stock market, business and specific companies indicates a broadening of the potential audiences to which businesses might direct their presentations.206 Expanding stock ownership has also increased the size of the potential audience for such presentations.207 This expansion in both financial media coverage and the audience receiving such news was particularly evident during the Internet bubble when technology analysts such as Mary Meeker and Henry Blodgett received extensive media attention.208 Significant media attention was also directed toward companies themselves, including startups, many of which had no track record and limited operations. In the film Startup.com, for example, the

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CEO of the company made multiple media appearances, which presented additional opportunities for framing the company.209

As a result of the proliferation of business and financial media coverage through traditional old media sources and new avenues such as the Internet, the audience that businesses might reach through such presentations is increasingly expanding to include a broader segment of the general public.210 This broadening media attention provides additional opportunities for framing and further reinforces the multicontextual aspects of business presentations and framing that reproduce certain aspects of business worldview and practice that have emerged or intensified under the intangibles paradigm.

D. A New Business Paradigm: Business Worldview and Practice under the Intangibles Paradigm

1. The Intangibles Paradigm Shift

a. Paradigm Shifts from a Kuhnian Perspective

The intangibles paradigm shift is a profoundly important reorientation reflective of the post-industrial context within which businesses operate.211 This fundamental paradigm shift involves business practice and worldview.212 Thomas

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209 See Startup.com, supra note 197.


211 See Paul A. David, The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox, 80 AM. ECON. REV. 355, 356 (1990) (commenting on emergence of a new “techno-economic regime based on computer and communications innovation” that is “supplanting the mature, ossified Fordist regime of mass production.”).

Kuhn’s model of normal science and the scientific revolutions associated with paradigm shifts in the sciences can be used to illuminate the processes that have characterized the shift to an intangibles paradigm in business.\textsuperscript{213} From Kuhn’s perspective, the history of science can be described as a process of destructive-constructive paradigm changes involving periods of normal science characterized by widespread acceptance of a certain paradigm or accepted model or pattern.\textsuperscript{214} Such paradigms, however, typically do not account for all aspects of the observable phenomena that they seek to explain, giving rise to what Kuhn calls “anomalies.”\textsuperscript{215} In such anomalies are the seeds of the crises leading to scientific revolutions that Kuhn sees as typifying the shift to new paradigms. Kuhn theorizes that certain scientists, typically those who are either younger or new to a given field and thus less permeated with ideas linked with current paradigms,\textsuperscript{216} are associated with initiating paradigm shifts through their examination of and attempts to explain anomalies in existing paradigms. Because existing paradigms do not explain such anomalous characteristics, new paradigms develop to explicate what could not be explained under the old paradigm.\textsuperscript{217} Such new paradigms also contain within them the anomalous characteristics that may be the basis for future paradigm shifts.

\begin{itemize}
\item \textbf{b. The Metaphysical and Sociological Aspects of the Intangibles Paradigm}
\end{itemize}

In contrast to paradigm shifts in the scientific community, which are precipitated by changing perceptions of external conditions, the shift to an intangibles paradigm in the business context is probably best seen as precipitated by changes in external conditions and underlying economic reality, particularly the

\textsuperscript{213} See Kuhn, \textit{supra} note 17; see also Thomas S. Kuhn, \textit{Reflections on My Critics in CRITICISM AND THE GROWTH OF KNOWLEDGE} 231, 266-277 (Imre Lakatos & Alan Musgrave eds., 1970) (discussing the multiple meanings of paradigm in \textit{The Structure of Scientific Revolutions}).

\textsuperscript{214} Kuhn, \textit{supra} note 17, at 23, 66, 96 (describing normal research as a cumulative process).

\textsuperscript{215} Kuhn notes, for example, that a paradigm is a theory that is better than its competitors, but that not necessarily and “in fact never does, explain all the facts with which it can be confronted.” \textit{Id.} at 17-18. An anomaly “opens a period in which conceptual categories are adjusted until the initially anomalous has become the anticipated.” \textit{Id.} at 64.

\textsuperscript{216} \textit{Id.} at 90. (noting that “[a]lmost always the men who achieve these fundamental inventions of a new paradigm have been either very young or very new to the field whose paradigm they change”).

\textsuperscript{217} \textit{Id.} at 92.
competitive environment in which businesses operate and the changes associated with globalization, deregulation and increased competition.\footnote{Lev, \textit{supra} note 18, at 8-13 (noting that globalization, deregulation and increased competition are factors in the increasing predominance of intangibles).} Although Kuhn uses the term paradigm in many different senses in \textit{The Structure of Scientific Revolutions}, his uses of paradigm as metaphysical and sociological constructions are most relevant to consideration of the intangibles paradigm in business.\footnote{Margaret Masterman and George Ritzer, in particular, have discussed Kuhn’s uses of the term paradigm and classified his uses into broad categories, the most significant of which are the metaphysical and sociological aspects of a paradigm. The terms metaphysical and sociological paradigm come from Margaret Masterman’s comprehensive and thorough discussion of the nature and uses of Thomas Kuhn’s paradigm concept. \textit{See Margaret Masterman, The Nature of a Paradigm in CRITICISM AND THE GROWTH OF KNOWLEDGE} 59, 65 (Imre Lakatos & Alan Musgrave eds., 1970) (distinguishing between metaphysical paradigms, sociological paradigms and construct paradigms); see also \textit{George Ritzer, SOCIOLOGY: A MULTIPLE PARADIGM SCIENCE} 4-6 (rev. ed. 1980) (subsuming three types of paradigm identified by Masterman under rubric of metaphysical paradigm).} The term paradigm as used herein, does not in any way imply an acceptance of the entirety of Kuhn’s model of the development of normal science in a business context. However, at the core of the intangibles paradigm is a fundamental change in the nature of and perceptions of the milieu in which businesses operate in the post-industrial era knowledge economy. These changing perceptions have been closely associated with changing external conditions, and involve both metaphysical aspects relating to worldview and sociological aspects evident in changing business practice. Such changes have been accompanied by transformations in discussions about business organization and practice. One example of this are changes in the actual language companies use to describe their incorporation of intangibles as well as company framing and descriptions of changes in business practices associated with the intangibles paradigm shift.

The metaphysical aspects of the shift to an intangibles paradigm are illustrated by changing worldviews concerning the sources from which businesses derive their primary value.\footnote{The market to book gap, for example, gives evidence of the fundamental changes in sources of value for businesses. \textit{See supra} notes 165 to 188 and accompanying text.} One important reflection of the development of the intangibles paradigm worldview is the proliferating strategic intellectual property business literature that has developed under the intangibles paradigm. This literature includes a myriad of books and articles that discuss the importance of intangibles for business from a strategic and value creation perspective.\footnote{The core works in this body of works were originally published in the 1980s and 1990s. \textit{See, e.g.,} Kevin G. Rivette & David Kline, \textit{Discovering New Value in Intellectual Property}, HARV. BUS. REV. 8 (Jan.-Feb. 2000); JULIE L. DAVIS & SUZANNE S. HARRISON, \textit{EDISON IN THE BOARDROOM} (2001); KEVIN G. RIVETTE & DAVID KLINE, \textit{REMBRANDTS IN THE ATTIC}:}
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reflects the strategic importance of intangible assets to businesses and is likely a factor in and illustrative of the increasing recognition of the significance of intangibles and value attributed to intangibles by markets and firms. This literature thus plays a role comparable to that attributed to textbooks, lectures and laboratory exercises by Kuhn in tending to reveal the nature and contents of underlying paradigms. 222

This increasing recognition about the economic reality of intangibles for businesses reflects the extent to which the shift to an intangibles paradigm represents a change in worldview or “new way of seeing.” 223 This new worldview is partly driven by the fact that intangibles are fundamentally different from tangible assets, particularly in relation to boundaries. In the tangible asset context, boundaries are easier to draw because the tangibility of a product with a physical embodiment makes establishment and reinforcement of boundaries around the product more clear-cut. 224

The sociological and metaphysical aspects of the intangibles paradigm shift are clearly interrelated. It is, however, useful to separate them conceptually, which can contribute to understanding the dynamic processes by which the shift to an

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222 See Kuhn, supra note 17, at 43.

223 See Arewa, supra note 17, at 117-121 (noting that textbooks, lectures and laboratory exercises reveal the nature and contents of underlying paradigms); see also Masterman, supra note 213, at 76-79; Ritzer, supra note 213, at 4-10.

224 See Arewa, Strategic Behaviors, supra note 29 for a discussion of intangibles and boundaries.
intangibles paradigm has occurred. Particularly relevant here is how worldview changes have translated sociologically into changes in the behavior of individuals and firms. Under the intangibles paradigm, a fundamental change in sociological orientation has also occurred with respect to how many companies operate on a day-to-day basis.\footnote{See e.g., Daum, supra note 65. In Kuhn’s usage, these sociological changes would be analogous to a concrete set of habits or an accepted judicial precedent. Kuhn, supra note 17, at 10, 23 (“...like an accepted judicial decision in the common law, it is an object for further articulation and specification under new or more stringent conditions.”); see also Ritzer, supra note 219, at 4-6.} The organizational practices evident in Cisco’s CCO, CEC and VFO reflect these changes.\footnote{See supra notes 138 to 156 and accompanying text.} On a sociological level, the intangibles paradigm shift is most evident in the changes in organizational structure and practices of businesses associated with the intangibles era.\footnote{See Kuhn, supra note 17, at 18 (recognizing that the emergence of a new paradigm affects organizational structures).} Although the intangibles paradigm is broader and includes changes other than those connected to the ICT economy, many of these sociological changes involve the incorporation of intangibles, including ICTs, into companies and insertion of companies in the context of the ICT economy. Cisco and Wal-Mart are examples of companies who have successfully done this and who are at the forefront of incorporating intangibles and ICTs into their business organization and practices.\footnote{See infra notes 384 to 395 and accompanying text for a discussion of Wal-Mart and supra notes 138 to 155 and accompanying text for a discussion of Cisco.}

c. Business Representations, Corporate Documents and the Intangibles Paradigm

Both metaphysical and sociological components of the intangibles paradigm shift are evident in the framing in corporate documents such as annual reports that position companies and describe corporate strategies and actions taken. A marked shift began at the end of the twentieth century in how companies describe themselves in terms of the conceptualization and utilization of intangible resources and other factors associated with the intangibles paradigm.

Corporate annual reports are useful documents for assessing the impact of the intangibles paradigm on business worldview and practice. They also provide evidence for the penetration of intangibles paradigm discourse in the business context by framing and positioning companies in two ways. Companies position themselves within the intangibles paradigm and discuss the role and integration of intangibles and ICTs within in companies. The proliferation of ecommerce and
Internet terminology in company documents such as annual reports in the late 1990s illustrates this point. My review of company annual reports showed that prior to the collapse of the Internet bubble, a broad range of companies used language in annual reports and other disclosure documents derived from and related to the experience of ICT, ecommerce and Internet companies. Following the collapse of the Internet bubble, Internet-related terminology decreased, although general references to ICTs remained evident. Corporate annual reports and other documents generated by companies are also instructive in that they reflect a company’s presentation of itself to public markets and investors.229

IBM is an example of a company that used changing discourse and framing to highlight and sell a new business strategy to markets that were skeptical about its future. Despite its extensive patent portfolio and status as a leading technology company, in 1993, on the arrival of a new CEO, Louis Gerstner, IBM had declining revenues, earnings and stock price,230 reflecting the fact that it was viewed as being inbred and ingrown.231 IBM was able to reverse course and successfully implement new technology strategies.232 As part of this process, IBM embedded itself within intangibles paradigm discourse. The 1994 IBM Annual Report is particularly notable because it describes 1994 as the year that the new IBM emerged.233 In its 1994 Annual Report, IBM focuses on information technology, noting that information technology would revolutionize society.234 The 1994 IBM Annual Report emphasizes placing IBM within the context of what IBM terms the technology revolution.235 IBM’s use of language in the 1994 Annual Report typifies intangibles paradigm discourse.

Non-ICT intensive companies also evidence an intangibles discourse that emphasizes the importance of intangibles and ICTs in general and the specific applications of such technologies in specific business contexts. Wal-Mart reflects this phenomenon. After virtually no mention of intangibles, ICTs or related terms in Annual Reports since 1970, in the mid-1990s, Wal-Mart began to emphasize the integration of the company under the intangibles paradigm, and the integration

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229 See infra notes 189 to 209 and accompanying text.
232 Id.; Garr, supra note 230.
234 Id. at 4.
235 Id. IBM Annual Reports from 1994 to present are available at http://www.ibm.com/investor/financials/annualreport.phtml.
of intangibles and ICT technologies in the company. The former is reflected in statements such as “Wal-Mart leads industry in technology and not slowing down” and the latter in statements such as “[w]ith this technology, we’re getting better, quicker and more accurate information to manage and control every aspect of our business . . .”

2. Intangibles Paradigm Discourse: Strategic Behavior and the Strategic Intellectual Property Management Literature

a. Intangibles, Strategic Behaviors and Business Transformations

Intangibles paradigm discourse reflects business practices and strategic behaviors with respect to intangibles. Intangibles are a major source of value for companies today in varied business sectors and industries. In addition to discussing how intangibles should be used strategically and often offensively, the strategic intellectual property management literature provides guidance about how companies can assess and measure intangibles and create organizational structures that best enable exploitation of intangibles.

One focus of this discussion is how intangibles can be commoditized or monetized and translated into major sources of corporate value. This literature is more than a hypothetical discussion; as Enron and Cisco demonstrate in quite different ways, the uses of intangibles in actuality and in representations have real consequences for company stockholders, company employees and investors, among others. The actual incorporation of intangibles into business operations and practices is often expensive and may also require significant initial investment. In the case of ICTs, for example, such incorporation requires

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236 WAL-MART 1997 ANNUAL REPORT, at 13. Wal-Mart annual reports from 1970 to present are available at http://www.walmartstores.com/wmstore/wmstores/Mainnews.jsp?pagetype=news&categoryOID=-8775&template=DisplayAllContents.jsp. My review of the company’s annual reports found that such statements became more evident in Wal-Mart Annual Reports after the mid-1990s. For further discussion of Wal-Mart and the intangibles paradigm, see infra notes 384 to 395 and accompanying text.

237 See supra notes 158 to 163 and accompanying text.

238 See Arewa, Strategic Behaviors, supra note 29 (discussing strategic business uses of intangibles).

239 Id.; see also supra notes 119 and 221.

240 See Arewa, Strategic Behaviors, supra note 29. The commoditization and monetization of assets was also a core feature of Enron’s strategy. See infra notes 349 to 383 and accompanying text.

241 See DeLong et al., supra note 20, at 40; Brynjolfsson & Hitt, supra note 180.
significant time for implementation and training of personnel or customers who might use ICT products that are integrated into company processes and standard practices. An actual transition to intangibles paradigm business practices thus involves far more than discourse. Current disclosure requirements, however, because they do not adequately reflect the economic reality of the intangibles paradigm, do not require provision of information that would enable better verification of the actual reality of a company’s transition to intangibles paradigm business practices as opposed to a company’s representations of this reality. The transformations in business practice associated with the intangibles paradigm also have an external dimension. As a result, one aspect of the intangibles paradigm and ICT era has been the development of at times cartel-like formations of industries that have grown in the shadow of intellectual property rules.

Inadequate disclosure standards for intangibles may also influence company behavior and force companies to use signaling to convey the value they derive from intangibles. This is particularly the case since current accounting and disclosure standards do not adequately measure the value of intangibles. Consequently, as a result of differential accounting treatment of intangibles and the inadequacy of current measurement and disclosure standards with respect to intangibles, companies with significant amounts of intangible assets “face the rather formidable task of credibly signaling firm value to investors and shareholders.”

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242 See, e.g., Lev, supra note 2, at 132; van Ark, supra note 26, at 17 (noting that successful ICT implementation is facilitated by investments in organizational capital); Brynjolfsson & Hitt, supra note 180, at 23 (commenting that investment in information technology often complements organizational changes in companies, including changes in business processes and work practices).

243 See Lev, supra note 6 (noting the lack of requirement for meaning disclosure from companies about intangibles).

244 See, e.g., PETER DRAHOS WITH JOHN BRAITHWAITE, INFORMATION FEUDALISM (2002); Goldfinger, supra note 44, at 210-211 (speaking of coopetition, the coexistence of competition and cooperation, that is often characteristic under the intangibles paradigm); BRONWYN H. HALL, BUSINESS METHOD PATENTS, INNOVATION AND POLICY 11 (Inst. Bus. & Econ. Res., Dept. of Econ., U. Cal. Berkeley, Paper No. E03-331, 2003) (noting that the patent system tends to influence industrial organization), at http://repositories.cdlib.org/iber/econ/E03-331.


246 See infra notes 265 to 298 and accompanying text.

behaviors reflected in how companies talk about and use intangibles. Through skillful use of intangibles paradigm discourse, some companies have been able to effectively position themselves under the intangibles paradigm and achieve significant increases in market valuations as a consequence.

b. Intangibles Paradigm Discourse and Practice at Enron

Enron’s accounting for its Blockbuster venture demonstrates its use of intangibles paradigm discourse. In July 2000, Enron Chairman Kenneth Lay announced the formation of a 20-year deal involving a venture with Blockbuster Inc. that would allow consumers to have movies sent via telephone lines to watch on televisions at home. The partnership was announced with great fanfare and described as the “ultimate bricks-clicks-and-flicks strategy.” Without Blockbuster’s knowledge, within months of making the deal with Blockbuster, Enron had set up the Braveheart affiliated partnership and obtained a $115.2 million investment in the Braveheart partnership from CIBC World Markets in exchange for CIBC’s receiving a promise of future earnings from Enron’s share of the Blockbuster partnership for 10 years. Within eight months of this announcement, the partners had split, with Enron blaming Blockbuster for not getting big movie studios to sign licensing deals for the most popular titles.

Even though the Braveheart partnership had no separate staff or operations other than Enron’s stake in the Blockbuster venture, “Enron claimed $110.9 million in profits from Braveheart in the fourth quarter of 2000 and the first quarter of 2001.” Braveheart was never more than a pilot project and never had any significant number of paying customers. When Enron formed Braveheart in December 2000, it “assigned the partnership a value of $124.8 million based on its projections of the revenue and earnings potential of the Blockbuster venture.” Although Enron’s behavior was at best a serious misrepresentation, Enron’s actions do reveal something about the nature and flexibility that

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248 Arewa, Strategic Behaviors, supra note 29.
249 Arewa, Strategic Behaviors, supra note 29.
250 See Rebecca Smith, Show Business: A Blockbuster Deal Shows How Enron Overplayed its Hand, WALL ST. J. (Jan. 17, 2002); see also McLean & Elkind, supra note 98, at 291-295 (describing the Braveheart transaction in detail).
251 See Smith, supra note 250.
252 Id.
253 Id.
254 Id.
255 Id.
256 Id.
companies may have in manipulating even illusory intangibles that is not as readily available to them for tangible assets.

In contrast to a tangible asset business model, which might involve setting up physical retail locations, the proposed Blockbuster venture was an ICT focused business endeavor that included a significant service component. As such, it illustrates the types of business transactions that have become typical under the intangibles paradigm. This combination of an ICT intensive business transaction with a significant service component means, however, that far less about this transaction would be required to be disclosed from an accounting perspective than would typically be the case in a business transaction that involved physical retail locations. This differential treatment makes verification of underlying economic reality often more difficult in the context of intangibles paradigm business practices. The types of unverifiable intangibles evident in the Enron Blockbuster case make financial statements difficult to audit. They also make it much more difficult for investors to rely upon financial statement numbers as true measures of the economic value of an enterprise.

Enron exemplifies how skillful use of a particular discourse combined with complexity in financial structure and presentation magnified the accounting haze and obscured the company’s activities in a way that facilitated fraud. Enron’s misrepresentations occurred in a broader environment in which many who should have examined Enron’s accounting and business practices with greater care, including analysts and financial reporters, were to a large extent captive to the impressions that Enron sought to project. Enron was thus quite effective in representing itself as a new economy company despite the fact that the reality of its business practices did not support this representation.

258 In addition to creating extremely complex financial structures, Enron also used derivates extensively. This combination made deciphering Enron’s financial statements quite challenging for even the most financially sophisticated readers. See infra notes 360 to 369 and accompanying text.
260 Id. at ___ (noting that reporters and analysts “who plunged into Enron’s finances became instantly suspicious about what they found”).
Enron was not alone in its use of aggressive accounting practices, although it was atypical in the scope and dimension of the fraud and misrepresentation involved in its accounting and representations. During the late 1990s, many companies used aggressive accounting practices, which resulted in an unprecedented number of financial restatements. Financial restatements occur when companies acknowledge that prior financial statements were inaccurate and release financial statements reflecting the correct numbers.

The shift to an intangibles paradigm in both its metaphysical or worldview and sociological or operational aspects is a particularly important one from which to consider the operation of systems of rules that regulate business behavior. This fundamental paradigm shift is an important context in which many current ICT era regulatory debates should be placed. Understanding the core aspects of this paradigm shift requires looking at the operation of existing categories and rules under the intangibles paradigm.

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262 See John C. Coffee, Jr., What Caused Enron? A Capsule Social and Economic History of the 1990s, 89 CORNELL L. REV. 282-285 (2004) (noting increase in earnings restatements of more than 250% in the five years ending in 2002); GAO REPORT, supra note 54, at 4; see also infra notes 334 to 345 and accompanying text.

263 GAO REPORT, supra note 54, at 2 (discussing and analyzing financial restatements, which are defined as entailing corrections of accounting irregularities that result in material misstatements of financial results).
III. THE INTANGIBLES “HAZE”: MEASURING AND DESCRIBING INTANGIBLES

The existing reporting model is not well suited to identifying and reporting on key value and risk elements inherent in our twenty-first century knowledge-based economy. . .despite the continuing efforts of the Financial Accounting Standards Board (FASB) and SEC to enhance financial reporting, changes in the business environment—such as the growth in information technology, new types of relationships between companies, and the increasing use of complex business transactions and financial instruments—constantly threaten the relevance of financial statements and pose a formidable challenge for standard setters.264

A. Capital Asset or Current Expense?: Differential Accounting Treatment of Intangibles

The intangibles haze refers to the fact that current accounting treatment of intangibles often results in financial statements that are unclear and not reflective of underlying economic reality. Accounting systems present companies with a set of guidelines or rules that are then used to present and explain the company’s financial status and transactions for both internal and external purposes.265 Depending on the nature of the transaction, a company may have an ability to frame or engage in self-presentation and have potentially varying degrees of flexibility in how it accounts for the transaction.266 In addition, tax accounting for the same transaction might be entirely different.267 The fundamental assumption of the current accounting system is that assets are often valued at historical cost.268

Debates over the accounting treatment of intangibles are certainly not new and date back some 100 years.269 The appropriate accounting treatment for intangibles remains a hotly debated topic in FASB, the academic accounting

264 Id. at 57.
265 See supra notes 124 to 136 and accompanying text.
266 Mundstock, supra note 30, at 839 (noting that flexibility of accounting standards means that accounts need only be acceptable, not correct, which serves the interests of accountants and corporate managers but is contrary to the needs of investors).
267 See, e.g., Luppino, supra note 100, at 35 (discussing synthetic lease transaction in which the corporation is a tenant for financial statement accounting or book purposes, but an owner for tax purposes, which enables companies to avoid putting debt on their balance sheets for financial statement purposes); see also supra notes 100 to 111 and accompanying text.
268 See Mundstock, supra note 30, at 813.
269 Cañibano et al., supra note 41, at 19; Smith & Parr, supra note 40, at 89 (noting that accountants have long grappled with how to treat intangibles in financial statements).
literature and the popular press. The focus of this debate has centered around whether intangibles should be treated as an operating expense reflected on a company’s income statement or a capital expense recorded on a company’s balance sheet.

Current U.S. accounting rules result in a mix of market and book (historical) values. Accounting treatment of company expenses exemplifies this mixture. A company’s expenses may be characterized as operating, financing or capital expenses. Operating expenses are expenses that relate to the current period such as labor costs and are subtracted from revenues during such period to determine a company’s operating earnings. Financing expenses would include expenses associated with nonequity financings such as debt and would include interest expense, for example. Financing expenses are deducted from operating earnings to estimate net income. Capital expenses create assets, characterized as assets because they are expected to generate benefits over multiple periods. Such assets are placed on the balance sheet. The value of such capital assets is then and written off or deducted on a company’s income statement over their estimated useful life through depreciation (physical assets) or amortization (intangibles). The remaining net value of such capital assets remains on a company’s balance sheet as the capital asset is depreciated or amortized. A distinction exists generally between treatment of expenses relating to investments in intangibles as opposed to tangible items, with intangible expenses being largely operating expenses while tangible expenses are to a far greater extent treated as capital expenses. As a result, in the case of intangibles, even expenses that are

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271 Id.
272 See Wallman, supra note 301; Cañibano et al., supra note 41, at 33-35.
273 See Damodaran, supra note 168, at 1.
274 Id. at 1-2.
275 Id.
276 Id. at 2.
277 Hawkins, supra note 12, at 50 (noting that assets represent “probable future, measurable economic benefits which the reporting entity has acquired through a current or past transaction.”); Carney, supra note 12, at 11 (noting that assets are things owned by a business that only include “probable future economic benefits owned or controlled by the business, that are obtained in a “transaction” to which accountants can attach a price.”).
278 Carney, supra note 12, at 10 (noting that a balance sheet “reflects the firm’s ownership of assets, and the claims against them, on a stated date.”).
279 Id. at 1-2, 4.
280 Lev, supra note 18, at 81 (noting that tangible resources are considered assets while the intangibles are typically expensed).
expected to generate benefits over multiple periods are often treated as operating expenses rather than capital expenses.\(^{281}\)

In the realm of accounting treatment of intangibles, however, a further distinction exists between treatment of internally generated intangibles and purchased intangibles.\(^{282}\) Purchased intangibles such as those acquired from a target company in a merger or acquisition, for example, are capitalized and placed on a company’s balance sheet.\(^{283}\) In contrast, most internally generated intangibles are expensed and appear on a company’s income statement as operating expenses.\(^{284}\) Examples of internally generated intangibles would include knowledge generated from a company’s research and development, for example, which for many ICT oriented and biotechnology companies represents the vast majority of the company’s value. Such internally generated intangible expenses are typically expensed, which means that they are essentially treated in the same manner as overhead expenses such as salary, for example, and reported as an expense on the company’s income statement typically during the year in which the expenditure occurs. The company’s net income or profit during the year in which this deduction occurs would then be reduced to reflect this expenditure. Yet other internally generated intangibles are not separately identified in financial statements at all, but are also treated as operating expenses.\(^{285}\) The differential treatment of purchased and internally generated intangibles would mean that the same intangible resource might receive different accounting treatment depending on whether a company purchased it or developed it internally.

U.S. accounting rules do not generally permit companies to capitalize intangibles and place them on the company’s balance sheet unless the intangibles are purchased intangibles.\(^{286}\) As a result, GAAP would require that a company

\(^{281}\) See infra note 286 and accompanying text; Hawkins, supra note 12, at 591 (noting that due conservatism in application of accounting principles, intangible asset costs are typically written off as incurred, or if capitalized, amortized over a relatively short time period).

\(^{282}\) See Kanodia et al., supra note 270, at 90.

\(^{283}\) See FASB, Statement of Accounting Standards No. 141, Business Combinations ¶¶ 47-51 (June 2001) (hereinafter, “FASB 141”) (discussing appropriate accounting treatment for intangible assets in a merger or acquisition context).

\(^{284}\) Kanodia et al., supra note 270, at 90.

\(^{285}\) Id. at ___.

\(^{286}\) For an overview of the rules and principles relevant to the accounting treatment of intangible assets, see FASB, Statement of Financial Accounting Standards No. 142, Goodwill and Other Intangible Assets ¶¶ 9-10 (June 2001) (hereinafter, “FASB 142”) (discussing accounting treatment of goodwill and intangibles generally); FASB 141, supra note 283; FASB, Statement of Financial Accounting Standards No. 2, Accounting for Research and Development Costs ¶12 (Oct. 1974) (requiring expensing of most research and development costs); see also Shyam Vallabhajosyula, Appendix A: Accounting Rules and Regulations for Intangibles, in INTANGIBLES
capitalize purchases of computer hardware and certain types of software developed internally, but would have the company expense the other costs such as computer installation, business process development and investments in associated intangibles.\footnote{Sinkyu Yang & Erik Brynjolfsson, \textit{Intangible Assets and Growth Accounting: Evidence from Computer Investments} 3 (2000), at \url{http://ebusiness.mit.edu/research/papers/136%20erikb,%20Intangible%20assets.pdf}.} Even when GAAP permits capitalization of intangibles,\footnote{Under FASB rules, companies are required to but rarely capitalize certain software development costs. \textit{See} FASB, Statement of Financial Accounting Standards No. 86, \textit{Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed} (Aug. 1985); \textit{see also} Vallabhajosyula, \textit{supra} note 286, at 137-138.} companies do not for the most part capitalize intangibles unless the intangibles are being acquired in a merger or acquisition context.\footnote{In a merger or acquisition context, the difference between the amount the acquiring company pays for the acquired company and the book value of the acquired company’s assets would be recorded on the acquiring company’s balance sheet as goodwill. \textit{See} FASB 141, \textit{supra} note 286.} Since intangibles are in most cases not capitalized, the assets that are capitalized and that end up on a company’s balance sheet are typically primarily the company’s tangible assets, such as the computer hardware in the example discussed above.\footnote{See Lev, \textit{supra} note 169, at 18; \textit{see supra} notes 165 to 188 and accompanying text.}

This differential treatment of tangible assets and intangibles is significant for several reasons. It tends to result in distortions of reported financial statements because such financial statements do not accurately reflect the true economic value of many business enterprises. This is one reason a gap may arise between the market value of a company and the book value of the company’s assets as reported on a company’s balance sheet.\footnote{Such measures of performance would include the return on equity, return on assets and net income. \textit{See} Lev, \textit{supra} note 169, at 18; \textit{see also infra} notes 293 to 295 and accompanying text.} Measures of a company’s performance will then also be distorted\footnote{\textit{See} Mundstock, \textit{supra} note 30, at 830 (“All costs of internal R&D are to be treated as a current expense rather than treated as an investment, like buying an asset. For this reason, as discussed above, a high-tech company shows few assets and can look like it is losing money even if it is doing quite well.”).} which may influence on measures of corporate performance such as earnings per share, return on assets and return on income.\footnote{\textit{See} Mundstock, \textit{supra} note 30, at 830.}
The degree and direction of these inaccuracies will depend on the type of company and nature of the company’s business.294 Current accounting treatment of intangibles results, for example, in the characterization of research and development expenditures as operating expenses, which generally lowers operating income and net income.295 In firms where research and development expenses have increased rapidly over time, treating expenses associated with intangibles in a similar fashion to tangible expenditures would result in reclassification of operating expenses as capital expenses, which would decrease operating expenses, thus increasing operating income and likely causing return on capital to increase.296 In contrast, in mature firms with stable research and development expenses, the return on capital may decrease with the reclassification of research and development expenses.297

The influence of accounting treatment on measures of company performance is often particularly significant for companies in the ICT sector because their relative expenditures on intangibles are often higher. As a result of differential treatment of tangible and intangibles resources, true role of intangibles in for businesses today far too often remains ill-defined and hazy and, even more importantly, not transparent.298

B. Accounting Systems and Information: Disclosure and Decision Making Under the Intangibles Paradigm

A major purpose of financial accounting systems is provision of information that can be used to make decisions.299 These systems, for example, constitute major sources of information for investors,300 as well as for internal decision making purposes. Investors may look at company ratios and performance measures such as return on assets, return on equity or earnings measures, to make a determination as to whether to undertake or maintain an existing investment in a particular company.

294 See Lev, supra note 169, at 18.
295 Damodaran, supra note 168, at 4, 21.
296 Id. at 23.
297 Id. at 23.
298 See Lev, supra note 18, at 37-42, 89-90.
299 Cañibano et al., supra note 41, at 4; see also Johnson & Kaplan, supra note 112, at 175-177 (noting that in contrast to nineteenth and early twentieth century, when accounting innovations were initiated by industrialists and practitioners, writing in management accounting since 1920 has been dominated by academics emphasizing simple decision-making models in highly simplified forms).
300 Cañibano et al., supra note 41, at 4.
The rise of intangibles has highlighted potential deficiencies in existing accounting rules as is evident in the fact that United States GAAP has essentially not fully confronted the reality of this new paradigm. This failure to come to terms has been a factor in recent prominent corporate scandals. A common backdrop to these scandals was a business environment where companies were able to commit fraud by taking advantage of the fact that existing accounting and disclosure rules do not adequately reflect the reality of business practices today, particularly with regard to the roles now played by intangibles in such practices. The ability of such companies to promote inaccurate representations of economic reality and inflate financial results is in no small part due to gaps in current accounting treatment of and disclosure requirements with respect to intangibles.

The systematic distortions in accounting measures and disclosure that are characteristic under the intangibles paradigm can influence investment and managerial decisions. For example, the fact that accounting systems do not adequately measure the economic reality and the role played by intangibles is a critical factor in the market to book gap. In the absence of other adequate explanations, market participants may tend to perceive this gap as reflective of the value of intangibles, which may or may not be an accurate assessment of underlying economic reality. Distorted accounting combined with accounting fixation mean that persons looking at and making decisions on the basis of distorted financial statements, even those with an understanding of accounting, may not see through the skewed numbers to the underlying economic reality. This is problematic because it leaves more room for companies themselves to use framing and presentation to present alternate representations of reality that are not contradicted by measures that can be made using existing reporting and disclosure requirements. This gives companies far more leeway that might exist with respect to tangibles paradigm business practices to fill this gap and influence how this gap

301 See Wallman, supra note 63.
303 See infra notes 349 to 383 for a discussion of Enron.
might be perceived.\textsuperscript{306} Financial statements actually rooted in and more accurately representative of the underlying economic reality of the company are critical to the operation of regulatory structures that govern company behavior under the intangibles paradigm.

The inherent distortions in current accounting measures of intangibles are magnified by generally inadequate disclosure by businesses about intangibles.\textsuperscript{307} Companies may disclose little publicly or specifically, for example, about research and development or other innovative activities or the revenues or expenses generated by such activities.\textsuperscript{308} Moreover, when more detailed information is revealed, it often occurs in contexts such as business magazines, in which companies have significant ability to determine the positioning and nature of disclosures made.\textsuperscript{309} The lack of detailed disclosure with respect to intangibles means that it can be difficult to know how intangibles are actually implemented in a particular business organization, which might be one window from which to view and verify the specific operational and true economic contribution of intangibles.\textsuperscript{310} The resulting accounting haze thus gives companies a significant amount of latitude to choose how to frame and situate themselves within the intangibles paradigm from the perspective of financial statements and other disclosure documents.

Much like the FASB requirements with respect to treatment of and disclosure about intangibles in company financial statements, SEC regulations governing company preparation of financial statements require very limited disclosure about intangibles.\textsuperscript{311} Although discussion of intangibles may be required by general guidelines concerning preparation of financial statements, the most substantial explicit reference to intangible assets appears in the balance sheet preparation

\begin{footnotesize}
\begin{itemize}
\item[306] See Lev, supra note 18, at 101 (noting that a temptation exists for companies to change the level of intangibles investment to manage reported earnings to meet and exceed the expectations of analysts).
\item[307] See Lev, supra note 6, at 112.
\item[308] Id. (noting that no information is disclosed about investments in intangibles or revenue generated by such investments, such as patent-licensing fees or shares of revenue coming from new products).
\item[310] Id. (noting that lack of disclosure leaves investors in the dark about how companies allocate resources with respect to research and development budgets, product development, amounts involved in other intangibles, including software development and acquisition, brand enhancement and employee training).
\item[311] See Shorter, supra note 46, at 4 (noting that Regulation S-X outlines the standards that registered public companies and their accountants must follow in generating financial statements).
\end{itemize}
\end{footnotesize}
requirements in SEC Regulation S-X, which requires the following disclosure with respect to intangibles:

15. Intangible assets. State separately each class of such assets which is in excess of five percent of the total assets, along with the basis of determining the respective amounts. Any significant addition or deletion shall be explained in a note.312

Sarbanes-Oxley, adopted on July 30, 2002, significantly modified the corporate governance, accounting and disclosure requirements for companies with publicly traded securities.313 Although adopted largely in response to several corporate scandals in which intangibles were a factor in corporate deception or fraud, Sarbanes-Oxley and the SEC rules promulgated under Sarbanes-Oxley do not contain specific requirements with respect to intangibles or accounting more generally.314 Sarbanes-Oxley may, however, have an impact on the quality of corporate-level disclosure about intangibles as a consequence of the requirements for criminal and civil certifications of financial statements and company disclosures by Chief Executive Officers and Chief Financial Officers and civil and criminal penalties if such certifications prove false.315 At the same time, however, disclosure with respect to intangibles is further complicated by the uncertainty often inherent in intangibles, which may potentially expose companies to securities law liability in the event that predictions about intangibles should prove incorrect.316

312 See 17 C.F.R. § 210.5-02. Other references to intangibles or intangible assets in Regulation S-X are quite specialized, including references in relation to accumulated depreciation, excess cost over intangible assets required and other assets that constitute greater than 30 percent of stockholders’ equity, intangible drilling and development costs and intangible utility plants of public utilities. Regulation S-K disclosure requirements with respect to narrative descriptions of a business require the registered company to disclose “[t]he importance to the segment and the duration and effect of all patents, trademarks, licenses, franchises and concessions held,” 17 C.F.R. § 229.101(1)(iv), as well as requirements with respect to required exhibits relating to material contracts involving patents and other intangibles.


314 See supra note 33 and accompanying text.


316 Blair & Wallman, supra note 158.
C. Verifiability and Transparency under the Intangibles Paradigm: The Usefulness of Financial Statements

Differential accounting treatment and current disclosure requirements have a significant effect on the transparency and verifiability of the economic reality of intangible resources. Lack of information about and coherent standards with respect to intangibles makes it more difficult to measure, independently evaluate and verify the true role that intangibles play in a particular business organization. From an information perspective, then, the actual basis underlying any company-specific market to book gap may not be truly ascertainable nor is it certain that accounting rules will adequately capture the true sources of value for businesses operating under an intangibles paradigm. As a result, companies may have greater ability to characterize and frame themselves in such a way as to emphasize the importance of intangibles and manage earnings accordingly, with the knowledge that the nature of the accounting system makes such characterizations less transparent and more difficult to verify. Such characterizations may be given more credence than they might otherwise have, thus making intangibles more susceptible to manipulation than is the case with tangible assets.

By emphasizing the importance of intangibles from a business and operational perspective, a firm can also attempt to maximize the influence of such assets on overall firm market value, regardless of whether this emphasis reflects economic reality. One study of firms with high advertising and research and development expenditures found that because such firms are more likely to view mandatory GAAP disclosures as inadequate, they are more likely to focus on alternative GAAP disclosures as inadequate, they are more likely to focus on alternative

\[317 \text{ Van Ark, supra note 26, at 13 ("Despite its recognized importance, the problems concerning the conceptualization of intangible capital, its measurement and integration into a production function or growth accounting framework are still huge and largely unresolved.")}. \text{ The market appears to be able to value research and development investments and market valuations of research and development positively related to estimates of firm value. See Baruch Lev & Paul Zarowin, The Market Valuation of R&D Expenditures 29, (Dec. 1998), at www.stern.nyu.edu/~blev/research.html.}

\[318 \text{ Bratton, supra note 33, at 1052 ("Financial statements and footnotes are very summary documents. Decision making about treatments goes on in a black box, evolving as a matter of practice amongst insiders. There is no comparable moment of transparency respecting the law-to-fact application. This diminishes the chance for outside evaluation") (citations omitted).}

\[319 \text{ Id. at 1039 ("Readers of financial reports are not on notice to bring skepticism to bear, at least until very recently. Even if they proceed cautiously, they get only indirect means, within the reports’ four corners, with which to sort number influenced by advocacy from harder numbers uninfluenced by management’s agenda.").} \]
disclosures to signal company value, including financial signals such as share repurchases and dividends.320

Signaling behaviors with respect to intangibles and intellectual property are another way in which companies signal markets concerning an aggressive value maximizing approach to development and enforcement of rights with respect to intangibles, including intellectual property rights.321 Such behaviors have been used by The SCO Group, for example, in its assertions of rights emanating from copyright claims with respect to Linux code.322 Such assertions of legal rights in this context were initially associated with an increase in stock price of more than 700 percent.323

One significant consequence of the intangibles haze has been the decline in the usefulness of financial statements for investors, on account of their failure to accurately reflect economic value and underlying economic reality.324 This has implications for regulatory regimes governing business and consequently may undercut such financial regulatory measures. One aspect of the greater risk and uncertainty of intangibles from an accounting perspective relates to the fact that companies often lack full control over intangibles.325 Intangibles are also often

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320 See Gelb & Siegel, supra note, 247, at 309-310.
321 See Arewa, Strategic Behaviors, supra note 29 (discussing series of five lawsuits involving IBM, Novell, RedHat, Daimler-Chrysler and Autozone, connected to SCO’s assertions of rights).
322 Id. (noting that SCO does not in fact own Unix copyrights)
323 Id.
324 Cañibano et al., supra note 41, at 30 (“Failure to correctly reflect the impact of intangibles on the current and future performance of the business implies that accounting statements fail to present an unbiased (true and fair) view of the firm’s financial position. Therefore, investors are provided with non-relevant and non-comparable financial statements and will most likely not be able to assess the value of companies to make efficient resource allocation decisions.”); Amir & Lev, supra note 163 (suggesting that financial information alone is irrelevant for valuation of cellular companies because of accounting measurement and reporting system cannot provide value-relevant information because of high level of intangibles in wireless industry, although financial information combined with nonfinancial information does help explain market prices); Francis & Schipper, supra note 163 (noting that the explanatory power of earnings levels has significantly declined over time); Johnson & Kaplan, supra note 112 (giving overview of why accounting measures no longer provide relevant or appropriate measures of business operations); Lev & Zarowin, supra note 121, at 2 (noting that usefulness of financial information has declined over the last 20 years); but c.f. Brett Trueman, M.H. Franco Wong & Xiao Jun Zhao, The Eyeballs Have It: Searching for the Value in Internet Stocks, 38 J. ACCOUNTING RES. 137 (2000) (noting that although Internet company stock values are not associated with net income, but rather a relationship between exists between gross profit and stock market prices, suggesting that investors may just value such companies differently).
325 Lev, supra note 18, at 83.
difficult to measure, quantify and value. For this reason, the verifiability of intangible assets is an important question, and verifiability problems exist with respect to intangibles as compared to tangible resources. Verifiability thus provides an important behavioral check in the world of tangible assets that is far too often not available to the same extent for intangibles. GAAP has been characterized as a blend of uninformative and largely verifiable descriptions of past transactions and informative and largely unverifiable projections of future income. Intangibles typically fall into the latter category.

The ways in which accounting rules have been applied in the intangibles paradigm context has tended to create a haze of uncertainty, with few standards for reliable disclosure concerning intangibles. This vacuum has been filled at least to some extent by business framing and discourse controlled by companies that seek to position themselves within the intangibles paradigm in an attempt to maximize firm market value. This background is instructive in considering examples involving the use of intangibles in specific business contexts under the intangibles paradigm.

IV. INTANGIBLES IN BUSINESS DISCOURSE AND PRACTICE: SOME CONSEQUENCES OF THE INTANGIBLES HAZE

The internal generation of many intangibles may pose concerns for transparency and verifiability. Even if the expenditures for an intangible can be accurately measured, questions may continue to exist concerning the verifiability of the asset or resource. One reason historically that accounting systems did not capitalize intangibles was as a result of fear of uncertainty. In addition, accountants do

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326 Gelb & Siegel, supra note, 247.
327 This lesser degree of verifiability is rooted in the risks, uncertainty and lack of transparency that is typical of intangibles today. See Lev, supra note 18, at 37-42, 89-90 (noting risks, uncertainty and lack of transparency that is typical of intangibles).
328 See Rosen, supra note 257, at 84.
329 See Lev, supra note 18, at 81 (“practically every material item on the balance sheet and income statement, with the exception of cash, is based on subjective estimates about future events”).
331 See infra notes 349 to 383 and accompanying text for discussion regarding Enron.
332 See Damodaran, supra note 168, at 3 (noting that the rationale for expensing R&D is the belief that benefits are uncertain and may occur only when research leads to a commercial product).
not always have the expertise that might be needed to appropriately address the role of intangibles in business organizations. As a result, a broad range of potential issues that arise under the intangibles paradigm.

A. The Intangibles Paradigm and Management of Earnings

1. The Intangibles Paradigm and Aggressive Accounting Practices

Because existing regulatory frameworks do not fully take account of the intangibles paradigm, the advent of this paradigm has enabled certain companies to obfuscate their financial reporting and increased their capacity to engage in fraud. This was particularly evident in the late 1990s during the height of the market bubble when a significant number of companies engaged in “creative” accounting practices. Such creative accounting practices and the manifest fraud at companies such as Enron, were facilitated by the application or misapplication of existing financial reporting and securities disclosure requirements. These practices thus reflect how current rules and regulatory structures can be manipulated in the context of intangibles paradigm business practices. This ability to manipulate such structures is in large part due to the fact that such structures do not adequately contemplate the intangibles paradigm:

\[\text{\(333\) See Mundstock, supra note 30, at 831 (noting that one reason SFAS 2 requires that all intangibles be expensed is that accountants lack the expertise to evaluate key intangible assets and want to protect their turf).}
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\[\text{\(334\) In this respect, the intangibles paradigm presents opportunities for financial engineering that may be distinguishable from accounting manipulation. See Dharan, supra note 91, at 111 (noting that lack of disclosure transparency is one consequence of financial engineering, which may be distinguished from accounting manipulation).}
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\[\text{\(336\) See Bratton, supra note 32, at 1055 (“GAAP’s present rules, applied in good faith, were more than adequate to pick up the material misstatements in Enron’s financials.”).}
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Another fundamental problem underlying the recent spate of accounting shockers is the fact that GAAP is increasingly out of sync with today’s business realities. The accounting rules were developed in an industrial economy, but this is the information age. How do you precisely measure the value of R&D, customer lists, brand names, patents and other intellectual property? Of course, this situation creates opportunities for creativity, like the ballooning practice of in-process R&D writeoffs. Former SEC Commissioner Steve Wallman says “GAAP is not broke but is getting increasingly rusty.” Others are less charitable. Superlawyer Bill Lerach, the king of securities class action suits, suggests renaming GAAP “Cleverly Rigged Accounting Ploys,” or CRAP.337

The intangibles paradigm has unfolded in a corporate context in which earnings management is a widespread practice.338 Once abusive earnings management practices begin, managers will typically spend time devising methods to ensure that such practices continue.339 Abusive earnings management practices and manipulation of GAAP can also be difficult for outsiders to detect.340 Because intangibles paradigm financial statements often do not accurately represent economic reality, may lack transparency and are often far more difficult to verify, the intangibles paradigm represents an additional opportunity for companies to manage earnings, manipulate GAAP and in some cases commit fraud.341 This is likely one factor in the marked increase in earnings restatements in the five years ending in 2002.342

337 Dowd, supra note 10, at 4.
339 Magrath & Weld, supra note 335.
340 Id.
341 Bratton, supra note 33, at 1023 (“The stock market awakened in 2002 to discover that it no longer had numbers it could trust. Securities issuers, oriented toward shareholder value enhancement by the corporate culture of the 1990s, had been adopting aggressive, even fraudulent treatments to enhance reported earnings, and their auditors had been doing nothing to stop them. So long as the money kept falling out of the sky during the bull market, nobody worried about the diminishing independence of auditors. But what was ignored before 2001 triggered a crisis in 2002 in markets already reeling on economic fundamentals. As the audit failures piled up on one another, investors lost confidence in managers, market intermediaries and auditors alike.”) (citations omitted).
342 Coffee, supra note 262, at 282-285 (noting increase in earnings restatements of more than 250% in the five years ending in 2002).
One underlying reason for such restatements was aggressive accounting practices, particularly in the technology sector.\(^{343}\) Although such aggressive and creative accounting practices were by no means new, the intangibles paradigm has made it easier for companies to obscure economic reality through varied methods of representation, including through use of financial statements, required disclosure and intangibles paradigm discourse.\(^{344}\) Consequently, the intersection of aggressive accounting practices and the intangibles paradigm provided companies with new ways through which financial statements might be creatively adjusted and manipulated to both manage earnings and commit fraud.

In addition to presenting new opportunities for doing business, the intangibles paradigm thus presents new opportunities for committing fraud. A recent study by the Financial Executives Research Foundation Inc. (FEI) suggests that intangibles intensive companies were consistently found among the top ten in terms of market losses resulting from financial restatements in 1998 to 2000.\(^{345}\) In 2000, five of the top 10 financial restatements involved either technology companies or accounting issues relating to intangibles (Microstrategy, Lucent Legato, Alphapharma and Avon Products).\(^{346}\) The same was true in 1999 (Yahoo, Texas Instruments, BMC Software, Lycos and Xilinx); in 1998, four of the top 10 financial restatements involved either technology companies or accounting issues relating to intangibles (Boston Scientific, Envoy Corp. SmarTalk and Telxon).\(^{347}\) A number of the restatements described in the FEI study, including Yahoo, BMC

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\(^{343}\) See Edward Iwata, *More Firms Falsify Revenue To Boost Stocks*, USA TODAY (Mar. 29, 2000) (noting widespread “revenue recognition problem” involving falsifying revenue and using aggressive accounting practices that was most widespread in the technology sector); Matt Krantz, *CDNow Gains in Question*, USA TODAY (Dec. 6, 1999) (discussing 200% increase in sales for ecommerce company CDNow that violated accounting norms by adding value of coupons redeemed by customers to revenue); Susan Hwang & Judith Burns, *Amazon Says SEC Ends Inquiry on Stock Payments by Web Firms*, WALL ST. J. (June 11, 2002) (discussing end of SEC inquiry into Amazon’s accounting treatment of stock payments to the company by Internet companies, which Amazon booked as revenue, with no enforcement proceeding recommended); Dowd, *supra* note 80 (noting pernicious and pervasive, but mostly legal, manipulation of corporate financial statements to meet or beat analysts’ earning expectations).

\(^{344}\) See Matt Krantz & Greg Farrell, *Fuzzy Accounting Raises Flags*, USA TODAY (June 22, 2001) (noting pressure for financial performance as important factor in manipulation of financial numbers); David Wessel, *Why Boardroom Bad Guys Have Now Emerged en Masse*, WALL ST. J. (June 20, 2002) (noting that the scope and scale of corporate fraud in the late 1990s was surpassed only by the years preceding the Great Depression).


\(^{346}\) *Id.*

\(^{347}\) *Id.*
Software and Lycos, related to accounting treatment of in-process research and development expenses. Although far from conclusive, the FEI results suggest that further exploration of the intersection between aggressive accounting practices and the intangibles paradigm might be fruitful.

Enron represents one aspect of use of the intangibles paradigm that reflects a difference in both degree and kind. Enron exemplifies the use of corporate representations of economic reality that actually serve to obscure such reality. Enron also demonstrates how intangibles paradigm discourse can be used in the course of such representations to commit fraud and illustrates the dangers of regulatory frameworks that have yet to adjust to the economic reality of new business practices.

2. The Intangibles Paradigm and Fraud at Enron

Enron was once one of the largest companies in the world. For six consecutive years from 1996 to 2001, Enron was named by Fortune Magazine as the nation’s most innovative company. Fortune also ranked Enron in 2001 as one of its “10 Stocks to Last the Decade.” In August 2000, Enron’s stock reached an all time high of $90.56 per share (a multiple of 70 times its then reported earnings). In the one year period from January 2001 to January 2002, the market capitalization of Enron decreased by $63 billion. In addition, its CEO Jeffrey Skilling resigned, and Enron filed for bankruptcy on December 2, 2001. By the time of

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348 Id.; see also Huron Consulting Group, supra note 62, at 12 (noting that in-process research and development expenses financial statements relate to instances where companies value acquired in-process research and development using methods inconsistent with those preferred by the SEC).

349 See Deborah L. Rhode & Paul D. Patton, Lawyers, Ethics and Enron, 8 STAN. J.L. BUS. & FIN. 9, 9 (2002) (noting that Enron was once the seventh largest corporation in America with revenues over $100 billion).


351 See Van Niel, supra note 350, at 11.


its bankruptcy filing, Enron’s stock price had fallen to $0.29 per share.\textsuperscript{355} The Enron case, although unusual in its magnitude, to some extent reflect aspects of business and accounting practices of the time. One casualty of such practices was ultimately Enron’s accounting firm, Arthur Andersen, for whom Enron was the last of several accounting mishaps.\textsuperscript{356} The dramatic fall of Enron occurred during a time period in a climate of aggressive accounting practices reflected in, among other practices, intangibles paradigm framing and discourse by companies.\textsuperscript{357}

A number of internal and external factors may have contributed to Enron’s financial collapse and bankruptcy filing, including inadequate deterrence by gatekeepers such as analysts, auditors, rating agencies and lawyers, changes in compensation structure of businesses generally resulting in more emphasis on equity compensation, a market bubble that muted investor responses to overvalued companies, changes in corporate governance practices generally, aggressive earnings management by Enron managers and Enron corporate culture.\textsuperscript{358}

\begin{footnotes}
\item[355] Tonge et al., supra note 352, at 21.
\item[357] See supra notes 338 to 345 and accompanying text.
\item[358] Id. at 308 (giving general evaluation of primary explanations for Enron and other financial scandals of late 1990s); Macey, supra note 353 (discussing disclosure and efficient capital markets considerations with respect to Enron collapse); Yaniv Grinstein, Complementary Perspectives on “Efficient Capital Markets, Corporate Disclosure and Enron,” 89 CORNELL L. REV. 503 (2004) (discussing Macey efficient markets and disclosure discussion); William S. Lerach, Plundering America: How American Investors Got Taken for Trillions by Corporate Insiders—The Rise of the New Corporate Kleptocracy, 8 STAN. J.L. BUS. & FIN. 69, 104-125 (2002) (discussing lessons learned from Enron and WorldCom); Rhode & Patton, supra note 349 (discussing the role of lawyers in Enron collapse); McLean & Elkind, supra note 98 (giving overview of the rise and fall of Enron); Bethany McLean, Why Enron Went Bust, FORTUNE (Dec. 24, 2001) (discussing the principal factors behind Enron’s fall); Ronald R. Simms, & Johannes Brinkmann, Enron Ethics (Or: Culture Matters More Than Codes), 45 J. BUS. ETHICS 243 (2003) (discussing the role of Enron corporate culture); Mark Jickling, The Enron Collapse: An Overview of Financial Issues (Mar. 28, 2003), CRS Report for Congress RS21135 (giving overview of the accounting and other factors underlying fall of Enron); Claire A. Hill, Rating Agencies Behaving Badly: The Case of
\end{footnotes}
Although Enron’s collapse was caused by a number of factors, perceptions of Enron as evident in its market valuation and *Fortune* accolades were likely tied to Enron’s sophisticated representations of economic reality through framing. This framing served to establish the particular framework within which Enron communicated information about the company to various audiences. Such framing also made liberal use of intangibles paradigm discourse combined with impenetrable financial statement presentations and extensive financial manipulation and fraud. Enron’s operation within the intangibles paradigm at the level of discourse, at least, was a key factor in its ability to transform its image from that of a pipeline company into a new economy exemplary.

In the 10 years following its formation in 1985, Enron transformed itself from an owner of natural gas pipelines into a highly leveraged trading operation. A key element of Enron’s ability to conduct its business during this time period was connected to its receiving permission from the SEC to adopt mark-to-market accounting methods for its energy contracts. Mark-to-market accounting enabled Enron to become a trading and financial deal-making company. Enron used mark-to-market accounting aggressively to recognize revenue for future claims under contracts and other types of transactions. Valuation of such claims, contracts and transactions was based on assumed fair values. These fair values were often made based on quite questionable criteria and were also subject to manipulation. Enron also typically only made positive adjustments and

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359 See infra notes 360 to 368.


362 Dharan & Bufkins, supra note 361, at 104 (noting that mark-to-market accounting was the genesis of Enron’s transformation into a trading and financial deal-making firm); Partnoy, supra note 360, at 169; Thomas, supra note 361 (noting unprecedented scale of Enron’s use of mark-to-market accounting).


364 Benston, supra note 52, at 1348 (noting that fair values are readily manipulated).
frequently neglected to make even clearly necessary write-downs of assets.\footnote{See McLean & Elkind, \textit{supra} note 98, at 128 (noting that Enron delayed recording losses by refusing to write off dead deals).} Enron also established SPEs intentionally structured to remove debt from Enron’s balance sheet,\footnote{Steven L. Schwarcz, \textit{Enron and the Use and Abuse of Special Purpose Entities in Corporate Structures}, 70 U. CIN. L. REV. 1309 (2002).} thus removing two-thirds of Enron’s debt from its balance sheet.\footnote{Macey, \textit{supra} note 353, at 419.} Enron in fact used derivatives and SPEs to manipulate its financial statements in three ways, all of which entailed using mark-to-market accounting to inflate Enron’s financial statements.\footnote{Enron hid losses on technology stocks, concealed huge debts incurred to finance unprofitable new businesses and inflated the value of other troubled assets. \textit{See} Portnoy, \textit{supra} note 362, at 171; \textit{see also} THE POWERS REPORT, \textit{supra} note 98.\footnote{See Portnoy, \textit{supra} note 360, at 183.} See McLean & Elkind, \textit{supra} note 98, at 126 (noting that companies with primarily trading businesses trade at low stock valuations); Enron at its peak traded at 70 times earnings, which is significantly higher than the 20 times earnings that an established and well regarded investment banking and trading firm, such as Goldman Sachs, trades. Tonge et al., \textit{supra} note 352, at 5.\footnote{Although he is described as a Luddite, “Skilling touted broadband as the Next Big Thing for Enron . . . If Skilling was going to get Enron an Internet-style valuation—and there was nothing he wanted more—he’d have to convince Wall Street that Enron was becoming, at least in part, an Internet company. He may not have known how to surf the Web, but the relationship between the Internet and the stock market was something he understood all too well.” McLean & Elkind, \textit{supra} note 98, at 184-185.} Instead, Enron took advantage of the increasingly prevalent intangibles paradigm discourse of the mid- and late 1990s in an attempt to position itself as a new economy company and thus receive a new economy company valuation.\footnote{See McLean & Elkind, \textit{supra} note 98, at 184-185.} It also launched business operations and practices such as Enron Online and Enron Broadband to take advantage of existing market conditions that gave higher valuations to new economy companies. Enron Online, for example, was a trading system that Enron developed for its energy trading business:
The story of the creation of Enron Online became an instant corporate legend and a key part of the Enron myth, testimony to how Enron’s culture fostered an entrepreneurial spirit that was at the root of the company’s success . . . It also helped that EOL [Enron Online] was unveiled at the height of the Internet mania, when any business conducted online had to be a good thing, almost by definition.  

Enron also described itself as a culture that “supported innovation” in common with the then high flying dot-coms.  

Enron basically engaged in heavy intangibles paradigm discourse, which was misleading and deceptive, because Enron did not invest in research and development that would reflect or explain the magnitude of the intangibles it claimed to have.  

Evidence that precipitated Enron’s downfall had in fact been disclosed publicly by Enron.  

Potential gatekeepers that might have detected Enron’s fraud appear to have been captivated by the impressions that Enron sought to instill through intangibles paradigm discourse and framing.  

Consequently, gatekeepers and others frequently accepted Enron’s assertions with little critical scrutiny. When Enron unveiled its broadband strategy at its annual analysts meeting on January 19 and 20, 2000, Enron’s performance included a surprise guest, Scott McNealy, President of Sun Microsystems, who announced Enron’s purchase of 18,000 Sun routers for its network. During the second day of the meeting, Enron’s stock price had risen by 26 percent within the course of the day. Time to reflect did not make analysts look more critically at their assessments of Enron and the reactions can only be described as euphoric. Although some analysts did complain about how difficult Enron’s financial statements were to read, it was not until well into 2001 that serious questions

372 Id. at 222.  
373 Id. at 118, 121 (noting that “[m]uch of what Skilling was selling had the effect of positioning Enron as a company that had more in common with the dot-coms than with an old energy giant like Exxon”).  
374 See Lev, supra note 2.  
375 McLean & Elkind, supra note 98, at 407 (noting that “there was more than enough on the public records to raise the hackles of any self-respecting analyst.”).  
376 Id. at 243.  
377 Id. at 244.  
378 Id. (noting that Merrill Lynch’s analyst Donato Easley stated “[a]lthough this is an energy company, in our view, Enron fits the description of a ‘New Economy’ stock . . .’); O’Reilly, supra note 352.  
379 One analyst noted that Enron operated as a “giant hedge fund” without disclosing that risk in SEC filings. Jennings, supra note 363, at 195.
began to be raised about Enron’s financial status and the fact that no one really understood how Enron’s business actually worked.\footnote{Bethany McLean, \textit{Is Enron Overpriced?} \textit{FORTUNE} (Mar. 5, 2001) (characterizing Enron’s business as a black box and noting that for all the lavish attention that Enron received, how Enron actually made money remained impenetrable to outsiders); McLean & Elkind, \textit{supra} note 98, at 318-323 (noting that questions were first asked about Enron in the fall of 2000 in \textit{Texas Journal}, a regional Wall Street Journal supplement, in an article the focused on mark to market accounting and \textit{Fortune} in the winter of 2001, leading short sellers to begin shorting Enron stock); Bethany McLean, \textit{Ken, Lay Your Cards on the Table}, \textit{FORTUNE} (Nov. 12, 2001) (noting that questions continue to exist about the true profitability of Enron’s core energy trading business); see also Brett Farrell & Del Jones, \textit{How Did Enron Come Unplugged}, \textit{USA TODAY} (Jan. 14, 2002); Jonathan D. Glater, \textit{Enron’s Many Strands Accounting}, \textit{N.Y. TIMES} (Jan. 31, 2002).}

In addition to benefiting from the hype associated with the Internet boom, the management of Enron was also good at selling particular representations of Enron that were directed toward an audience that was happy to receive Enron’s representations with an exceedingly noncritical eye. Jeffrey Skilling, the COO for a long period of time and more briefly the CEO, was in particular a “master presenter.”\footnote{McLean & Elkind, \textit{supra} note 98, at 233.}

Enron’s framing, both through presentations and actions, enabled it to maintain a high stock price, at least for a while, which can itself alone serve an important purpose for companies.\footnote{See Daniel C. Langevoort, \textit{The Organizational Psychology of Hyper-Competition: Corporate Irresponsibility and the Lessons of Enron}, 70 GEO. WASH. L. REV. 968, 972 (2002) (“As Enron shows, a high stock price has an independent competitive purpose – it provides an acquisition currency and a source of collateral that can be used to facilitate substantial (often hidden) leveraging . . Also, and perhaps more subtly, stock price is a metric by which to test the success of the control group currently in power in a firm with much hard-to-measure value, and hence goes deeply to their sense of identity.”)} In the end, however, even the best presentations were not enough to sustain a company with chaotic operations sustained for years by fraudulent accounting and reliance on manipulative intangibles paradigm discourse rather than competent business practices.\footnote{See generally McLean & Elkind, \textit{supra} note 98.}

B. \textit{Integrating ICTs: The Wal-Mart Distribution System}

is the biggest company and employer in the United States,\textsuperscript{385} with some 1.3 million employees and fiscal year 2004 revenues of more than $256 billion.\textsuperscript{386} Although it is not in the ICT sector, Wal-Mart has been an early adopter of technology in its business operations. Wal-Mart was one of the first retail companies to introduce a comprehensive logistic system in its stores, spending more than $1 billion on information technology.\textsuperscript{387} This investment permitted Wal-Mart to process orders directly from retail stores to suppliers based on actual sales. This investment thus enabled Wal-Mart to replace inventory with a just in time delivery system based on the information provided through its logistics system.\textsuperscript{388}

Wal-Mart has throughout its history made significant investments in technology to minimize costs and facilitate management.\textsuperscript{389} Wal-Mart began installing a satellite system that enabled stores to communicate with Wal-Mart headquarters and computerized the company’s distribution system in 1976.\textsuperscript{390} By the early 1990s, this communication system had developed into Retail-Link, which provides point of sale data on sales trends and inventories of the suppliers’ products on a store by store basis.\textsuperscript{391} Wal-Mart’s distribution and communications systems are built in-house.\textsuperscript{392} The Retail Link system cost Wal-Mart an estimated $4 billion to develop.\textsuperscript{393}

Companies such as Wal-Mart, Dell and Cisco have used technology to redefine the nature of relationships with their suppliers. Both Dell and Wal-Mart have focused on maintaining low inventories and streamlining distribution processes so as to cut costs that can be passed on to customers.\textsuperscript{394} Wal-Mart’s computer systems track a myriad of information and require that suppliers use the same system. As a result, Wal-Mart has made technology a core competency.\textsuperscript{395}

\begin{footnotesize}
\begin{itemize}
  \item ANNUAL REPORT (2004), at 13 (stating that revenues were more than $256 billion for the fiscal year ended January 31, 2004).
  \item Cora Daniels, Women vs. Wal-Mart, FORTUNE (July 21, 2003)
  \item Cora Daniels, Up Unions vs. Wal-Mart, FORTUNE (May 17, 2004).
  \item Daum, supra note 65, at 14.
  \item Id.
  \item America’s Most Admired Companies, FORTUNE (Mar. 1, 1999).
  \item Arnold & Fernie, supra note 384, at 422.
  \item America’s Most Admired Companies, supra note 390.
  \item Arnold & Fernie, supra note 384, at 422.
  \item America’s Most Admired Companies, supra note 390.
  \item Id.
\end{itemize}
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Despite the greater accuracy of Wal-Mart’s representations of economic reality and fact that technology is a core feature of Wal-Mart’s business, specific disclosure with respect to ICTs and intangibles is minimal in Wal-Mart financial statements. The role of ICTs and intangibles is consequently not transparent and is thus hard to verify. The estimated $4 billion Wal-Mart spent on its technology and communications systems is not recorded on its balance sheet. Wal-Mart income statements, which may contain expenses incurred during the time period covered by the statement, do not break out these expenses separately or indicate the magnitude of such expenses. As a result, public information about Wal-Mart in magazine and academic articles at times provides more information about the company’s principal intangibles than do Wal-Mart’s financial statements and disclosures.

V. POLICY PRESCRIPTIONS: IMPLEMENTING DISCLOSURE STANDARDS FOR THE KNOWLEDGE ECONOMY

The intangibles paradigm raises a host of issues with respect to existing regulatory frameworks, including in relation to securities disclosure, accounting and financial reporting, capital requirements and tax laws. The reforms precipitated by Enron and other corporate scandals did not really touch upon the core of operation of the intangibles paradigm that underlay many of the activities that such reforms were intended to address. In addition, such reforms do not address the distortions in the representation of economic reality evident in financial statement reporting and other company disclosures that have been one characteristic of the intangibles paradigm. Although reform of existing regulatory structures is needed, such reform would also notably play an important role in providing behavioral incentives by setting standards upon which private enforcement of established standards is based. Such private enforcement is quite important since the SEC, for example, is constrained by resources. Much enforcement of GAAP is actually done by corporations and their Boards of Directors.

As then SEC Chairman Arthur Levitt noted in 1998, “[t]he significance of transparent, timely and reliable financial statements and its importance to investor


397 See supra note 396 and accompanying text.
Measuring and Representing the Knowledge Economy

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protection have never been more apparent. Moving existing securities disclosure and accounting frameworks fully into the knowledge economy will help ensure that financial statements and company representations of economic reality and disclosures with respect to intangibles provide information that is transparent, reliable and relevant to company operations.

A. The Intangibles Haze and Corporate Governance

The intangibles paradigm represents a potential challenge to corporate governance structures because of the uncertainty and greater risk of intangibles. This is particularly true for members of the Board of Directors, who may not be well-equipped or given adequate information to understand fully the implications of business practices under the intangibles paradigm. Conducting due diligence with intangibles may also often be different than is required in the case of physical assets.

In addition, since so many intangibles are generated internally within companies, understanding something of the nature of such intangibles requires that the company itself have an accurate assessment of the contribution of such intangibles to company operations. Such notions of value can be difficult to penetrate and evaluate effectively. In addition, both internal and external understandings have the potential to be skewed or distorted as a result of intangibles paradigm practices and discourse. Since our current corporate law system is largely based on self-regulation, the implications for the intangibles haze for corporate governance are potentially quite profound.

The potential negative consequences of intangibles paradigm business practices for members of the Board of Directors has been underscored recently by recent proposed settlements by board members at Enron and WorldCom that entailed payments by such board members out of their personal assets. Not

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398 Levitt, supra note 338.
399 Cf GAO REPORT, supra note 54, at 55-56 (discussing the relationship between corporate governance and accounting oversight).
400 Bratton, supra note 33, at 1024 (“In our self-regulatory system of corporate law, the job of insisting on trustworthy numbers devolves in the first instance on the gatekeepers.”).
401 See Jonathan D. Glater, A Big New Worry for Corporate Directors, N.Y. TIMES, Jan. 6, 2005 (discussing $18 million out of pocket settlement from personal assets by board members of WorldCom to settle a securities class action suit); Kurt Eichenwald, Enron Directors Chip In on Settlement, N.Y. TIMES, Jan. 9, 2005 (noting that a group of 10 former directors of Enron “have agreed to pay $13 million out of their own pockets as part of a $168 million settlement of a lawsuit brought by onetime shareholders who lost billions of dollars in the company's collapse in 2001”); Gretchen Morgenson, If Corporate Directors Snooze, Now They May Lose, N.Y. TIMES, Jan. 9, 2005, at 3 (noting that WorldCom directors agreed to pay one-fifth of their aggregate net worth in
uncoincidentally, both of these companies were closely involved in financial statement misrepresentations and intangibles paradigm business practices or discourse. Despite the fact that board members have agreed to settlements out of pocket, such settlements are in and of themselves unlikely to provide significant behavioral incentives for board members to focus on clearing the intangibles haze. This is because any behavioral incentives provided by such settlements may be more than offset by the fact that board members may also profit from misrepresentations of economic reality in financial statements and disclosures by virtue of their stock ownership in the company making such representations.

B. **Incorporating Intangibles in Financial Statements: Measuring the Financial Impact of Intangibles**

Current accounting practices and procedures as embodied in GAAP do not adequately measure intangibles or sufficiently contemplate the implications of the intangibles paradigm for existing measurements. Financial statements that reflect greater recognition of the intangibles paradigm are a first step in addressing the intangibles haze. The institutional structure of the accounting profession and accounting regulation make changes in GAAP often contested and difficult. This, combined with the fact that auditors and inside management often engage in rent seeking behavior complicates any attempt to regulate financial reporting and GAAP. Despite this fact, additional disclosure about intangibles would improve the accuracy of financial statements’ representations of economic reality and provide additional information that may help minimize opportunities for fraud that currently exist with respect to intangibles paradigm
discourse and company framing. This would in turn help make financial statements more transparent and reliable.

As a first step to address the intangibles haze, companies should be required to make additional financial reporting disclosures about intangibles under GAAP.\textsuperscript{407} Companies should be required to specifically identify and disclose, for example, the principal intangible resources and assets they use, the implications and significance of such intangibles and the potential consequences of loss of value with respect to such intangibles. Disclosure should also be made concerning the magnitude and specific nature of the contribution of intangibles to assets, liabilities, revenues and expenses.

These disclosures should focus on four core aspects of the use of intangibles in business operations: intangibles numbers, balance sheet impact, revenue impact and expense effect. Such statements should demonstrate results over the same time periods as GAAP requires with respect to company financial statements generally.

The first aspect of such statements would be the disclosure of actual numbers relating to intangibles. Companies should be required to give an overall picture of the uses and role of intangibles in company operations. In addition, companies should be required to specifically assess the financial statement impact of the intangibles that they have disclosed. The balance sheet impact portion of the intangibles financial statement would assess the financial reporting impact of differential accounting treatment of intangibles. It would disclose how capitalization as opposed to expensing intangibles would influence financial reporting for the applicable periods. This would thus require sensitivity testing as to the nature and impact of particular accounting choices with respect to intangibles. For example, a company that has certain research and development expenditures, would need to disclose with much more detail the specific nature of such expenditures. Such disclosures would need to be balanced against reasonable needs for companies to not disclose confidential or proprietary information or trade secrets. In addition to disclosing greater information about such expenditures, the company would be need to show the financial statement impact of accounting decisions with respect to such expenditures. In the case of research and development expenditures that were treated as operating expenses, the company would need to show the balance sheet and income statement impact if such expenditures were treated as capital expenses.

\textsuperscript{407} This proposal contemplates a separate intangibles financial statement. However, a separate statement is not absolutely necessary, and the requirements for such a statement could be incorporated into existing requirements for financial statements.
In addition to disclosing more information about the nature of intangible expenditures and the effects of treating such expenditures as capital or operating expenses, companies should also be required to disclose the specific contribution of intangibles to company revenues and expenses. This would mean, for example, with respect to the research and development expenditures noted above, that companies would need to disclose the revenue impact of the expenditures associated with that particular intangibles expenses, regardless of whether an intangible expense is treated as a capital or operating expense. Companies would thus be required, for example, to disclose in far greater detail information about both revenues and expenses in connection with research and development, which is often currently reported as a line item in a company’s expenses on the income statement.

In addition to greater disclosure with respect to intangibles, GAAP accounting rules should be modified such as to minimize the differential treatment of tangible and intangible assets. One proposal for dealing with the differential treatment of tangible and intangible assets is to implement an accounting regime in which all intangible investments with attributable benefits that have met certain feasibility tests are recognized as assets. Selective capitalization of research and development expenses may increase the usefulness of accounting measures both statistically and economically. Studies suggest that a selective approach may work better than any blanket policy with respect to treatment of expenses associated with intangibles. An approach that includes specific measurements and disclosure with regard to intangibles might also address some of the

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408 See, e.g., Lev, supra note 18, at 124-125.
distortions and discrepancies that have become characteristic of financial statements under the intangibles paradigm.

Similar disclosures should be made in the aggregate for all intangibles as well as individually for specifically identified intangibles such as research and development expenses for specific projects or products, and intangibles whose impairment could have an impact on the company’s operations or stock market value. Such financial statement reporting requirements should be combined with additional disclosure requirements for companies from a securities law perspective.

C. Intangibles Securities Disclosure Framework: Securities Regulation in the Knowledge Economy

The intangibles paradigm presents significant challenges to existing securities regulation frameworks that are based on an ethos of disclosure as a core aspect of the operation of securities markets.\(^{411}\) Securities laws have developed under an assumption that a continuous disclosure system helps ensure that securities markets are fair and honest.\(^{412}\) The intangibles paradigm has contributed to financial statement obfuscation and caused existing disclosures to vary at times significantly from underlying economic reality. As a result a key question presented by the intangibles paradigm from the perspective of securities laws is how to incorporate greater and more focused disclosure about intangibles into required company disclosures.\(^{413}\)

An intangibles securities disclosure framework, which is a companion to the intangibles financial statement reporting requirements discussed herein, represents a potentially important step in incorporating greater recognition of intangibles within existing securities frameworks. Current disclosure requirements with respect to real property in Regulation S-K Items 102 are based upon assumptions

\(^{411}\) The legislative debate preceding passage of the Securities Act demonstrates that a primary purpose of the Securities Act was to protect investors by providing them with clear and adequate disclosure concerning securities they purchased. See 77 CONG. REC. 2910-2924 (1933).


\(^{413}\) See Langevoort, supra note 404, at 1154 (noting that clearer and more focused disclosure requirements will in general lessen the opportunity for “violation by rationalization” and may lead to more careful attention by gatekeepers).
such requirements need to be updated to reflect the reality of the intangibles paradigm. Since the SEC has historically been at the forefront of enforcement of emerging accounting issues, specific SEC policies for intangibles would be of enormous value in setting coherent standards for disclosure with respect to intangibles. In addition, the institutional structure of the accounting profession makes regulatory intervention from the SEC perspective all the more important.

The implications of intangibles within existing securities law rules should also be considered. Under existing securities law standards, companies take care in making public disclosures about information contained in securities law filings. This means that a company would be unlikely, for example, to report financial statement numbers in an SEC filing and then issue a press release with numbers that are materially different than those in the SEC filing. Company disclosures about intangibles are at times not currently rooted to the same extent within existing securities law frameworks as are disclosures in other areas with respect to tangible assets. This is clearly reflected in the operation of intangibles paradigm discourse. One core element of intangibles paradigm discourse has been assertions by companies with respect to intangibles about which no specific disclosure may currently be required. This has been true in the case of fraudulent disclosures such as those at Enron as well as informational disclosures by companies such as Cisco with respect to its virtual operation. When intangibles were less important, the current framework was perhaps manageable. With the proliferation of intangibles and the advent of the knowledge economy, more specific structures need to be developed for securities law disclosure requirements about intangibles.

An intangibles securities law disclosure framework should begin with a requirement that the Management Discussion and Analysis of Financial Condition and Results of Operation (“MD&A”) portion of required securities law disclosures includes a clear and detailed discussion of the role of intangibles within a company. The imposition of aggregate disclosures has been one recommendation made with respect to intangibles. Although aggregate disclosures, including disclosures concerning market capitalization and book value, are a step in the right direction, the focus of any intangibles disclosure requirements should encompass the aggregate contribution of intangibles to overall company operations, as well as the importance of individual intangibles that are significant drivers of company value. This would mean more company disclosure and warnings with respect to material future risks that are often at the core of potential issues with intangibles paradigm business operations. Current MD&A disclosure requirements in general and not just with respect to intangibles, “fail to make sufficiently principled distinctions and hence collapses into a muddle.” As a result, MD&A should move away from the current “reasonably likely” standard embedded therein to a framework that will give investors greater warning of both the probability and magnitude of material future risks. Incorporating disclosure standards for intangibles in securities law disclosure requirements is an important aspect of giving investors greater understanding and warning of material future risks with respect to intangibles. Such modifications of disclosure standards will represent the first step in moving securities law frameworks in a direction that reflects operation of the intangibles paradigm.

419 Item 303 of Regulation S-K sets forth the requirements for MD&A disclosure. See 17 C.F.R. § 229.303 (2005).
420 See Brookings SEC Report, supra note 414 (recommending that disclosures concerning intangibles be made on an aggregate rather than individual basis and that disclosures about market capitalization and book value be required).
421 Langevoort, supra note 404, at 1155.
422 Id. at 1155-1156.
CONCLUSION

Breaking through the intangibles haze requires fundamental reassessment of accounting rules and legal regimes in light of actual business practice in the knowledge economy. It also involves recognition of motivations of various actors that might be involved. Such motivations might include maintaining a high stock price, personal gain, fraud or other factors. The fundamental question of how intangibles should be treated in light of changing business practices remains an open one about which many different legitimate approaches may exist under current disclosure standards. Unfortunately, these legitimate differences create a haze that also obscures illegitimate behavior such as Enron’s.

Current debates highlight the fact that accounting and disclosure standards with respect to intangibles are increasingly important given the sources of value for the majority of companies today. The fact that the treatment of intangibles is not addressed and such major sources of value remain subject to differential accounting treatment that makes financial statements less useful and often not reflective of underlying economic reality. This tends to result in distortion of behavioral incentives and financial measures of performance. To the extent that intangibles are not adequately dealt with, a vacuum exists with respect to companies’ use of intangibles that makes company framing and discourse much harder to evaluate. The resulting haze is one that clearly needs to be addressed from the perspective of applicable legal and accounting regimes intended to govern business. Addressing this haze will require more that merely altering particular rules or specific procedures, however. Rather, it necessitates a focus on how to capture adequately contemporary business organization and practice in financial statements and required securities law disclosure such as to reveal information about companies that is relevant, material and representative of underlying economic reality.