

# Accounting Issues in Electronic Commerce: An USA Perspective Regarding Valuations and Implications for Corporate Governance

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## Abstract

*The proliferation of dot-coms in the mid-to-late 1990s and the rapid deployment of e-commerce created both challenges and opportunities for the accounting profession. The failure of the profession to adequately react may have been the precursor to the Sarbanes-Oxley Act, which addressed valuation and corporate governance issues. This paper addresses issues that affected the areas of accounting and reporting, dubious and misleading practices by some firms, and consulting practice in e-commerce and operations. The nature of dot-com firms presents the need for new approaches to valuation, a review of questionable practices, new metrics to provide information, an examination of the subjective aspects of valuation and the integration of valuation with strategy formation.*

## Keywords

**Dotcoms  
 Corporate Governance  
 Valuation**

## Introduction

Just a few short years ago, we saw the collapse of most of the dot.com industry and many accounting abuses by the e-commerce industry in general. More recently, the Sarbanes-Oxley Corporate Fraud and Accountability Act of 2002 pointed out the weaknesses in corporate governance that exists in American businesses, ushered in a new era of corporate governance and changed the regulatory landscape within which companies operate. The Sarbanes-Oxley Act increases the reliability of financial statement information that financial service professionals may use and describes certain conflicts of interest in organizations involved in both investment banking and security research. It also mandates disclosure of conflicts of interest by securities analysts, increases the reliability of analyst recommendations, and mandates studies that could prove fruitful in increasing reliability of financial statements and financial analysis in the future (Hall, 2003).

The major impacts on the accounting profession from the Sarbanes-Oxley Act included more government supervision of the audit process through the establishment of the Public Company Accounting Oversight Board, and new corporate rules such as the requirement that audit committees hire and supervise the independent auditors directly. This paper draws a link between the two key issues: one, the failure of the accounting industry to deal with the permissiveness of radical accounting used by dotcom companies and two, the much more serious transgressions that lead to Sarbanes-Oxley. Did the regulators and the accounting industry miss the earlier signals that all was not right in accounting statements and corporate governance?

The many accounting issues that arose due to the e-commerce revolution can be grouped into three classes for analysis and discussion. The first group includes accounting and reporting issues, which dealt mainly with e-commerce business and some unique financial statement practices.

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The second class comprises accounting profession issues that principally involved the Big Four accounting firm's consulting services provided to the e-commerce industry. Reporting practices by some e-commerce firms posed problems for investors trying to make rational investment decisions, because the truth about profits and price-earnings ratios were distorted. Third, there were several operating issues, such as security controls for consumers and the complexity involved in the collection of sales and use taxes on e-commerce sales by the government. Valuation of dot-com firms presented the need to study the challenges of questionable accounting practices, development of new financial measurement tools, examination of the role of subjectivity in valuation and the need to tie valuation to strategy development. As accounting was spread beyond the technology sector, investors became more nervous about the quality of financial reporting issued every quarter.

From the perspective of economic efficiency most accountants rely on historical data and tend to disregard the future. For example, accountants determine what was the cost to build a certain factory ten years ago. The problem with the current value of accounts is the difficulty in determining the valuation, and accountants hesitate to make estimates. Investors, however, care about the future of the company more than the past.

As a result of vague accounting practices, analysts are increasingly using market values in their financial statements. The Financial Accounting Standards Board is in favour of using market values in all financial assets and liabilities such as bank loans and deposits. Market value accounting helps society allocate capital more efficiently by improving financial understanding (Coy, 2002). Former Securities and Exchange Commission (SEC) chairman Arthur Levitt, now a senior consultant in the Carlyle Group in Washington D.C., states that the accounting profession has lobbied against reforms that could have prevented some of the problems that are vexing investors (Serwer, 2002).

## Reporting Issues in Accounting Statements of Dot-Com Companies

Corporate executives complain that accounting principles are not taken into account when calculating cash flows, operating income and other key ratios. The accounting firms must come up with a uniform standard that addresses certain important issues in accounting. Until the companies adhere to these uniform accounting standards, the investors will not be able to trust them and will take their money elsewhere. Stocks of companies such as Tyco, Cendant, Williams Cos., PNC, Elan and Anadarko were punished because of accounting problems. The growing anxiety of corporate earnings will lead to an increased pressure on CEO's to maintain earnings by cutting back on capital spending (Serwer 2002).

There are many companies that are playing loose with their books now. These companies are usually caught only when a red flag is raised by journalists or analysts. According to Michael Yound, a Lawyer at Willkie Farr & Gallagher, in 1997 there were 116 companies that had to restate their financial statements. This number almost doubled in the year 2000 to 233. In a confidential survey of CFO's in big companies, two-thirds said they had been pressured by management to misrepresent financial statements. Fifty-Five percent said they have successfully resisted (Serwer 2002).

Digital products and services, such as information and entertainment products (e.g., on-line journals, digital movies); symbols, tokens and concepts (e.g., electronic currencies, e-tickets); and processes and services (e.g., cybercafés, electronic messaging, telemedicine, distance education) display characteristics that are fundamentally different from non-digital products and services. Unique characteristics of digital products and processes, such as indestructibility, transmutability (easy to modify), and reproducibility, are related in different ways to the key issues in e-commerce. For

example, indestructibility relates to the issues of quality degradation, personal arbitrage, and the mode of retailing—sale, renting, leasing, or subscription. Transmutability is also fundamental for understanding product development, customization, and differentiation strategies (Choi et al., 1997). Whereas the nature and use of information applies to both digital and non-digital forms of knowledge-based

products, some business and policy implications have specific accounting and reporting issues that should be investigated. To measure knowledge capital, Lev (2001) assigns proxy returns to various types of assets. Returns indicate where companies can best allocate resources. Table One lists proxy returns of various types of assets.

**Table One: Proxy Returns of Various Types of Assets**

Asset Type	Percent Return	Investment Instrument
Financial	4.5	Ten-year average return on US Treasury bond
Physical	7.0	Averaged expected return on equity for biotech and software individuals
Intellectual	10.5	Average ROE for all companies with physical assets and inventories
<i>Source: Steward, 2001</i>		

As dot-com businesses grew and became publicly traded corporations, the desire to demonstrate business value on financial statements increased in urgency. A common measurement of the financial success of a firm is its net income, the famous “bottom line.” Return on investment, net income divided by total assets or total stockholders’ equity, and price/earnings (P/E ratio), current market value divided by recent annual net income per share, are popular financial measurement tools. When evaluating dot-coms that fail to produce net income, the investing world became more interested in revenues produced (commonly termed the “top line”), and also the Price/Vision ratio as a basis of valuation, rather than the more established Price/Earnings (P/E) ratio (Rigelsford and Sharp, 2000). A P/E ratio is a metric that expresses an assessment of current business value – its current and near-term flow of business results. The Price/Vision (P/V) ratio depicts what the business *could become*. When the P/V ratio is employed, the market pays a premium when using this method for evaluating a firm. This prospective representation provides a massive advantage, in terms of the cost of acquiring capital time and/or other companies, in contrast to firms evaluated by

P/E ratios based on recent earnings. Thus, the desire to maximize revenue takes centre stage, stretching accepted accounting principles.

**Case Example**

Elstrom (2000) presents the Qwest case as an example of evaluation issues. In a June report, the firm reported that Qwest’s stake in KPNQwest, a European telecom network, had to be written down because it was carried on the books at more than \$7 billion even though its market value had dropped to less than \$2 billion. This ‘expense’ was netted-off against the following income streams:

**Pension Assumptions:** Qwest made more optimistic assumptions about its pension plan. For example, it boosted the return on plan assets to 9.4%, from 8.8%. The result: Qwest could report credits in its pension plans as income.

**Sell-off of Capacity:** Qwest was boosting revenue growth through unsustainable means. It cited Qwest’s selling of pieces of its network, something called indefeasible rights of use (IRUs). Qwest’s revenue growth in the second quarter was 12.2%

with the capacity sales, but 7.5% without them.

**Prior-year Surpluses:** Qwest, like many other companies, was also using pension surpluses accumulated during the boom to bolster the bottom line of the current year.

The impact on earnings varied widely due to these practices, ranging from adding a slight 0.7 percent to pre-tax income in 2000 at Emerson Electric to 13% at DuPont, and a bountiful 253 percent at Qwest Communications International, according to Credit Suisse First Boston (Henry, 2001).

### Beyond Price-Earning Ratio: How to Look Deeper

The following are some ideas and techniques to help a reader/investor get a better understanding of an organization's financial health:

**Pay Attention to Revenues:** Revenues are the important prospects in the evaluation of the company. For example, if earnings are increasing and the revenues remain flat, accounting handiwork or a ballooning pension surplus, rather than an improvement in the fundamental business, could be behind the growth. One useful measure used here is the price-to-sales ratio (PSR).

**Analyse the Cash Flows:** Cash flow is the total sum of money that flows into (or out of) a company from operations, ignoring non-cash items. Cash flow presents the closest approximation to economic reality.

**Check the Balance Sheet:** A key indicator on a company's balance sheet is the debt the company has (Debt / Total Capital). When a company has excessive debt it is very risky since a slowdown in sales or a hike in interest rates may have a major negative impact on the company's financial health (Revell 2001).

The factors that could serve as red flags from an accounting and reporting perspective are when profits grow faster than sales, unpaid customer bills outpace

sales, sales slow while inventories pile up faster, sales are booked before payments are received, reserves against bad debts are cut sharply, gross margins increase or decrease dramatically, ways of calculating revenues and expenses change, and auditors, lawyers, or key executives change (Henry, 2001).

Variation in company reporting of financial results and the discrepancy of financial data with generally accepted accounting principles (GAAP) is the emergence of *pro forma* accounting. Although traditionally, *pro forma* accounts were a way of presenting an estimate of what earnings would likely be for completely new businesses or for those that would result from a merger. "New Economy" companies use a second set of data which are remarkably different from the GAAP figures, yet call it *pro forma* (Henry, 2001).

As Lynn E. Turner of the Securities and Exchange Commission states, "Way too often, (*pro forma* results) seem to be used to distract investors from the actual results." Worldwide, most accounting authorities insist that, before revenues can be reported on income statements, products and/or services must be delivered to and accepted by the customer, the price be known, and collection be reasonably assured. Some e-commerce practices seem to violate those principles. An upfront discount, for example, should be netted from the listed selling price before the sale is reported. For instance, a service is advertised for \$100, with a 20% discount, as an introductory offer. The result is an \$80 net sale. However, some Internet companies would report a \$100 sale and categorize the \$20 discount as a marketing expense, inflating the top line (Rigelsford and Sharp, 2000).

Refunds to customers are customarily netted out in reporting sales. This practice appears to be violated when such refunds are reported in the expense portion of the income statement of a dot-com. The "delivery" principle appears to be violated in reporting revenue, when a subscription fee is received up front, but the service will be delivered over a future period of time, such as one year. This acceleration in

reporting revenues before delivery is the culprit. Also, providing such services over the coming year will involve future costs, causing a mismatch in the timing of revenue and expense reporting. Thus, reporting revenue in the period(s) earned will solve both of these problems (Rigelsford and Sharp, 2000).

Priceline.com appeared to have created a new accounting procedure that is not consistent with accepted accounting principles. Priceline.com provides travel services, such as obtaining airline tickets and hotel rooms for customers and adds the cost of tickets and reservations for airlines, hotels and concerts to its reported revenues (while reporting the same as cost of goods sold), thus maximizing the top line. The management of Priceline.com defended the practice, claiming that it holds title to the ticket/reservation, albeit for a very short period of time. American accounting authorities, such as the SEC, have reviewed the issue (Trombly, 2000).

Amazon.com, an online bookseller, was also accused of failing to follow standard reporting practices, as do its more traditional peers, including catalogue and direct marketing companies. This practice involves the accounting concept of "fulfilment costs". These are, essentially, the expenses involved in warehousing and preparing merchandise for delivery to customers. Such costs are added to the amounts paid by a company to suppliers of merchandise, thus increasing the reported cost of goods sold and decreasing the reported gross profit.

Amazon.com prefers to count fulfilment costs as operating expenses. While this practice is not a top line issue, Amazon.com maximized its reported gross profit relative to non-online companies in such a manner (Trombly, 2000).

Unorthodox accounting practices were not limited to dot-coms, but are seen in other areas such as information technologies and

automobiles, as listed in Table Two. The recent fluctuations in the stock market brought great pressure on firms to show positive sales and earnings. There are four warning signs that indicate a company might be inflating its earnings. (Tully, 2002).

First, are frequent restructuring charges and write-downs. For example, companies generally establish reserves to cover the costs of restructuring; those reserves invite abuse. In 1997 as Sunbeam's business was collapsing, Al Dunlap used reserve reversals to report an enormous increase in earnings. A write-down indicates that a company has made a mistake. For instance, Cisco wrote off \$2.5 billion in inventory. "They don't take a special profit when the value of their inventory goes up in a good market." said Howard Schlitz.

Second, is the use of acquisitions to buy earnings. Tyco had been paying premiums as high as 60 percent to buy companies in everything from security equipment to medical products. Tyco paved the way for earnings increases by taking restructuring charges after almost every acquisition. Tyco lost 40 percent of its market capitalization in one month in this manner.

Third, are depreciation and R&D issues. For example, in the late 1980s, General Motors stretched the depreciation on its plants from 35 to 45 years. That enabled it to report \$500 million more income a year. If a technology company spends a lower percentage of sales on research than its peers, it is mortgaging its future. Fourth, high earnings and low cash flow. For example, in the quarter ending June 30, 2002 the now defunct Enron reported \$423 million in earnings and negative cash flow of \$527. At the end of a conference call, Ken Lay disclosed a mysterious \$1.2 billion write-down. In another instance, Yahoo reported a \$71 million profit in 2000. If option expenses had been factored in, it would have lost \$1.3 billion.

**Table Two: Techniques used to Inflate Sales and Earnings**

Technique	Description	Drawbacks	Examples of firms
Vendor financing	Lends money to financially fragile customers to buy products and inflate sales and profits	Firm can be left with bad debts and falling sales when it stops making such loans	Motorola, Lucent, Nortel
Large write-offs	Takes a large write-off boosting costs now to boost earnings and margins in the future	Unless operations improve, more charges must be taken to maintain earnings. Eventually, investors shun the stock	Cisco, Daimler-Chrysler, Kodak
Pension gambit	Decides pension plan is overfunded and cuts company contributions. Hides gain in financial footnotes	Rates of return on pension investments may worsen requiring larger future contributions	IBM, GE
Backdoor bargains	Promotes sales by buying big customer's stock or granting it cheap warrants	Investors may be suspicious of stated values. Is difficult to repeat, so future results could falter	Amazon.com, Flextronics
Incorrect sales reporting	Treats pending sales as if they had already occurred and records sales without subtracting the promised rebates	Cuts future sales and earnings, giving appearance of faltering company performance unless operation is repeated	Informix, Cendant, MicroStrategy

Multibillion-dollar write-downs will spread beyond tech and telecom (Edstrom and Henry, 2001). This projection raises the following important questions:

**Why must companies take large write-downs?** For example, Nortel paid \$8 billion for an Internet switching company called Alteon Websystems in October, 2000. As part of announced loss, the firm is writing down the value of the business to zero.

**Why are firms taking write-offs at this time?** The FASB along with the IASB are implementing rules that force companies to be more rigorous about writing down goodwill, which is the amount a company pays in an acquisition beyond the value of an acquiree's existing assets.

**How is fair value determined?** The simplest way to calculate fair value is to look at the market value of comparable companies that have publicly traded stock. Another way to calculate fair values is to look at the cash flow that the acquired businesses are generating.

**How can companies that take these charges be identified in the future?** Components maker JDS Uniphase has shareholders' equity that is at least \$5

billion greater than their current market caps. That could lead to multibillion write-downs at each company.

**What is the principal difference between pooling and purchase?** The difference is best illustrated by an example. VeriSign bought Network Solutions Inc., a company that sells Internet domain names, for \$19.6 billion and also added Network Solution's \$1.3 billion in net assets and \$18.3 billion in goodwill to its own balance sheet. As FASB and IASB change their rules, in the future all companies must use purchase accounting, but is no longer required to amortize goodwill. Therefore, no longer must VeriSign take a charge for goodwill amortization, which has amounted to more than \$1 billion per quarter.

### **The Role of the Securities and Exchange Commission (SEC)**

The Enron scandal created a seemingly endless string of corporate bookkeeping investigations. The key issue to be addressed by the SEC as a result was:

*How could regulators restore confidence in the minds of the investors?*

As a response to this issue, SEC announced steps to monitor the disclosures of Fortune 500 Companies. If implemented efficiently, SEC will have success in the future and also could gain confidence in the mind of the investors (McNamee, Borrus and Henry 2002). Of particular interest are: the standards, SFAS 141 and SFAS 142, which change the process by which private and public companies will manage intangible assets. The highlights of the standards include that an accounting purchase is required for all transactions. Pooling-of-interests method is eliminated. Further, goodwill is no longer amortized over its useful life, and identifiable intangibles must be recorded as separate from goodwill if certain criteria are met. Identifiable intangibles with a finite life are amortized over the remaining useful life, whereas identifiable intangible assets with indefinite lives are not amortized until such lives become finite. Also, in creating reporting units, assets and liabilities of the company are allocated to such reporting units. Finally, companies are required to perform periodic impairment tests on both goodwill at the reporting unit level and other indefinite life intangible assets (Shreve 2002).

Since Sarbanes-Oxley, the SEC, led by now Chairman William H. Donaldson, has implemented many new rules regarding limitations and banning of consulting services by auditing firms, requiring disclosure of amount of fees paid for consulting and other non-audit services, rotation of auditors, and forensic auditing. These changes were at least indicated by the dotcom collapse, although the signal was clearly missed during the heyday of the boom. Compliance with these new federal laws and regulations is widely estimated to cost the economy billions of dollars. Some of the other improvements being considered are as follows (McNamee, 2001):

**Intangible assets:** Items such as patents and brands to human resources do not show up on balance sheets unless they are bought or sold. Book value differs widely between companies that make acquisitions and those that develop products internally. Rule

makers are struggling to determine which assets belong on the books and how they should be valued.

**Non-financial factors:** Human capital, customer loyalty, and product quality all contribute to the bottom line but cannot be measured in dollars. Investors also need to know what products are in the pipeline. The SEC may push industry groups to develop standardized ways of disclosing such information.

**More frequent data:** Automakers report weekly production, and big retailers report same-store sales monthly. Other industries could produce more timely numbers if they get protection from investor lawsuits.

**Slice “n” dice:** Accountants are developing XBRL, a way of coding financial reports on the internet, which will let investors download, analyse and manipulate company data as they wish.

### Accounting Profession Issues

Working capital demands for e-commerce firms and online leaders are far lower than for comparable offline competitors. In particular, even when dot-coms are not yet making profits on paper, these firms are generating huge positive cash flows on limited capital investments.

Amazon.com was operating with positive cash flows from operations, with an annualized rate of sales approaching \$2 billion and a balance sheet capital base of some \$70 million. Dell sells approximately \$20 million of goods per day with about the same capital base. Dell has negative working capital: “assets” of \$2.6 billion versus “liabilities” of \$3.2 billion. In the new competitive environment, such balance sheet assets are, in reality, liabilities that tie up shareholder capital (Keen, 1999).

Financial reporting online, rather than via traditional hardcopy poses an issue for accounting. Large companies report annual audited and quarterly unaudited financial statements via hardcopy reports. The annual report traditionally includes detailed notes to financial statements and these notes

contain significant non-accounting information about the company. Many dot-coms now make such reports available on their websites. The International Accounting Standards Committee established a task force to examine the problems associated with online reporting of financial statements and to make recommendations for improvement. The problems identified by the task force focus on difficulties in finding online financial reports and in verifying the completeness of such reports. The task force recommended a code of conduct for companies and their auditors to follow. For instance, buried in Enron's annual report for 2000 are hints of the hidden debt that pushed the company into bankruptcy in December. A footnote on "preferred stock" indicates that if Enron's share price were to fall below \$48.55-which first occurred on June 14, 2000 - the company would be obliged to a partnership called Whitewing Associates. IBM poses a related issue. Nowhere does Big Blue's 2000 income statement credit its pension fund, despite boosting earnings by \$824 million, or 7 percent of pre-tax income. Yet pension fund contribution is spelled out in a footnote (Tergesen, 2002).

Another accounting issue has emerged, in part, from the rapid growth of e-commerce, which concerns the determination of the most appropriate method for accounting for intellectual capital. Currently accepted accounting rules, especially those in the U.S., do not permit such assets to be shown on the balance sheet. Robert A. Howell of the Tuck School at Dartmouth has proposed radical changes to current financial statement presentations. His proposals focus on cash flow, rather than on accrual accounting and on the reporting of intangible assets, such as intellectual capital (Stewart, 2001).

A significant issue that arose for the accounting profession concerned consulting. Led by the *then* "Big Five", accounting firms became major participants in providing consulting services to clients engaged in electronic commerce. Consulting in e-commerce/e-business and information systems then provided about

half of the revenue for the Big Five accounting firms in the U.S.A., up from about thirty percent in 1993. E-commerce and e-business consulting opportunities were so lucrative that accounting firms spun off consulting divisions to avoid conflict of interest issues. Arthur Andersen was an example of spin-off by its creation of Andersen Consulting, renamed Accenture. Auditing services continue to be the core competence of large accounting firms, and an auditor must be independent financially from the audit client to render an independent written opinion with the presentation of the client financial statements. Earning consulting revenue from an audit client is usually a violation of the rules of independence.

As e-commerce matured, accounting firms seemed well positioned to cultivate permanent business with surviving and stable e-commerce companies. Many "pure play" e-commerce consulting firms that developed in the nineties were slowly folding or were being merged into larger firms, leaving such consulting largely to major accounting firms (Zarley and Jastrow, 2000).

A final issue related to the accounting profession is *WebTrust*, a site developed in 1997 by the American Institute of CPAs. The purpose of WebTrust is to allow an e-commerce company to register as a business whose services have been attested to by a CPA in such areas as business practices disclosures, transaction integrity, and information protection. This process will enable a potential customer to use WebTrust to determine what the policies of an e-commerce firm are regarding customer treatment, with the assurance of an independent CPA attesting to those policies. This process will, of course, provide further entry by the accounting profession into e-commerce businesses (Portz et al, 2000). The Journal of Accountancy (Anonymous, 2000<sup>b</sup>) reported the findings of AICPA technology committees regarding the top ten technology-related priorities for CPAs. Heading the list is e-business, followed by information security and controls, training and technology competency, disaster



recovery, and high availability and resiliency of system. The other five issues of less priority are technology management and budgeting, electronic financial reporting, Internet issues, the virtual office and privacy.

Several proposals have been made that could go a long-way toward re-establishing public trust and investor confidence. These include (Brynes et al. , 2002):

***Enact Effective Self-Regulation:*** It is difficult to determine who is in charge under the current system of accounting. Administered by the AICPA, the industry trade group, is a series of groups that are supposed to monitor auditor independence and audit quality. The Public Oversight Board (POB) is charged with ensuring that the public interest is considered in the oversight of auditors. Although it sounds good it is tough to establish. It needs an action by the congress, which in a shortened election year already has plenty of things to do.

***Bar Consulting by Auditors To Their Audit Clients:*** In 1993, 31 percent of the industry's fees came from consulting. By 1999, that had jumped to 51 percent. In minds of many people, the rising importance of consulting has contributed to a decline in auditor scepticism.

***Mandate Rotation of Auditors:*** Supporters of mandatory rotation of auditors argue that scandals like Waste Management, for which income was overstated by \$1.4 billion, would never have occurred if the auditor had known that, within a few years, the audit would be reviewed by a competitor. But opponents fear that rotation would create problems, since new auditors have to take time to learn about the company.

***Impose More Forensic Auditing:*** One way to spur questions from auditors is by introducing forensic auditing techniques into the typical audit. Since revenue-recognition issues and the establishment of reserves are the two most common reasons for earnings restatements, focusing on these

areas could be the subject of such forensic review.

***Limit Auditors' Moves To Companies:*** The June 19, 2001, SEC enforcements action against Arthur Anderson, as auditor of Waste Management from 1993 through 1996, paints a dark picture of cronyism. According to the SEC, every financial officer at Waste Management had previously been as auditor at Anderson from 1991 to 1997. The audits began picking irregularities as early as late 1980. Many companies have similar rotation policies for their accounting staff and audit firms and never encounter problems. However, there are legal obstacles to limiting people's freedom to work where they like, and there is continuing concern that the data numbers might not be scrutinized with the necessary rigor when long-time partners are performing the audit.

***Reform the Audit Committees:*** Had SEC recommendations been adopted verbatim as policy and applied with sufficient rigor in practice, half of Enron's six-member audit committee likely would have been barred from service. One member had a \$72,000 per year consulting contract with Enron and two others were employed by universities that received significant charitable contributions from Enron, its chairman Kenneth L.Lay and their foundations.

***Clean Up the Accounting Rules:*** Accounting has become increasingly complex as has business. The Financial Accounting Standards Board (FASB) has been too slow in responding to changes in the new accounting rules. FASB has considered rules on special purpose entities. As the debate on international accounting standards heats up over the next few years, the drive toward making clear-cut rules on materiality and how pro forma numbers are tallied and how that relates back to net income should be placed front and centre on the agenda.

Although the FASB and IASB have been tackling the above agenda, there is a long way to go toward restoring the public's

confidence in the bruised auditing profession.

### Operating Issues

Security issues, raised by the AICPA, were perhaps the most critical operating problems associated with e-commerce. With billions of pieces of information distributed across cyberspace, there is a problem with maintaining an acceptable level of security for customer information. Clearly, it is essential to create and maintain highly reliable security controls and tools, including SSL encryption technology, digital certificates, and secure server technology (Anonymous, 2000a).

The anonymity of digital currency can be varied to mask user identity to the bank, the payee, or both. Strong anonymity methods guarantee untraceability, whereas weaker versions permit user identity to be traced. For example, in an e-cash implementation, digital coins can be completely *anonymous*, i.e., no personal information is contained in the coin other than the serial number, and it allows indefinite circulation of the coin; or *weakly anonymous*, i.e., it contains the encrypted name of the person who first purchased it, but the name is revealed only if the coin is double-spent. In systems such as Mondex, peer-to-peer transfers are completely anonymous and are not traceable. This condition raises very important issues concerning possible tax evasion, money laundering and other criminal uses of digital currency.

### Valuation Challenges

The valuation of dot-com companies poses six main challenges (Savoie and Lashley, 2000), and these are discussed in the following sections.

#### *Difficulties with traditional methods:*

Traditional methods, such as Economic Value Added (EVA), Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA), and Price to Earnings (P/E) ratios, require reported earnings to be valid. Most dot-coms do not have positive cash flows (Amazon.com, for example; Yahoo is the exception). EVA has

as second strike, in that it takes into account the Weighted Average Cost of Capital (WACC). Most dot-coms are so heavily leveraged that measuring Return on Investment Capital (ROIC) and comparing it to WACC is a risky proposition.

Finally, traditional methods are enterprise-oriented, whereas dot-coms operate on a per customer basis. These differences result in meaningless "apple to oranges" comparisons of revenues and expenses. Proper evaluation of a dot-com requires that both revenues and expenses use the same entity as the basis for calculation and that entity is the customer.

***New valuation metrics:*** While new methods of valuing dot-coms are being developed, none have been accepted widely; therefore, there is no industry standard benchmark that provides a basis for comparing dot-coms. However, new methods have been proposed that include:

***Theoretical Earnings per Share (TEPS).*** TEPS is a forward-looking EPS based upon events expected in the future, such as successful acquisition of another company or proceeds from funding that is more than one year in the future.

***Comparable Companies Method of EPS.*** This method establishes a benchmark for a set of companies based on a formula that calculates earnings per share for each company in the set.

***Industry specific metrics.*** One of the more widely accepted methods, this specification process establishes metrics for a given industry. If a dot-com operates in a given industry, it is valued based on the standard valuation methods for that industry. Revenues of multiple firms in an industry are compared and similar valuation numbers are assigned for different values such as P/E, EVA, EBITDA, ROI, and WACC.

Metrics are the essence of rational business. So why do metrics seldom reflect reality (Akst, 2001)? This failure happens because the act of measuring one factor changes the

other. At the subatomic level (e.g., Heisenberg's Uncertainty Principle) this measurement effect is indisputable, and, by analogy, it turns out to be true in other walks of life as well. Most economists believe the CPI chronically overstates inflation. A key element of the dot-com meltdown, we should remember, was the culmination of a collective faith in the wrong metrics and, especially, the assumptions behind them, which fuelled a boom that was already out of control. In contrast, in business the rational person measures profits.

***The valuation of "capabilities":*** A radical approach is proposed by Ratnatunga, et.al, (2004) in an article titled "CEVITA: The valuation and reporting of strategic capabilities" by arguing that strategic decision-making and valuation should be undertaken on the basis that it is the *combination* of both tangible and intangible assets that provide the capability that drives economic value; in other words, that asset value comes not from what you *own* but from what you *can do* with such assets. Their valuation approach is to calculate the Capability Economic Value of Intangible and Tangible Assets (CEVITA) of an organisation by leveraging its capability-enhancing expenses to economic values by using specific Expense Leveraged Value Indexes (ELVI). Such a valuation, they argue, is important for internal reporting and may also be appropriate for external financial reports.

***Subjectivity of future valuations:*** The valuation challenge is the most difficult that investors, traditional valuation professionals, and CPAs must face in financial decision-making. In reality, all dot-com valuations are based substantially on subjective assumptions and estimates of future events. However, while it is believed generally that traditional methods are objective, one need only to consider the Dow Jones Industrial Average to realize that it is the representation of collective investor perceptions and expectations, and these feelings may actually be driving apparent reality. The Dow Jones metric is the most widely watched indicator of

economic health, despite its limitations, such as size of industry base, overreaction to relatively minor events, and so forth. The Dow is examined constantly in the search for daily, weekly, monthly, annual, and long-term for patterns and trends in values. If asked, perhaps most of the public would say that the Dow is an objective metric, rather than being subjective. However, the thirty stocks that make up the Dow have changed considerably over time. What started as a list of thirty blue chip industrial stocks now includes other types of stocks such as Microsoft. From a validity perspective, the Dow is no more objective than any of the new valuation methods discussed previously. Nevertheless, the Dow has become an accepted indicator, if not a benchmark of the economic health of the U.S. economy. A similar benchmark is needed for dot-com valuation in the global digital economy. Current alternative metrics being examined include future cost to acquire/support a customer, future value of revenue from a new/repeat customer, size of the market in the future, and the ability of the company to acquire target market in the future.

***Imbalance between review and valuation of future earnings and debt:*** Most of the newer metrics forecast the value of the revenue and include, at most, only the value associated with acquiring the customer. The assumption is that the value of the customer, less acquisition costs, will exceed the debt required to create value. Indeed, that assumption is brash in many cases. In the application of newer metrics, debt is calculated at the firm level, while and revenue is calculated at the customer level, thereby creating a logical inconsistency or "disconnect" between the bases for viewing debt and revenue.

***Market Entry and Disruptive Modalities:*** Traditionally, provided one can project tradition onto the new economy, First-to-Market (FTM) equals premium valuation. Traditional theory holds that whoever is the first to establish a presence in a market will gain a major market share and will receive the bulk of the revenue stream (as well as investment dollars), while later entrants

must compete for portions of the remaining market share. Disruptive modalities, such as new technologies or methods for doing business, produce either an order of magnitude increase in productivity or decrease in cost, but such new factors have not been included in the equation for determining the valuation of firms. Currently, while being first to market is generally desirable, the focus is on Disruptive FTM. Companies that move into a market just to be first are being replaced quickly by other firms that move into the market using disruptive technologies. The firm that is first to introduce a disruptive technology, such as e-commerce technology, into the market will gain the lion's share of the market, sales revenues and investment dollars.

***Connecting valuation to market strategy:***

Market strategies are difficult to determine, when market history is unknown or the market is totally new. In such instances, valuations should combine computations made by combining market strategy analysis with new accompanying metrics. Although e-commerce is settling somewhat, there continue to be two extremes in the dot-com arena. These include: the traditional 70 page hardcopy of a laborious business plan or the subjectively based "fund me fast" Executive Summary plus Term Sheet. As the dot-com environment matures, we should expect to see the development of a widely accepted method for connecting valuation to market strategies. Barriers-to-Exit strategies will play a major role in determining company value and strategy.

**Information Value of New Metrics**

Once new valuation methods are accepted generally, it should then be possible to answer the following questions:

- Has the owner overpaid/underpaid for customer acquisition and retention efforts?
- Can a potential acquirer improve performance in customer acquisition costs or customer retention efforts and thereby increase post-acquisition value?
- Does the dot-com know specifically and objectively which website functions and/

or features most heavily influence customer buying decisions?

- Can the acquirer or seller calculate the value of the changes they would like to make to the dot-com or which should be required post-sale to increase value?
- Can the acquirer or seller examine website performance data beyond traditional traffic trends to identify opportunities to increase website performance?

Providing answers to these questions will ultimately help to create a greater degree of stability in the emerging new economic environment and provide investors with the information necessary to properly weigh the risks versus potential rewards of investing in dot-coms.

The implications of this from a corporate governance perspective are that executive officers must understand the Sarbanes-Oxley act's requirements, stay abreast of new developments, ensure disclosure compliance in the USA with regards to upcoming 10-Ks and proxies (e.g., enhanced disclosure of non-GAAP financial measures; enhanced disclosure of off-balance-sheet transactions; disclosure of internal controls and procedures and so forth), rely on knowledgeable resources to gather and disseminate information, and pre-plan for upcoming requirements. The cost of compliance for a company is high and must be budgeted not only with dollars, but also with time and education.

Corporate boards should fulfil the role of auditing, supervising, coaching and/or steering in lieu of adopting a one-size-fits-all approach to governance. The roles reflect two main differences in board culture. First, boards can be concerned mainly with shareholder interests, or they can take into account the interests of other stakeholders to deal with important externalities. Second, boards can restrict their activities to monitoring, or they can be involved in the conduct of the organization at the top to deal with ineffective management. During any time period, a board must determine what its dominant role should be, given the current conditions.

The right board role does not remain static but evolves with changes in the externalities in the market and the agency problems created by ineffective management. The first step is to recognize - or, even better, anticipate - when a change in conditions calls for a shift in the dominant governance role (Strebel, 2004).

In the first case enforcing the provision of the Sarbanes-Oxley Act that calls for executives to swear to the accuracy of their company's financial statements, the Securities and Exchange Commission (SEC) recently settled civil injunctive actions against Rica Foods and two of its top officials (Anonymous, 2003). In addition, obstruction of justice charges were brought under Sarbanes Oxley Act in another recent case involving a former Ernst and Young audit partner for allegedly altering and destroying documents related to his work with NextCard Inc., an Internet credit card company whose finances were being probed by federal bank and securities regulators.

One of the more challenging tasks of compliance with the Sarbanes Oxley Act, that is not required for most organizations until the end of 2005, is to maintain adequate controls over financial reporting and to assess the effectiveness of the company's internal controls and procedures for financial reporting. Hence organizations should implement the process of documenting its controls and procedures immediately.

Although the provisions of the Sarbanes Oxley Act may not be the best solution to the current reporting/auditing/financial analysis crisis, it is flexible. Moreover, it empowers the Public Accounting Oversight Board and the Securities and Exchange Commission to determine the details of the regulations, and it mandates further study of the issues. Additional studies mandated by the Sarbanes Oxley Act that have a potential for positive impact on corporate governance are a study of accounting firm rotation; a study of audit firm consolidation and the effect such consolidation may have on independence of the audit; a study of

violators, violations and enforcement actions; and a study of the role of investment banks in financial statement manipulation. These studies could lead to significant changes in reporting, auditing, and financial analysis in the near future (Hall, 2003).

Bushko (2003) sums up the role of corporate governance as a moral action that requires people to consciously and continuously think of themselves as moral beings. It is the consciousness of options and the ability to will right and wrong as essential aspects of what it means to be really human.

### Conclusion

The emergence and dazzling deployment of dot-coms and e-commerce raised new accounting and financial issues, for these firms became prominent among technology stocks. In this paper, we reviewed major classes of issues that faced the accounting profession and practice. Unconventional financial practices by some e-commerce firms prompted the SEC to issue guidelines in 1999 to require the correction of factual misstatements that were claimed by some firms to be insignificant. The accounting assumptions rule proposed in January 2000, whereby any changes must be disclosed in detailed, continued to be pending for some time. Moreover, the FASB had no timetable for action concerning revenue-recognition rules. Despite the substantial financial stakes involved, cleaning up financial reporting remained an uphill battle. In the interim, individual investors practiced due diligence by analysing reported financial data with great care. It appears the stock market's major downward correction, led by the dot-coms, was the result.

This dot-com crisis, coupled with the ongoing maturation of e-commerce, exposed a rash of accounting problems that have brought down both major companies and accounting firms. We believe that the accounting industry, while slow to react to these issues, created the atmosphere for government intervention. Primarily after the accounting irregularities of Enron, the result was the Sarbanes-Oxley Act of 2002. These

accounting issues presented by computer-related and other industry firms and described in this paper should have served as bright red financial hurricane warning signs of likely further challenges with which the accounting profession and investors have had to eventually cope.

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