

Extensible Business Reporting Language: The Future of E-Commerce-driven Accounting

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ABSTRACT

XBRL, short for eXtensible Business Reporting Language, is a framework based on XML (eXtensible Markup Language) that would be freely licensed and facilitate the automatic exchange and reliable extraction of financial information among various software applications anywhere in the world. This new business reporting language should enable companies and individuals to use financial information in a much swifter and more flexible way. This article discusses the implications of this new standard on accountants, investors, analysts, risk managers, bankers, and the financial services industry.

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Keywords: HTML - HyperText Markup Language; XML - eXtensible Markup Language; XBRL - eXtensible Business Reporting Language; Accounting & Financial Reporting Systems

I. INTRODUCTION

The purpose of this study is to explore the use of Extensible Business Reporting Language (XBRL) as a new common language for financial reporting electronically compared to other formats such as HTML, Web-based sites, the SEC's Edgar system, and Email. We also investigate the applications of XBRL for banking, reporting, analysis, financial services, and accounting firms. Furthermore, this study also discusses how long or difficult will it be to get XBRL in place and why the financial community should care about XBRL. Differences in terminology, presentation, and interpretation of financial reports have made searching for specific pieces of information a nightmare for businesses worldwide. Furthermore, communicating and interpreting business information between parties can be frustrating, unrewarding, and potentially misleading.

Understanding and communicating information in different languages or formats creates problems for business professionals all over the world. One major area of global confusion is that of business reporting. Regulatory and accounting bodies apply different standards to similar reporting issues. Based on the needs of the intended users, businesses present financial information in a variety of formats to manage tax offices and shareholders. Likewise, individual industries frequently report similar transactions in varied and often conflicting ways. Moreover, risk management reporting can differ between business units, let alone between different companies. In addition, a major criticism of financial reporting has been its lack of timeliness in providing financial information to the business users.

The financial reporting fraternity has been investigating opportunities to resolve some or all of these issues. There are two basic issues that financial community needs to address: dissemination and standardization of financial information. Of course, the most likely venue for speeding up business specialists' and analysts' access to corporate results is through electronic means, specifically the Internet. While the Internet eases the pressure for timeliness, the issue of standardization remains to be addressed. The development of XML (Extensible Markup Language) ensures that financial reporting through electronic communications technology satisfies the highest standards of accuracy, reliability, and accuracy. But, the missing link has been an agreement on standardized terms within a sector or industry that will make data easily transferable through disparate systems. XBRL - Extensible Business Reporting Language - is the missing link, the specification that allows financial and business reporting concepts to be expressed quickly, less expensively, and more efficiently. The widespread use of XML will streamline reporting and transaction tracking in every area of business, from regulatory and tax compliance to internal and performance measurements and international harmonization. This article explores the use of XBRL as a new common language for financial reporting electronically. Besides explaining the history and technical details of XBRL, it also investigates the applications and future of XBRL as a new benchmark.

The study is divided into five sections. Section II discusses previous studies on XBRL and its uses. Section III provides the history of XBRL including the meaning of XBRL, details of the XBRL language, and how XBRL works. Section IV details the

users of XBRL, its benefits, and its future in the financial world. Section V summarizes and concludes our study.

II. LITERATURE REVIEW

Wright's study (2000) reports that XBRL will help in preparing financial data and presenting it in many different forms: lenders, analysts, and individual investors can promptly extract the resulting financial information. Tie study (2000) concludes that XBRL will enable issuers and users of business information to share it more accurately and conveniently through various electronic applications and media, including the Internet, where an increasing number of companies are disclosing financial information. Brannon (2001) reports that XBRL will revolutionize financial reporting, as it is known in the not-to-distant future. According to Leahy (2001), XBRL makes companies more transparent through standardization of the financial information. Hucklesby (2001) reports that XBRL provides accounting professionals with protocols to prepare, publish in a variety of formats, and reliably extract and exchange financial information. According to Belford (2000), XBRL has the ability to search for and find specifically tagged information, data that could be used to compare performance of multiple companies, or to collect and compare internally generated facts and figures. Hannon (2001) remarks that XBRL is just a markup language that simply takes the output from financial systems and codes the data in a machine-readable format. He calls it an alternative method of preparing financial statements. According to Coffin (2001), XBRL is an enabling technology because it will cut through inefficiencies and create new opportunities. It is also disruptive technology, he says, because inefficiencies are threatened by the use of XBRL. His study also highlights applications of XBRL in the business world. Abbas, McGuire, and Kocakulah (2001) discuss the use of XBRL to ensure online financial reporting. They argue that XBRL will enable users to prepare, publish, exchange, and analyze information in financial reports in a variety of formats.

III. HISTORY OF XBRL

Two main problems plague the communication of business information. First, financial information is available in various formats - paper, HTML (Hypertext Markup Language), Web-based sites, the SEC Edgar system, Email, etc. Although these resources are user friendly, the structure of the information obtained through these systems is often not compatible across computer programs. Therefore, to use this information, users should either key the information manually or tailor their computer programs according to the specifications of the databases being used. Even the exchange of comma-delineated data sent to another party for review and analysis may not be reusable by the originator if data (columns) are added or rearranged. Second, to provide users with desired information, the preparer may use any or all of the formats mentioned above. Thus, these methods require multiple data entry and are subject to the risk of keying errors. To address these inherent problems, Charles Hoffman, a CPA from the state of Washington, began experimenting with XML in April 1998 (AICPA).

XML is a meta-language that allows for the classification, comprehension, and manipulation of data. XML promises to dramatically change the way in which Web content is created, stored, and delivered. The problem with HTML is that it is a hodgepodge of tags that deal with document structure, content, and display. This fact makes it difficult for Web designers and Webmasters to create and maintain the myriad of pages found at most Web sites. This fact also makes it difficult for software robots and software agents to either index or find specific content on the Web. On the other hand, XML is a markup language that focuses on describing the content of the data as opposed to the structure of the document or display. In XML there are no fixed tags. Instead, the Web designer or author is free to create his or her own tags, which is why the markup language is called extensible. Specifically, XML provides a protocol that defines both identifying tags and the relationships among the tags (Zarowin and Harding 2000). The ability to define relationships distinguishes XML from HTML, the semantic-driven Web site language. In essence, XML deals with the nature of information, while HTML controls the presentation. Additionally, as it continues to evolve, XML does not require upgrades with interactive software (Walsch 1998), unlike the newer versions of HTML, which are only accessible to users with the most up-to-date browser.

Convinced of XML's potential, Hoffman approached the AICPA, strongly encouraging the professional organization to promote XML as an alternative method for reporting financial information. The AICPA formed a group to develop a prototypical set of financial statements. The prototype was presented to the AICPA in January 1999. Impressed with these results, the AICPA then formed a task force, charged with the further development of potential uses of XML for business information reporting (AICPA 2000).

Originally, the framework developed by the task force was referred to as XFRML, Extensible Financial Reporting Markup Language, but was renamed XBRL, Extensible Business Reporting Language. The name change recognizes the diverse and comprehensive potential of this new reporting language. The XBRL specifications and the first taxonomy for financial reporting of commercial and industrial companies were released on July 31, 2000. The taskforce developed a universal chart of accounts defined in easily understood computer lingo. XBRL addresses the problems of communicating information to users on a timely, reliable, and easily usable basis by providing a structured and standardized language that can be recognized by any program accessing data. Thus, accounting and financial software programs can be designed to attach the appropriate XBRL identifiers to information. A universal language implies that data may be manipulated for multiple purposes, but only needs to be entered once.

The first international meeting for XBRL was held in London the week of February 19-23, 2001. Two days of public meetings, followed by three days for XBRL members, explored topics such as the newly released International Accounting Standards (IAS) taxonomy, proposed enhancements for the XBRL specification, and industry-specific sessions. The recently released XBRL 2.0 specifications implement the new World Wide Web Consortium (W3C) XML Schema Recommendation and utilize other new technologies such as XML Linking. For the latest developments

regarding XBRL and the International Accounting Standards, please check the XBRL.org Web site at <http://www.xbrl.org>.

A. Definition of XBRL

The Extensible Business Reporting Language (XBRL), formerly code-named XFRML, is a markup language within the extensible markup language family (XML) that simply takes the output from a financial system and codes the data in machine-readable format. XBRL is defined as “a standard-based method with which users can prepare, publish (in a variety of formats), exchange and analyze financial statements and the information they contain.” XBRL is a subset of XML, a standard computer language that allows users to create tags for each piece of information on a Web page. It is the catalyst for single-entry, multiple-carrier interface, something long sought by accountants, investors, analysts -- anyone with a need for, or interest in, using the Web for financial reporting or research. XBRL has the ability to search for, and find, specifically tagged information, data that could be used to compare the performance of multiple companies, or to collect and compare internally generated facts and figures. It is about to revolutionize the way people prepare, use, and exchange data. The development of XBRL offers two major advantages for the business community: It will be possible to prepare financial data and present it in many different forms; and the financial information can be promptly and reliably extracted by lenders, analysts, and individual investors.

B. Details of XBRL

The HTML used to create Internet sites and Web pages is a huge success for stunning graphics, but fails miserably while dealing with data - especially financial data. HTML generated facts and figures are frozen in aspic. Although the data is readable, we cannot use the web to compare financial results among companies, except for the most basic search. Usually, comparisons become a matter of printing out each document and doing it manually.

In contrast to HTML, which is a collection of tags (details about the document), XML is a formatting language that arranges information in containers of data (similar to rows and columns in a spreadsheet). In a spreadsheet, the data can be inserted into the rows and columns. Just as the headings for the rows and columns give meanings to the individual cells, XML provides meaning to the data within tags that bracket that data. For example, if the cell of a spreadsheet contained the number \$50,000, the user of the spreadsheet might know if the sum of \$50,000 was an asset, liability, net income, or the price of the owner's new car. But if the content of the cell was tagged (as in the XML language) with the description “net income for the first quarter,” then the user (and the applications) will interpret the \$50,000 to represent the net income for the first quarter. Therefore, XBRL provides both content and structure (context) to the financial data. The problem is that HTML mixes up display with content and provides few clues to the meaning of the content.

XML is a markup language that focuses on describing the content of the data as opposed to the structure of the document or display. In XML there are no fixed tags, which is why the markup language is called extensible. The manner in which the tags are used in an XML document is defined in a file called the Document Type Definition (DTD). A DTD is basically a set of grammar rules that dictate the makeup of the tags' particular documents. Used primarily for purposes of determining the validity of an XML document, DTDs are optional.¹ In addition, to display an XML document, a browser uses XML's accompanying markup language that defines the style for displaying an XML document. This markup language is called XSL (for Extensible Style Language). An XSL document provides a set of rules for displaying XML tags.

While XML is a child of the Web, its primary focus is not on the browser. Extensible Markup Language is display-device independent, and its documents can be used with any display device (browsers, printers, PDAs, cell phones, and so on). Documents composed of XML can also be more easily understood and manipulated by other software programs. Today, the files accessed by software programs are stored in either ASCII or some proprietary binary format. Many of the problems associated with both formats are alleviated by XML, and it is easier for programs to interchange data. Furthermore, XML is platform independent. It works on any operating system, any computer system, even cell phones, and other wireless, mobile devices.

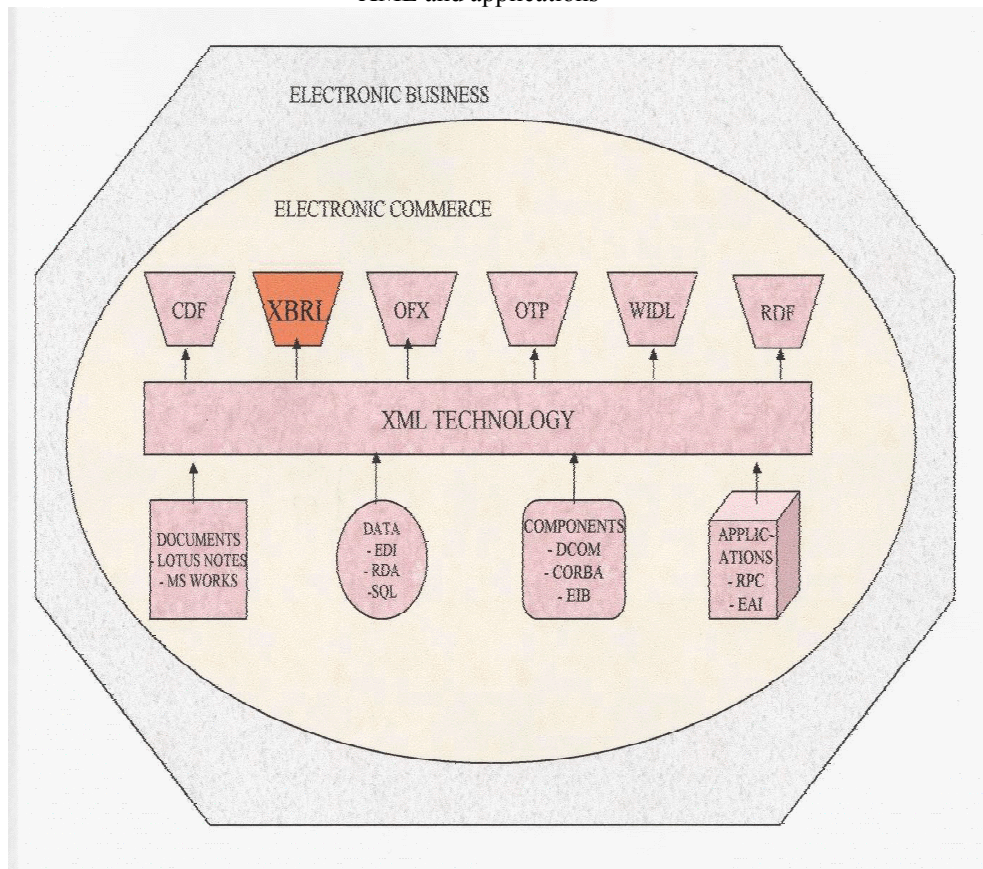
XML is also application dependent and can be integrated with almost any vendor's database system. In addition, XML is quite flexible, and allows the users to retain their legacy systems and hardware while integrating these systems with new systems including the trading partners' systems and the Internet.

Recognizing this fact, several task forces and consortiums have begun defining industry-specific and task-specific XML. All the major software vendors have promised to rework their products to incorporate XML. Microsoft claims that XML and underlying Web technologies (the hypertext transport protocol) may soon completely revise our perception of computer programs and seamless integration between disparate systems. Figure 1 illustrates the XML technology and its applications.

As illustrated in the figure, XBRL is a language for business reporting, developed using the rules set out by XML. As it uses the XML standard as its foundation, it can be read, communicated, and analyzed by any program that is XML-compliant or any other XML-based language. Because the information is produced in an XML-based format, other users or systems can read, understand, and use the specific information independent of the XML applications such as XBRL, WIDL, OFX, etc. Thus, XBRL inherits from XML the notion that data should belong to its creators and that content providers are best served by an open data format. Open data formats will not bind anyone to a particular script language, authoring tools, and delivery engines. Hence, XBRL provides a standardized, vendor-independent level playing field on which different systems may freely communicate. XBRL is a standard format for existing financial (and nonfinancial) information to be tagged and presented in a way that is readily understood by disparate software applications. In technical terms, XBRL is a "meta-language," a language that can describe a software program in another language. Therefore, in this sense, XBRL actually defines how to write a language. For

example, all sentences start with a capital letter and end with a full stop. It is the writer's job to decide what comes between the capital and the full stop.

Figure 1
XML and applications



The objective of XBRL is to render business reports with an XML-compatible code so that all users in the business reporting supply chain can have a more efficient means of report preparation, and provide for the reliable extraction of financial data across all formats. With XBRL, financial data has to be entered only one time, reducing the risk of data-entry error and eliminating the need to manually key information for

various formats. Thus, investors and financial analysts are able to lower the cost of preparation and get quick access to information.

XBRL (and its superset, XML) enable businesspeople to define the details of financial documents through a set of markup tags. These tags further facilitate the communication of the information structure and content across disparate computer networks and systems. This process is similar to applying bar coding, such as we see on supermarket items, to information contained in business reports. XBRL provides coding for every detail on a financial statement. For example, if a balance sheet reports the accounting inventory, the XBRL document that explains the report could, at the option of the preparer, contain information about what inventory roll up into that account. On the other hand, a flat-text report, presented in Adobe Acrobat or marked up in HTML, could not do the same.

C. Working of XBRL

XBRL.org has recently released the XBRL 2.0, the latest version of specifications for designing the XML and XSL files illustrated above. This release implements the new World Wide Web Consortium (W3C) XML Schema Recommendation (guidelines to design the XML documents) and utilizes other new technologies such as XML linking (to link different tools together). Sample files (XML and XSD) that help explain the concepts and features of XBRL can be viewed online or downloaded from XBRL.org. The XBRL.org group has developed a family of taxonomies for the reporting of business information, such as annual and quarterly financial statements, general ledger information, and audit schedules. The XBRL steering committee works as an international group to develop an XML-based framework that the global business information supply chain will use to create, exchange, and analyze financial reporting information. The group is working on developing standards for preparing business documents for different countries and the rules for linking them with each other. Figure 2 displays the five levels of accounting entries.

Each level builds on the previous one. For example, at the topmost level, a general ledger consists of accounting entries at Level 1. At Level 2, the accounting entries consist of document information, entity information, and entry header. The entity header at the next level describes the name of the person entering the information, the date entered, the date posted, the source journal id, the entry number, the entry type, the entry comment, and details of the entry. Next, each entry detail consists of account, document type, document number, and other related information. Each account, in its turn, has account id, description, type, purpose, and the main account type at the next level. Figure 3 presents a simple illustration of the use of XBRL for general ledger.

Figure 2
Level of details of accounting entries for general ledger

| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|--------------------|--|---|--------------|--|
| Document Info | Entries Type Unique Id Revises Unique Id Revises Unique Id Action Source Application Target Application Language Entry Hash Count Entries Comment Period Covered Period Count Period Unit | | | |
| Entity information | Organization Identifiers Business Description | Organization Identifier Organization Description | | |
| | Entity Phone Number | Phone Number | Phone Number | Phone Number Description Phone Number |
| | Entity Web Site | Web Site Description Web Site URL | | |
| | Organization Address | Organization Address Name Organization Address Desc Organization Address Street Organization Address State Organization Address Zip Organization Address Count | | |
| | Contact Information | | | |

Figure 2 (continued)

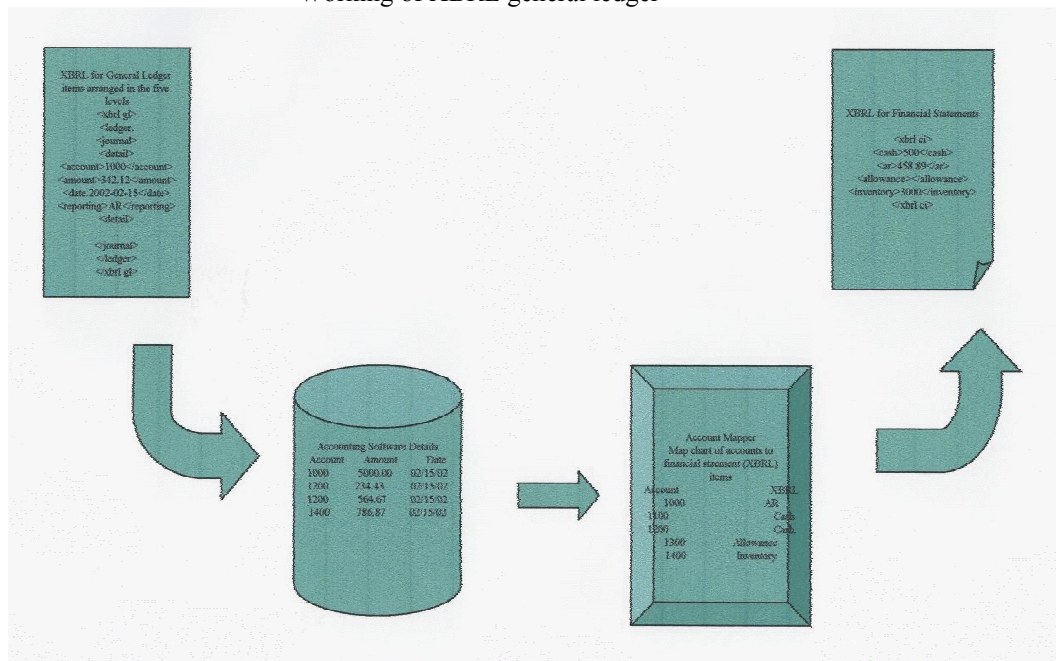
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|--------------|--|-----------------|---|---|
| | Organization | | | |
| | Accounting | | | |
| | Method | | | |
| | Fiscal Year | | | |
| | Accountant Information | Accountant Name | | |
| | | Account Address | Accountant Street Accountant City Accountant State Or Province Accountant Country Accountant Engagement Type | |
| | | | Accountant Address | Accountant Zip Or Postal Code |
| Entry Header | Entered By Modified End Date Repeating Entry Entered By Entered Date Budget Scenario Last Date Repeat | | | |
| | Entry Detail | Account | Account Main Id Account Main Description Main Account Type | |
| | | | Account Sub | Account Sub Id Account Sub Description Account Sub Type |
| | | | Account Purpose Code Account Purpose Description Account Type | |

Figure 2 (continued)

| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
|---------|---------|--------------------------------------|---|--|
| | | Folio | Line Number Folio Number Folio Line | |
| | | DocumentType PostingCode | | |
| | | IdentifierReference | IdentifierCode IdentifierType | |
| | | | IdentifierAddress | Identifier Street Identifier Zip Or Postal Code |
| | | Taxes | Tax Description Tax Code | |

The XBRL for general ledger represents the detailed or summarized information found in a general ledger with ties to other business reporting taxonomies such as XBRL for financial statements. All the information about the general ledger is stored in different levels in the different items illustrated in Figure 3. The accounting software of a firm stores all the details of accounting data. Accounting mapper software creates a map chart of accounts to financial statement XBRL items. The XBRL for financial statements lets the user identify and access information within a financial statement so it can be analyzed or published by the user. Further, the information in this standardized format can be transported electronically on a global basis. The taxonomies used by different countries can easily convert this information into a format compatible with their accounting principles. Furthermore, information on two companies can very easily be compared if they follow an XBRL format.

Figure 3
Working of XBRL general ledger



D. Working with XBRL

As the business community has realized XBRL's potential to standardize the distribution of financial information, many software developers have developed software to create and view XBRL taxonomies and tools for the end users. The end-user tools include Microsoft Internet Explorer 5, Microsoft Excel, Microsoft Access, and Netscape Navigator (Beta). The XBRL Excel tool understands XBRL for financial statements and makes data available for analysis. Xbrl Solutions (www.xbrlsolutions.com) has developed an XBRL extractor that pulls XBRL data from Web pages or other sources. In addition, XBRL repository tools (www.edgar-online.com & edgarscan.pwcglobal.com) can pull XBRL files from databases and turn non-XBRL SEC filings into XBRL. In addition, MultiMart Web Reporting Solutions by Newtec, Inc. can create instant documents from a data warehouse. Figure 4 displays a snapshot of the MultiMart software creating a live report of profit and loss distribution.

To further illustrate the usage and functioning of XBRL mapping software, we analyze the XBRL application on a Microsoft Access platform. Figure 5 displays the snapshot of XBRL mapping software. The software interface can map general ledger taxonomy. Further, bankers and other financial analysts can view the steps in progress, connect with other business documents, and export the documents to other platforms.

Figure 4
A snapshot of the MultiMart software creating a live report of profit and loss distribution

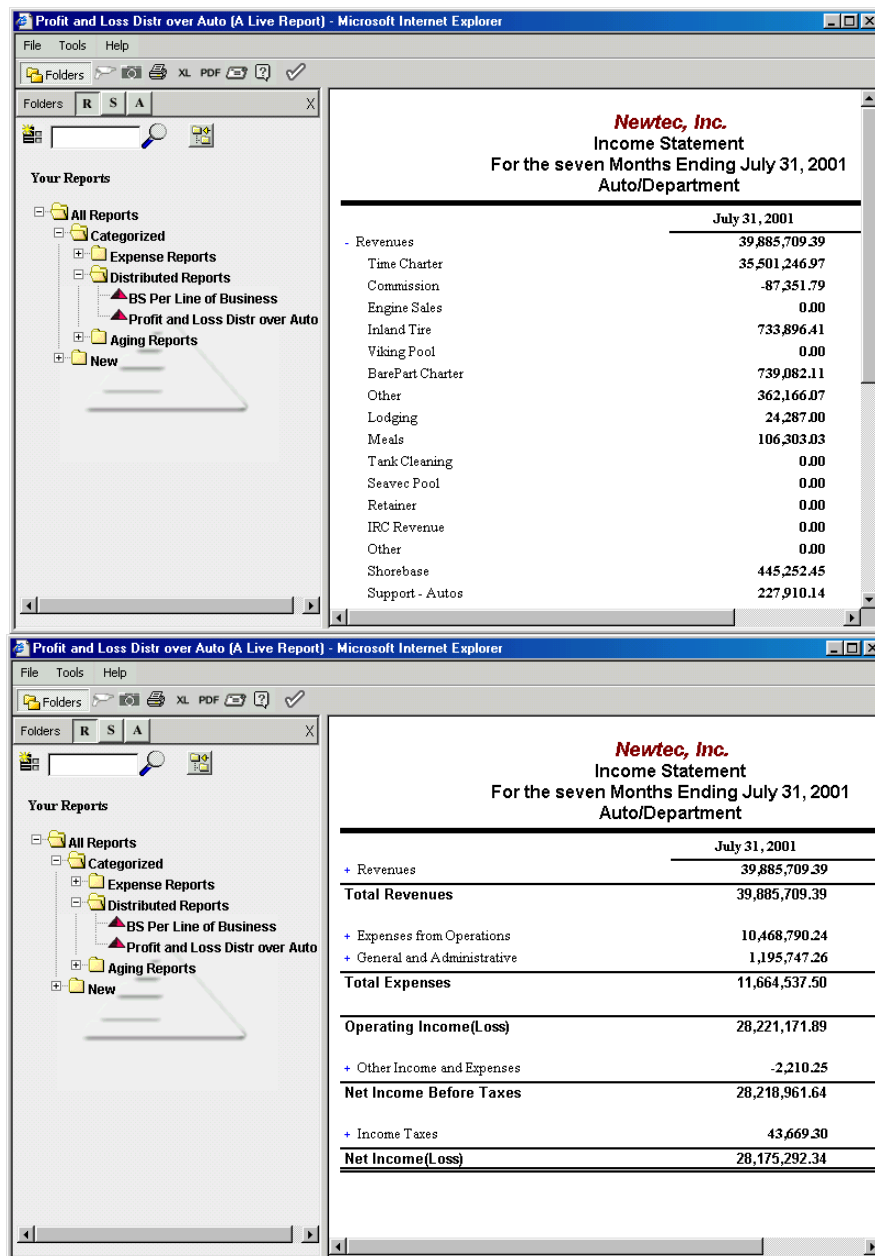


Figure 4 (continued)

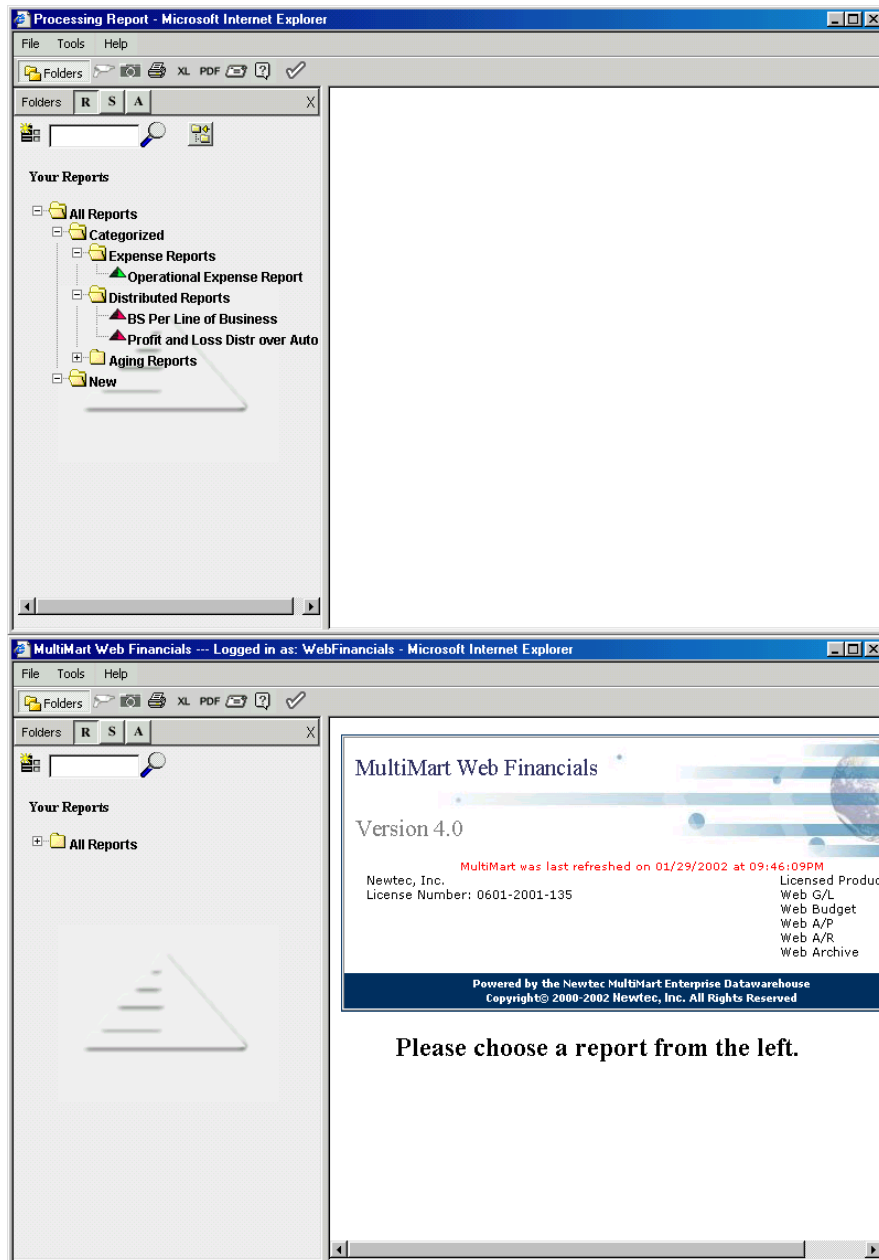


Figure 5
XBRL Mapper demonstration

Microsoft Access - [Main Menu]

File Edit View Insert Format Records Tools Window Help

XBRL Mapper
Main Menu

The XBRL Mapper is a demonstration of mapping (assigning) an XBRL taxonomy element to a general ledger trial balance account. XBRL can be assigned at this level, or at a more detailed or summarized level, depending upon unique needs of a organization.

This application is made available subject to the licence agreements and copyrights of the XBRL.ORG Project Committee. For details see: <http://www.xbrl.org/leg>

For further information, please contact author of this application, Charles Hoffman, at: CharlesHoffman@xhtml.org

Version 3.06 - 05/30/2000

Microsoft Access - [Taxonomy Elements]

File Edit View Insert Format Records Tools Window Help

Company GL to Taxonomy Mapper

XBRL Taxonomy

| Label | NS | Order |
|-----------------------------------|--------|-------|
| Balance Sheet | ai CPA | 3 |
| Income Statement | ai CPA | 4 |
| Comprehensive Income | ai CPA | 5 |
| Statement of Stockholders' Equity | ai CPA | 6 |
| Cash Flows | ai CPA | 7 |
| Accountant's Report | ai CPA | 8 |
| Company | ai CPA | 10 |
| Notes to Financial Statements | ai CPA | 11 |

ID: 2 Level Item count:

Name:

Parent:

Company General Ledger Accounts

| | |
|-------------|-------------------------------|
| 000-1100-00 | Cash - Operating Account |
| 000-1101-00 | Cash in Bank - Canada |
| 000-1102-00 | Cash in Bank - Australia |
| 000-1103-00 | Cash in Bank - New Zealand |
| 000-1104-00 | Cash in Bank - Germany |
| 000-1105-00 | Cash in Bank - United Kingdom |
| 000-1106-00 | Cash in Bank - South Africa |

Find:

Map XBRL Taxonomy Element

To Company General Ledger Account

Step 1 - Select XBRL taxonomy element
Step 2 - Select company GL account
Step 3 - Press the MAP button
Step 4 - Repeat for each account

Press button to map selected taxonomy item to selected GL

Form View

Figure 5 (continued)

Microsoft Access - [Mapping Process Explanation]

File Edit View Insert Format Records Tools Window Help

Steps in Mapping Process

Map

| FullAccount | AccountDescription | TaxonomyElement | Index |
|-------------|---|---|-------|
| 000-1100-00 | Cash - Operating Account | cashAndCashEquivalents.cash | |
| 000-1101-00 | Cash in Bank - Canada | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1102-00 | Cash in Bank - Australia | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1103-00 | Cash in Bank - New Zealand | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1104-00 | Cash in Bank - Germany | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1105-00 | Cash in Bank - United Kingdom | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1106-00 | Cash in Bank - South Africa | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1107-00 | Cash in Bank - Singapore | currentAssets.cash_CashEquivalentsAndShortTermInvestments | 36 |
| 000-1110-00 | Cash - Payroll | currentAssets.cash_CashEquivalentsAndShortTermInvestments | |
| 000-1120-00 | Cash - Flex Benefits Program | currentAssets.cash_CashEquivalentsAndShortTermInvestments | |
| 000-1130-00 | Petty Cash | currentAssets.cash_CashEquivalentsAndShortTermInvestments | |
| 000-1140-00 | Savings | currentAssets.cash_CashEquivalentsAndShortTermInvestments | |
| 000-1200-00 | Accounts Receivable | receivables.accountsReceivable-tradeNet | |
| 000-1205-00 | Sales Discounts Available | accountsReceivable-tradeNet.allowanceForDoubtfulAccounts | |
| 000-1210-00 | Allowance for Doubtful Accounts | accountsReceivable-tradeNet.allowanceForDoubtfulAccounts | |
| 000-1220-01 | Credit Card Receivable-American Express | receivables.accountsReceivable-tradeNet | |

Record: 1

View: ☒ Chart of Accounts ☐ GL Transactions ☐ Map GL to Taxonomy ☐ Trial Balance ☐ "Mapped" Trial Balance ☐ "XBRL"ized Export Data

Calculating . . .

Microsoft Access - [Export]

File Edit View Insert Format Records Tools Window Help

Export

File Locations

Export path: C:\Temp

Form View

IV. APPLICATIONS, BENEFITS, AND FUTURE OF XBRL

XBRL is expected to vastly expand the value of accountants' reports to users of financial statements and reduce the costs for practitioners. In the brave new world of XBRL, users of financial information will be able to access it, understand it, download it, compare it, and analyze it with a speed and degree of specificity that is currently not possible. As users of XBRL in the future, we will be able to understand the structure of the financial information and, more importantly, the content.

At first, XBRL will be used to digitally publish financial statements of companies that are issued to external users. An XBRL-based financial statement is a digitally enhanced version of paper-based financial statements including the balance sheet, income statement, statement of equity, statement of cash flows, and the notes to the financial statements as well as the accountant's report. XBRL for Financial Statements enables a dramatic improvement in the processing of financial reports. XBRL documents can be prepared efficiently, exchanged reliably, published more easily, analyzed quickly, retrieved by investors simply – all of which enable smarter investments.

A. Applications of XBRL

1. Banking

A banking investment analyst will be able to access and analyze interest margins across the sector in seconds, and an investor in the insurance sector can review and compare life insurers' profitability almost instantly. Banking systems all recognize XBRL. Companies are given favorable loan rates when they file with XBRL, so practitioners are embracing it quickly in an effort to help their clients reduce the overall financing costs.

2. Reporting

Using XBRL, preparers of information for publicly or privately held companies could set up online financial statements. Information would be available on demand to interested parties, such as investors or lenders desiring to monitor the safety of their investments. For example, suppose your company has used its accounts receivable as collateral for a loan. Rather than contacting the company accountant for a recent balance loan officer can view your company's financial statements directly online. Additionally, he or she could review the supplementary information that comprises the accounts receivable. By clicking on the account title "Accounts Receivable," an immediate link to a list of relevant accounting literature is provided. The lender then has the opportunity to review the company's accounting procedures and policies that were used for measuring and reporting the balance. For any date presented, clicking on the reported accounts receivable amount opens a summary of transactions, representing the account balance for that particular year. This online linking capability extends business information reporting beyond traditional formats, and also simplifies the

transmission of information for SEC reporting (Edgar), tax filing, and other regulatory requirements (AICPA 2000). Larger companies are using XBRL for internal reporting purposes at more detailed levels. The pressures to provide more timely information for management decisions drives the need for virtual closes; the growth, collapse, and eventual leveling out of application service providers (ASP) and growth of Internet-enabled computing have brought tremendous demand for the standardized representation of accounting and other information. Small companies find that XBRL-enabled software, available in virtually all low to medium-end accounting software systems, gives them a real advantage when seeking small business loans and credit from suppliers. The Small Business Administration (SBA) requires all SBA-backed loans to have cash flow projections coded in XBRL. International adoption of XBRL brings new vitality to the economies of numerous smaller countries and communities. XBRL makes it as automatic as possible to move between local standards (including U.S. GAAP) and IASC standards. Investment in smaller international companies increases dramatically as the financial community sees the benefits of having basic accounting information easily translated from one set of accounting standards to another. As trust builds, capital markets respond.

3. Analysts

The ability to compare financial statement items through XBRL-based statements would give analysts and other users quick and accurate access to the financial position and performance of companies. XBRL is a big laborsaving tool in loan processing, risk assessment, equity analysis, and investment banking. IT frees up the analyst's time to do more analysis and avoids having to download information, print out paper, and recheck numbers. Therefore, businesses need to develop, provide, and maintain a consistent availability to XBRL-based systems to compete for investment dollars. Analysts can use spreadsheet software to extract items across companies that are commonly identified. For comparisons, they can organize related data and summarize results in a pre-set format, storing results for further analysis. One strength of the XBRL reporting system is that it can draw from various electronic sources, and store information in the extraction program's own standardized format. From the risk manager's perspective, XBRL reporting could provide a mechanism for accurate real-time information that has been their Holy Grail. And by warehousing XML-compliant data, information across the business and, indeed from other businesses, can be analyzed for patterns and relationships in a way simply not possible before.

4. Financial Services

Financial services companies are much more data reliant than all their industrial and retail counterparts. Like all businesses, internally generated data are vital for business management and performance measurement. But in the case of financial services companies, externally generated data and information have a major impact on the business as well. For example, a full and thorough understanding of foreign exchange movements will be much more important to an investment bank as compared to a retail

outlet. Similarly, the impact of data generation and publication methods that ease communication is much more likely to have an immediate effect on the way fund managers conduct and manage their business as compared to a chemical, petroleum, or oil company manager.

There are three macro areas (or levels) where financial managers might find uses for XML:

- (1) at the transaction level,
- (2) at the intermediate summary (general ledger) level, and
- (3) at the summary reporting level

Many emerging XML specifications are in deployment for industry supply chains at the transaction level. Although in most cases, the accounting industry representation on these consortiums is still small, but to survive in the emerging digitalization of the business world is expected to develop an industry standard. In most of these cases, the projected language of structured data will be XML, which is compatible with XBRL systems. Therefore, while currently it is difficult to predict the interoperability of the transaction-level specifications with the summary-level users, the development of general ledger data specifications is clearly a financial manager's domain. The XBRL Steering Committee has the general ledger level on its strategic agenda and the standard form of the general ledger taxonomies is in the process of being finalized. XBRL will have a substantial influence on major areas of the financial services industry. Those financial services companies with better, more consistent and comparable real-time financial information at their fingertips, both from their own operating units and systems and from publicly available sources, will have a substantial competitive advantage and faster pace of innovation over those who do not.

5. Accounting Firms

As companies adopt this new, freely available language, the very nature of auditing could change. XBRL promises to make "continuous auditing" more of a reality, and thus enhances the company's ability to get "assured" information out to users as quickly as possible. With a common language being used across companies, audit tool developers could create universal programs that create audit schedules and extract samples for testing, among other audit needs. Audit costs should be reduced because specific client programs would no longer be necessary. Audit software may also be designed to raise the alarm when information outside preset audit risk parameters is entered into the system. Auditors would then be able to access and review the details that comprise the reported information. And this may all be done from an offsite location such as the comfort of their own office.

Following is a list of potential XBRL applications²:

1. XBRL for Financial Statements - financial statements of all sorts used to exchange financial information.
2. XBRL for Taxes -specification for tax returns and information exchanged for items that end up on tax returns.
3. XBRL for Regulatory Filings - specifications for the large number of filings required by government and regulatory agencies.

4. XBRL for Accounting and Business Reports - management and accounting reports that are created by electronic accounting systems with XML to make re-using the financial statements possible.
5. XBRL for Authoritative Literature - a standard way for describing accounting related authoritative literature published by the AICPA, FASB, ASB, and others to make using these resources easier, "drill downs" into literature from financials possible.

B. Benefits of XBRL

XBRL is around the corner, and its eventual impact is expected to be profound. Its initial goal is to provide an XML-based framework that the global business information supply chain will use to create, exchange, and analyze financial reporting information, including regulatory filings such as annual and quarterly financial statements, general ledger information, and audit schedules. The emergence of XBRL, which was recently reviewed by major corporations General Electric and United Technologies, is a testament to the Internet's insatiable appetite for data. The new specifications leverage the efficiencies of today's Internet as today's primary source of financial information. Moreover, XBRL provides an efficient and reliable means of communicating financial information without changing existing accounting standards or requiring a company to disclose any additional information beyond that in its current financial statements. XBRL is a descriptive and rendering language for financial statements allowing businesses to electronically import or output globally standardized statements, eliminating the need for redundant entry and simplifying usability. Furthermore, the XBRL specification is critical to the financial reporting success of companies across all industries because it empowers business users to employ the Internet as a highly efficient channel to communicate business information. XBRL offers several key benefits: technology independence, full interoperability, and efficient preparation of financial statements and reliable extraction of financial information. Information is entered only once, allowing that same information to be rendered in any form, such as a printed financial statement, an HTML document for the company's Web site, an EDGAR filing document with the SEC, a raw XML file or other specialized reporting formats such as credit reports or loan documents.

The good news is that, in most cases, you won't have to learn anything to be able to "read" or "write" XBRL because it will be built into most, if not all, accounting and financial reporting software. Once added to the software, it will automatically and transparently translate all the business information you choose - numbers and words - so each segment of data is identified when viewed by a Web browser or sent to a spreadsheet application for calculation or examination. Even better news is XBRL won't require extra attention from CPAs and other financial managers and will make their work easier to perform and more effective. XBRL will improve access to and the usability of financial data no matter whether the information is from a business or an association or whether the entity is large or small, public, private or nonprofit. Additionally, XBRL will reduce the cost of processing, calculating and formatting financial information because, once the data are created and formatted the first time,

they never have to be keyed in a second time or reformatted for any special presentations.

The bottom line is that XBRL will add value to financial information for all users, including auditors, preparers, bankers, shareholders -- in short, anyone who creates, uses, or accesses an organization's business data. Extensible Business Reporting Language promises to make short work of mining and manipulating data from proxies and quarterly statements, by describing each individual line item and footnote in a corporate filing. With XBRL-coded documents, financial analysts and day traders can instantly find a public company's crucial figures or compare a range of industries and financial statement line items.

Streamlining the financial information supply chain through XBRL gives companies a competitive edge and lets management accountants/financial managers cut reporting costs. Simplifying the exchange of financial statements through XBRL will improve their flexibility and positively impact the broad range of attestation services from full-scale audits to smaller-scale reviews of selected information. Costs to incorporate XBRL will be minimal because it will be built into most accounting and financial software tools and operating procedures. Further, using XBRL does not mean that companies will be producing cookie-cutter financial statements. They can continue to use their regular statement formats because XBRL relies on existing accounting standards. In addition, XBRL improves investor and analyst access to a company's financial information, thereby lowering their uncertainty over perceived risks of investing and providing them with credible, reliable information.

XBRL lets the whole organization reuse the same financial statements through the creation of a single-source document that can be the basis of required electronic filings (such as EDGAR), investor relations pages posted on the company's Web site, and statements required by credit reporting agencies (as well as lenders) to comply with loan covenants. Besides reporting, XBRL also promotes better quality decision-making. Investor reactions and buying decisions are often based on rumor, innuendo, and guesswork because official information comes out infrequently and after-the-fact. As management publishes more timely information, an organization can better control investor reaction.

C. Future of XBRL

A recent study of public companies, conducted by the Association for Investment Management and Research (AIMR), indicated that 66% of companies surveyed have a Web site and that 76% of those companies provide financial information on their Web site. The AIMR study showed that analysts preferred to use Web sites to obtain information, even though other sources exist.

Analysts and investors need accurate and dependable financial information delivered swiftly to help them make informed financial decisions. XBRL meets these needs and is particularly important in delivering financial information via the Internet. XBRL leverages efficiencies of the Internet as today's primary source of financial information by making Web browser searches more accurate and relevant for all users

of financial information. Soon every public company will have a Web site where they will make their financial information available to interested parties.

In addition, companies applying for a loan will make their financial information available to the bank in XBRL. That financial information will be e-mailed to the bank and will automatically be imported into the bank's loan analysis software. In the future, XBRL will incorporate all accounting literature and research materials to make information easier to use and available to various users of the information.

Regarding international reporting standards, the XBRL committee is presently creating an open framework that provides for concurrent development of XBRL specifications in other countries and jurisdiction. Eventually, XBRL will contain elements for the special features present in different countries/territories, and it will be possible to map current levels of detail in financial statements from different countries. An example would be if the UK uses the term "revenue" on the income statement, it would map to the US term for "sales". This flexibility will allow for a seamless, almost transparent comparison of financial statements across countries. In addition, this transparency may also facilitate the "coming together" of accounting standards from the U.S. and other countries/regions from around the world. So far, 1,800 accounting terms are defined and have been assigned codes or tags. For example, "cost of goods sold" and "general and administrative expenses".

V. SUMMARY AND CONCLUSIONS

Extensible Business Reporting Language (XBRL), formerly code-named XFRML, is a freely available electronic language for financial reporting. It is based on the industry standard Extensible Markup Language (XML), which is an open specification using XML-based data tags to describe financial statements for both public and private companies. XBRL speeds up access to financial information, reduces the need to enter the information more than once, and works in a variety of formats - printed financial statement, an HTML document for a company's Web site, an EDGAR filing document, a raw XML file or other specialized reporting formats such as credit reports and loan documents. Thus, by using XBRL a company will find it less costly to prepare and distribute its financial statements while improving access to its information.

XBRL is a standards-based method that will allow users to prepare, publish (in a variety of formats), exchange and analyze financial statements and the information they contain. Freely licensed, XBRL permits the automatic exchange and reliable extraction of financial information across all software formats and technologies, including the Internet. As the use of XBRL becomes more widespread, users of financial information will benefit, including public and private companies, the accounting profession, regulators, analysts, the investment community, capital markets and lenders, and key third parties such as software developers and data aggregators. XBRL is not about establishing new accounting standards, but rather about enhancing the usability of the current standards in an electronic commerce environment. XBRL will not require a company to disclose any additional information beyond that which they normally disclose under existing accounting standards.

Though the Big Five accounting firms are geared up for it, XBRL still has to win the support of the more than 12,000 U.S. public companies and the Securities and Exchange Commission. The SEC says it has no plans to support XBRL, though EDGAR Online promises 5,000 supporting companies by early 2002. Clearly, the adoption rate of XBRL for financial statements relies on the speed with which the accounting software development firms take up the standard. Another issue, previously mentioned, that may hinder growth is the lack of universal international accounting standards, which would make true comparisons difficult, depending on the area of analysis.

Incredibly powerful and easy to use, XBRL will improve the standards for excellence in financial reporting. The accounting/finance industry is very excited about this emerging business reporting language because of its simplicity and improved efficiency. As illustrated in this paper, the growth of XBRL will shape the financial picture of different companies. Soon, high-powered financial reporting will become a necessity.

NOTES

1. For further details of DTD, refer to Boumphey (1998).
2. <http://www.xbrl.org/>, XBRL.org, accessed January 11, 2002

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