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COST-BENEFIT ANALYSIS:

IN THEORY AND APPLICATION

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Paper Submitted to Dr. Khondkar Karim for fulfillment of course requirements for Cost Management – 0101 706

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ABSTRACT

A definition of XBRL will be given, followed by a brief overview of the

XBRL system. A timeline of events in the brief history of XBRL will be

rendered and discussed. Based on the global perspective of the XBRL

movement and the establishment of an international consortium, XBRL

International, international and domestic analysis will be addressed.

Standardization of coding for financial reporting information is the goal of

the consortium and the required coding structure will transcend national

borders in order to accomplish this goal.

A prototype language, created by the early users of eXtensible Markup

Language (XML), in the accounting industry, was created in 1998, and

became known as eXtensible Financial Reporting Markup Language

(XFRML). In 2000, an accounting industry specific language, eXtensible

Business Reporting Language (XBRL), was released. Currently, this

coding structure is becoming part of the financial reporting process, but is

off to a slow start within the United States, in 2005.

Starting in 2005, software manufacturers began release of software

packages which allowed for the adoption and coding of financial

information in XBRL form; thus allowing for electronic submission of

financial reports to the Securities and Exchange Commission (SEC), on a

voluntary basis in 2005. Originally, cash-flows were a concern to the

software producers regarding XBRL software development and product

marketing, but an endorsement by the SEC, regarding XBRL use and

adoption, led to this historic move by American corporations regarding

financial reporting, in 2005.

The primary focus of this paper is to look at implementation of XBRL and

any known costs associated with these procedures. The benefits of XBRL

adoption, implementation, and use will also be examined. A cost-benefit

analysis approach will be utilized to examine XBRL, as a working

concept. Due to the infancy of the XBRL movement and the lack of

quantitative data, qualitative data speculating on the cost savings

associated with XBRL utilization will be examined. In theory, due to the

removal of data entry repetition and standardization of financial data, costs

should be greatly diminished. Reducing the likelihood of errors will also

constitute a cost savings. This paper sets out to establish the benefits of

XBRL use and promote the adoption and implementation of the XBRL

system on a global level, crossing all user barriers.

INTRODUCTION

XBRL was originally introduced in 2000, and is a coding structure designed to help standardize financial reporting. It is a global effort to build a coding structure, following Generally Accepted Accounting Principles (GAPP), thus allowing it to become the digital language of business reporting. The definition of XBRL is provided on the XBRL website and is given in the following statement. "The eXtensible Business Reporting Language (XBRL) provides an XML-based framework that the global business information supply chain can use to create, exchange, and analyze financial reporting information including, but not limited to, regulatory filings such as annual and quarterly financial statements, general ledger information, and audit schedules. XBRL is freely licensed and facilitates the automatic exchange and reliable extraction of financial information among various software applications anywhere in the world." (Hoffman & Strand, 2001, p.11). XBRL is a language, which has its own set of special words (codes) that make up a communications system.

The XBRL specification is explained to computers through the use of two computer files, which contain the fundamental building blocks of XBRL; and these are the XBRL core schema and the XBRL meta model. The XBRL specification describes how XML elements and attributes are organized and structured to create XBRL instance documents and taxonomy documents. The XBRL core schema describes, via a computer language called document type definition (DTD), how XBRL instance documents will be created; while the meta model describes, via a computer language called XML Schema, how XBRL taxonomy documents will be created (Hoffman & Strand, 2001, p. 68).

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The instance documents contain the data of a business report, such as a financial statement, and the taxonomy documents describe the financial facts used in the business reports. The taxonomy documents contain the vocabulary of financial facts or dictionary of terms that will be used in an instance document. More than one taxonomy document may be used to describe an instance document. The instance document might have to derive information from the company taxonomy, media taxonomy, taxonomy for financial report, taxonomy for industry sector/jurisdiction, and various other taxonomy documents (See Figure 1).

All the facts contained in an instance document that portray or represent any business report must appear in one of the taxonomies referenced by the XBRL instance document (Hoffman & Strand, 2001, p. 68). Companies will have their own taxonomy documents and their will be jurisdictional taxonomy documents. Also, standardization of accounting principles can be achieved through use of these taxonomy documents. Taxonomies can be created when necessary, as described by Kearney (2005); "Creating my own taxonomy also proves the point that XBRL can be designed specifically to meet an individual company's needs, as long as the taxonomy conforms to XBRL standards (currently XBRL 2.1), is hosted on the internet, and the instance documents can reference the taxonomy properly."

The XBRL financial facts can have a hierarchical relationship amongst themselves, and the hierarchy is expressed by utilizing a rollup element, within a taxonomy document. The concept of a family tree can be envisioned, with a weighted relationship among the members. Balance sheets and income statements are two financial reporting documents which could be broken down and assessed utilizing this

XBRL taxonomy document concept. An XBRL instance document can be considered a database of financial facts, representative of financial statements or reports, and the financial information they contain (Hoffman & Strand, 2001, p. 73). XBRL elements can be contained in these instance documents and only three elements are allowed by XBRL. These elements are item, group, and label and can contain other various attributes that further describe the facts.

After the instance document has been created, the taxonomies are checked to be XBRL compliant and the instance document has been validated; the resultant is you have a valid XBRL document. Now the information can be shared with others and can be used by computer applications. When you wish to present the information in another form, then you need to create a style sheet to express the XBRL instance document in the desired format. Different style sheets render information in different ways, for instance, financial information would need to be in HTML form before being placed on a Web site. The real benefit and associated cost savings results from the fact that no information needs to be re-keyed at any time during these style sheet applications.

Afterwards, applications can be run on the XBRL information, information can be extracted and analyzed manually, and specific information can be extracted automatically on a regular schedule. Virtually, any application can export XBRL, because XBRL is XML, and XML is text (Hoffman & Strand, 2001, p. 85). Already, the associated benefits of XBRL can be anticipated, based on the usage and standardization of the coding. The XBRL coded information can now be utilized by many parties, without the information having to be input on a repetitive basis. The possibility for errors is also

reduced, due to less re-keying of financial data by all the interested parties involved in data extraction, manipulation, and analysis.

Section II of this paper will give a timeline, associated with the important and critical events associated with XBRL creation, advancement, and implementation. A discussion of the XBRL International consortium and XBRL Europe will be addressed in this section, as well. Section III will consider the benefits of XBRL implementation and use. Many of these benefits are theorized, because there is a lack of substantial quantitative data, due to the infancy of the XBRL process. Section IV considers the cost of accounting data, in respect to non-XBRL formatted data, and the current processes involved in the financial reporting of data. The switching cost to XBRL formatted data will also be addressed in this section. Section V looks at the costs and benefits of the XBRL system and discusses the longer term implications of the switchover to XBRL financial reporting.

XBRL AND THE XBRL CONSORTIUM

Coding

It was discovered in the early 1990's that Hypertext Markup Language (HTML) was not adequate for all users. HTML could not interpret the content of a Web site; it was only capable of altering the appearance of a Web site. A group of engineers, with the help of the World Wide Web Consortium (W3C) developed eXtensible Markup Language (XML), and version 1.0 was released in 1998. XML uses generalized codes for tagging data, and these tags better represent the data and make it easier to utilize and manipulate (Barbour, 2004). Members of the accounting industry became early adopters of XML and they created a prototype language called Extensible Financial Reporting

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Markup Language (XFRML), specialized for their specific industry requirements (Bergeron, 2003, p. 108).

Charles Hoffman, a CPA, and Wayne Harding, chairman of the AICPA's high tech task force; had partnered and realized a need for a tagging system that identified financial data and directed the computer, in respect to the handling of the data. Relationships between the tagged data would be established by the tags, and the data would be linked to other locations (Barbour, 2004). They started the development of financial statements in XML, which helped lay the foundations for XBRL. In 2000, an accounting industry specific language was released, this was version 1.0 and it was renamed the eXtensible Business Reporting Language (XBRL). Currently, the industry standard is XBRL 2.1.

Organization

The AICPA created and promoted an organization, called XBRL International Inc., and the XBRL Steering Committee was formed in August of 1999. The original Steering Committee was comprised of twelve member companies, along with the AICPA. Currently, membership has grown to include over 400 companies and agencies worldwide. The group was formed as a non-for-profit global consortium of companies and agencies with one common goal, the development of XBRL and the widespread acceptance and use of the new global coding standardization process for financial information (Tie, 2005, p. 33).

As of February 1, 2006, XBRL International announced that it has established XBRL Europe, to facilitate and support the rapid developments in the European Union (EU), regarding XBRL development. The European Commission signed a 1 million

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(Euro) contract with the XBRL Europe Consortium, two years ago, to accelerate the development and adoption of XBRL in the EU. Based on the success of the project over the last two years, XBRL International has decided to keep an established organization in the EU to facilitate the XBRL adoption and implementation process.

Mr. Oliver Servais, who served as Permanent Secretary the preceding two years, will serve as the XBRL Europe Director. His appointment will promote continuity in the current processes that have been established within the organization. XBRL Europe is a not-for-profit organization, based in Brussels and registered in Belgium. The established and proven mission of the organization is to promote and sustain the fast-growing activities concerning XBRL in Europe. Already, many organizations across the EU have adopted XBRL for reporting purposes. The above information was provided by http://www.xbrl.org//Press%20Releases/2006/XEU-launch-FINAL-1Feb2006.pdf.

Since the first official launch of XBRL in New York in 1998, the Institute of Chartered Accountants in New Zealand has been monitoring the XBRL movement. Based on the progress of XBRL, in respect to technology and standardization, the XBRL-NZ Special Interest Group (XBRL-NZ) was formed in 2002, with the goal of adopting and implementing XBRL in New Zealand. XBRL-NZ began increasing the level of awareness regarding XBRL, via targeted seminars and regularly published articles in, The Chartered Accountants Journal of New Zealand. The establishment of a, New Zealand taxonomy, had to occur before XBRL adoption could begin. In early 2003, the New Zealand Stock Exchange (NZX) joined XBRL as it was reviewing its reporting processes. At that point in time, the primary adopters and users of XBRL have been the larger corporations and governmental departments (Boyd, 2004).

XBRL is becoming more of reality in the world of accounting, corporate disclosure and financial reporting. These changes are occurring throughout the world at an accelerating rate, and now software is being marketed to help facilitate the new XBRL coding changes. The chairman of the U.S. Securities and Exchange Commission (SEC), Mr. Christopher Cox, is on a mission to improve financial reporting. He wants to bring the U.S. system of corporate disclosure and financial reporting into the 21st century. Mr. Cox believes that, interactive data could make it possible for issuers to reduce the cost of substantiating the numbers that appear in their financial statements. Also, that it would assist regulators in maintaining the integrity of the markets. Lastly, the interactive data would also make disclosures more useful to investors, and to every market participant (Sinnett, 2006). Mr. Cox presented his vision and view points on November 7, 2005, in Tokyo, Japan at the 12th XBRL International Conference.

Software

Software developers were cautious about investing in XBRL software, due to the uncertainty of cash-flows, but their attitudes changed after Mr. Cox expressed his position on XBRL. Software venders began developing and launching a remarkable set of tools to help the end user make efficient use of this important technology (Anonymous, 2005). The rush to develop and market new XBRL-related software was on and major companies, such as Adobe, EDGAR Online, Microsoft, and Oracle responded to the market demands. According to the software developers; Better, Faster, and Smarter became the new creed or philosophy (Anonymous, 2005).

Actually, some companies, such as EDGAR Online, had been investing time and money in preparation for this day. The infrastructure to help construct, code, and

transmit these XBRL documents needed to be prepared and constructed. I discovered

that EDGAR Online spent nearly three years in preparation of the operating platform

necessary for transmission and processing of XBRL documents. The old method for

compiling and transmitting data was to scan paper documents into digitalized data, thus

establishing a digital archive. The documents are now in digital form, such as PDF files,

and are available anywhere in the world, via the internet (See Figure 2). The drawback is

that no manipulation or extraction of data is possible and finding specific data strings is

tedious and time consuming.

Results

In 2004, the movement away from paper and digital financial reporting began in

Canada. PricewaterhouseCoopers assisted the TSX Group Inc. in preparation of their

annual financial report, utilizing XBRL. As a result, the TSX Group Inc. became the first

Canadian public company, as well as, the first publicly listed stock exchange globally, to

utilize XBRL in the publishing of their financial report (Colman, 2004). In February of

2005, the SEC announced an XBRL Voluntary Filing Program (VFP) with the intention

of assessing XBRL technology. The SEC wanted to evaluate the ability of the registrants

to tag their financial information utilizing XBRL and the benefits associated with using

tagged data for analysis (Sinnett, 2006).

As of December 1, 2005, only nine U.S. companies filed their annual financial

reports utilizing XBRL and participated in the VFP. In September 2005, Microsoft

became the first company to submit its annual Form 10-K report, for the year ending June

30, 2005, to the SEC in XBRL format. The other companies which filed their financial

reports in XBRL format, included Adobe Systems Inc., Brown & Co. Inc., Business

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Objects S.A., RR Donnelley & Sons Co., EDGAR Online Inc., EMC Corp., InfoSys

Technologies LTD, and United Technologies Inc. (Sinnett, 2006).

XBRL BENEFITS

Labor Savings

Due to the fact, that under the current non-XBRL financial reporting environment;

data retrieval, extraction and input throughout the information supply chain is repetitive

and results in astronomical costs. Based on Forrester Research data from 2002, U.S.

companies spent $404 billion paying workers to find and re-key information, and this

accounted for 11 percent of all wages paid in the United States (Pinsker, Gara & Karim,

2005). This inefficient use of labor resulted in the SEC reviewing only 16% of the

14,000 annual corporate filings in 2001, and not having an opportunity to review Enron's

annual report or corporate filings since 1997 (Farewell & Pinsker, 2005). This inefficient

use of labor resources wastes a lot of money, increases errors, and decreases worker

productivity. In turn, corporate earnings can be reduced and the countries GDP can also

be negatively affected.

XBRL is a royalty-free, open software specification, with version 2.1 being the

most current application. Microsoft, a member of the XBRL International Inc.

consortium, has released Microsoft Office Tool for XBRL. This is a free enhancement

for the 2003 versions of Excel and Word. Use of the XBRL tool will speed up data input,

ensure accuracy, eliminate ambiguity by specifying the precise nature of each data

element, and ultimately simplify the exchange of financial information. In 2003, the

Federal Deposit Insurance Corporation (FDIC) awarded Unisys Corp. a 10-year, $39

million contract regarding XBRL implementation. The federal bank regulators'

collection, processing, and distribution of banks' quarterly financial reports will be modernized and streamlined. PricewaterhouseCoopers, Microsoft Corp., EDGAR Online Inc., and other technology oriented companies are to assist the Unisys Corp. in this continuing process of XBRL implementation for the FDIC (Naumann, 2004). Figure 3 demonstrates data flow of financial information without and with XBRL technology, such as the Microsoft Office Tool for XBRL.

XBRL makes financial reporting cheaper, better and faster, by: Reducing the cost of preparing, publishing, and analyzing information. Increasing the effectiveness of business decision making, allowing for real-time reporting and more thorough analysis capabilities, reducing the margin of human error, as well as, improving accessibility and ease of use by enhancing comparability are additional benefits. Automating information migration from systems to financial statements, increasing the speed of data use and related decisions, and simplifying data transfer are another set of benefits derived from XBRL utilization. A list of benefits include: transparency, timeliness, internal controls, fair value accounting, convergence, and principles-based accounting standard-setting (Cunningham, 2004). XBRL use will offer cost savings and benefit all members of the financial information supply chain. Figure 4 illustrates the seamless collection and dissemination of information utilizing internet-based standards, in respect to XBRL, and the associated processes and participants which benefit from XBRL implementation, adoption, and utilization.

Potential Users and Assurance Issues

Potential users include regulators, accountants, banks, analysts, investors, management, and any other member of the financial information supply chain. The

potential for data assurance is now an issue regarding the XBRL tagging process.

Currently, companies providing XBRL-tagged instance documents on their websites are

doing so without assurance that the information had been attested to by a trusted,

independent party for compliance with appropriate technical specifications (Farewell &

Pinsker, 2005).

As a result of the assurance issue, The Auditing Standards Board (ASB) passed

Interpretation 5, "Attest Engagements on Financial Information Included in XBRL

Instance Documents," of Statement on Standards for Attestation Engagements (SSAE) 10

(Farewell & Pinsker, 2005). This recently passed standard is designed to provide users of

XBRL instance documents, with the assurance that these documents comply with the

stringent technical specifications regarding XBRL and the related or customized

taxonomies being utilized. As Mr. Cox, chairman of the SEC, stated at a press

conference regarding XBRL, utilizing XBRL should ultimately result in the protection of

all investors. As a result, this issue of assurance and data integrity opens up a potential

market for, XBRL instance document assurance services.

Based on an article hosted by the Web site, http://www.batavia-

xbrl.com/xbrl_main_xbrl_process.html, the advantages provided by XBRL regarding the

business reporting supply chain and the associated beneficiaries of the information are:

"XBRL provides advantages at each step in the business reporting supply chain. These
beneficiaries of XBRL are the producers and consumers of business reports: accountants,
auditors, financial analysts, investors, creditors, business and technology decision
makers, such as the CFO, CIO, CTO, Controller, and senior executives of Finance,
Investor Relations, Financial Research, Software vendors, and Information Technology."

Cost savings are associated with each link of the business reporting supply chain and value chain analysis could help identify areas within the chain where corrective financial actions may be required. Figure 5 illustrates the XBRL process and related beneficiaries.

The XBRL Process and Savings

Based on the old financial reporting system, company information is hosted on their website in PDF or HTML format, and this information is costly to retrieve, manipulate and utilize by other interested and concerned parties. Companies spend billions of dollars on this method of data presentation and transfer. Implementation of XBRL will result in cost savings and the data will be cheaper, better, and faster. The preparers and consumers of the data will realize substantial cost savings. The cost of consumption savings of the information for end-users will be enormous, both in terms of time and money. Even a lay investor will reap the benefits of XBRL implementation and utilization. According to a study conducted by Tad Leahy, the potential savings resulting from XBRL adoption could be as much as 60% (Chartered Treasury Manager, 2003).

XBRL will provide a significant Return on Investment (ROI), based on the exponentially decreasing costs associated with information production and consumption. The analysts' firms, Gartner and Forrester, have both published reports regarding the significant cost reductions available by leveraging XBRL and XML enabled reporting processes (Ward, 2004). The repetitive manual steps regarding production and consumption of financial information throughout the supply chain have an adverse cost impact on all associated parties, and translates into vital resources being wasted. XBRL offers the industry cost savings, competitive advantage, risk management, and this is a resultant of increased rates of straight through processing (STP) and more accurate

information flows (Crosby & Sprenkle, n.d.). By migrating from the spider-web effect of information association, to the streamlined and standardized world of XBRL, data efficiency and accuracy, and cost savings are derived. The processing benefits are the decreased costs associated with financial reporting. Figure 6 illustrates the XBRL system after implementation and some of the associated users of the model.

Semansys Technologies B.V., currently offers products related to XBRL implementation and usage. The Semansys XBRL Composer and the Semansys XBRL Suite are two such available products. Use of these products allows any organization to fully benefit from the advantages of financial reporting utilizing XBRL. Figure 7 provides a graphical representation of theoretical cost savings associated with use of these products. The above information was provided via the following Web sites: http://www.semansys.com/about_composer.html provides details for the Composer, and http://www.innodata.de/xbrl_semansys.htm provides details for the XBRL Suite.

The FDIC has saved an estimated 20 to 30 percent since initiating the XBRL implementation process, and the Deutsche Band reports to have saved an estimated 100,000 man-hours per year from XBRL adoption (Barbour, 2004). As of April, 2005, the banking community took 45 days to file their quarterly call reports, and these reports are what the FDIC uses to assess the health of banks. The FDIC wanted to cut the cycle time to 30 days, a 15-day reduction. The main technology driver for that 15-day reduction would be XBRL as the data format for carrying the data from the bank to the regulators. The above information was provided by the KPMG LLP Web site located at: http://www.kpmginsights.com/aci/display_aci_analysis.asp?intAnalysisTypeID=3&intIns ightsTypeID=1&edition_id=6270&content_id=572007.

EDGAR Online Inc. is another company offering XBRL software and they have the I-Metrix product line. They offer the Vision, Architect, Xcelerate, and the Professional versions of I-Metrix software. The Professional version comes in three models: Analyst, Audit, and Corporate. According to a Gartner Industry Research report dated December 1, 2005, XBRL can improve the quality and efficiency of investment analysis. The problem is that the XBRL-tagged data is not available in abundance. Currently, EDGAR Online is overcoming this problem by offering the necessary software for XBRL implementation. I-Metrix is important as an individual product offering and as a general stimulator of XBRL adoption and maturity. The report predicts that through application of, XBRL I-Metrix will produce a minimum of a 25 percent efficiency gain in fundamental data analysis for companies using proprietary, non-Extensible Markup Language (XML)-based fundamental data sources. The information above was provided by a Gartner Industry Research Report I was sent by EDGAR Online and is located on their Web site at: http://www.edgar-online.com/pdf/gartner_12_06.pdf.

R.L. Renck & Co. Inc. is a financial research and advisory company who decided to deploy I-Metrix when implementing and adopting XBRL. Using I-Metrix and Microsoft Office Excel 2003, Renck was able to reduce the time spent gathering and preparing data by more than 95%. As a result of these time savings, they were better able to provide expert analysis. There was a large cost savings and the time spent on their core competencies allowed Renck to earn a higher ROI on company resources. The information provided above can be found at Microsoft Web site located at: http://members.microsoft.com/CustomerEvidence/Search/EvidenceDetails.aspx?EvidenceID=13879&LanguageID=1.

The processes involved with investor reporting and financial borrowing will be greatly influenced by the implementation of XBRL. The processes will be streamlined and standardized, thus allowing for cost reductions and increased productivity, due to time savings. Figures 8 and 9 illustrate the XBRL and non-XBRL information gathering and data processing associated with the reporting and borrowing situations. It is important to note that the World's First Credit Risk Information Supply Chain Pilot System Using Open Standards, XBRL and XML Web Services via the Web occurred in June of 2002 in Japan (See Figure 10). The above information is available in greater detail at the Web site of Fujitsu: http://pr.fujitsu.com/en/news/2002/06/21.html.

XBRL COSTS

Due to the infancy of the XBRL movement, it is difficult to find any substantial quantitative data, outside of the theoretical studies available. A U.S. SEC study, dated March 16, 2005, regarding the XBRL voluntary submission of financial reports on the EDGAR system estimates the monetary cost. There costs estimates to the registrants in the first year range between $1,009,980 and $1,683,300 (U.S. Dollars). Information available at the SEC Web site located at: http://www.sec.gov/rules/final/33-8529.htm#IV.

Microsoft Inc. states that utilizing their Microsoft .NET framework and .NET enterprise servers, they were able to rapidly implement XBRL. Apparently, one internal developer with no training or guidance was able to build their XBRL implementation in only 20 days. The first time Microsoft converted their Form 10-Q; the effort required about 175 hours. XBRL taxonomy extension and customization took 75 hours, 60 hours to create and validate the XBRL document, and 40 hours for quality assurance review. A three member team: consisting of an accountant, an XBRL technologist, and an external

team member to provide quality assurance were responsible for the initial implementation. The second time they reduced the Form 10-Q construction time to 60 hours, a 66 percent reduction in time (Sinnett, 2006). Therefore, a cost savings occurred from this increased worker productivity. There were no monetary values available regarding this switchover program.

EDGAR Online's initial XBRL VFP took around 160 hours to complete, and included the tagging of more than 200 items (Sinnett, 2006). Since they have built a conversion tool and have extensive experience regarding industry taxonomies, their conversion time was greatly diminished. EDGAR Online does have the expertise to assist the market in the implementation and adoption of XBRL, so this could help with the maturity of XBRL acceptance.

The cost of XBRL financial reporting can be separated into two broad classes. The two components would be tangible and intangible costs. The tangible costs are easier to measure due to their physical nature, but the intangible costs, such as productivity, are more difficult to quantify, especially in the short-run. At this point in time, XBRL costs appear to be included in the financial statement under General and Administrative Expenses in the Accounting Expenses section. Therefore, I had no ability to track the costs in any of the financial statements for the first nine companies who submitted their financial reports in XBRL format. XBRL isn't considered a change in accounting standards and divulging the costs is not mandatory, therefore, no disclosure notes are required in the financial statements.

The costs for XBRL software were available and I discovered that Rivet software provided Dragon Tag, an XBRL tagging program, at a cost of $299 per license with an

additional charge of $99 per license for E-mail support. The EDGAR Online product line

was costlier with the I-Metrix Professional Corporate application costing $430 per license

and the Analyst version costing $560 per license. Two weeks of training were provided

with the purchase of these products. The I-Metrix Vision application costs $10,000 per

license and is installed by Theoris. Vision dashboards are available to represent the data

with this package. The I-Metrix Architect application starts at $20,000 and is a

customized application. This product is useful for organizations with proprietary

technologies. The I-Metrix Xcelerate application is priced by RR Donnelley, based on

their partnership with EDGAR Online and customer needs.

CONCLUSION

The costs associated with XBRL implementation are varied and mostly theoretical

at this time. The costs will be based on company size, industry involvement, and many

other factors. The infrastructure costs will be substantial for XBRL, but the software

costs will be more reasonable and manageable. Some of the infrastructure costs were

discussed previously, and EDGAR Online actually invested 3 years of time to prepare for

the XBRL transfer of files through the system. No monetary value is available for this

process cost though.

The benefits of XBRL use will greatly outweigh the costs of XBRL

implementation and adoption, but the process will be rather arduous and tedious. The

process has begun and the statement by the SEC, regarding XBRL, is a foreshadowing of

what I believe will become a mandated change. The market now exists for XBRL

products and the need for training will be great, in respect to the utilization of XBRL

applications necessary for the switchover. It should be noted though, that all nine of the

companies which submitted their financial reports in XBRL format in 2005 had some

vested interests in XBRL, regarding the process or technology. They all have something

to gain by the implementation and adoption of XBRL, but everyone in the financial

information supply chain has something to gain, as well.

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FIGURE I

XBRL Taxonomies and Instance Document
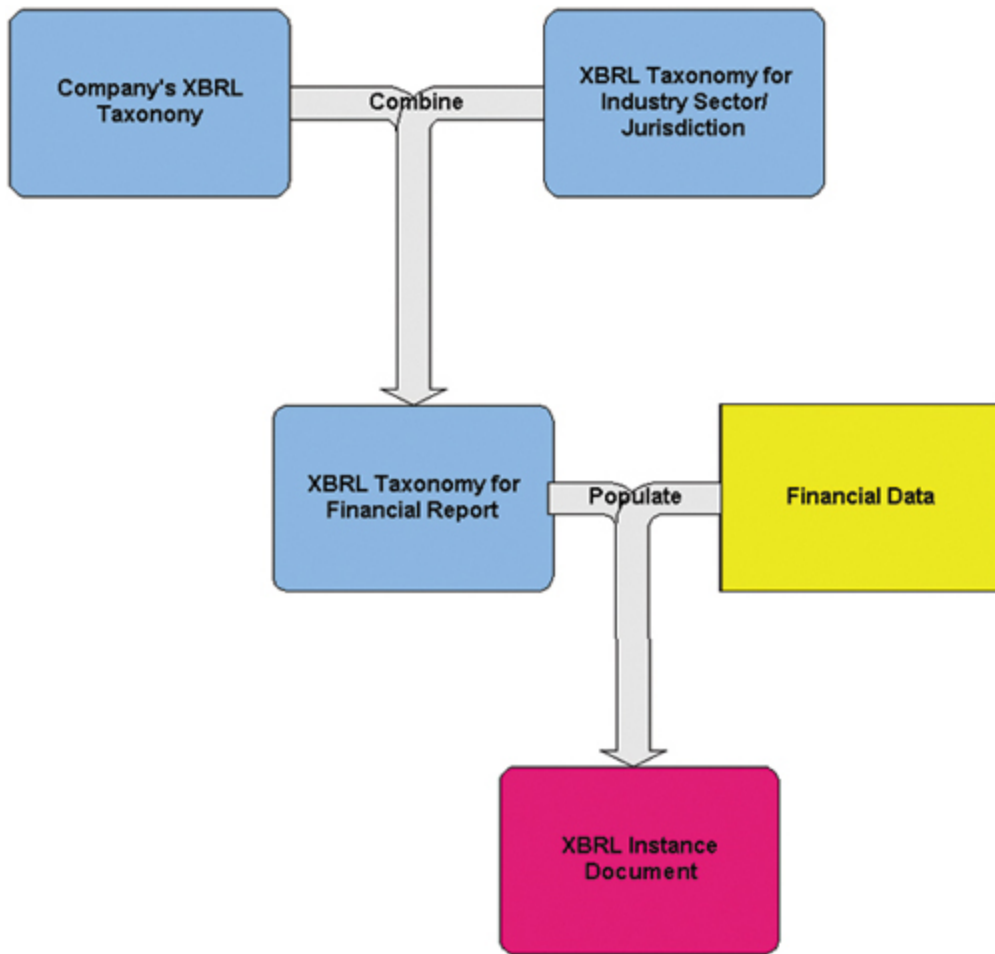
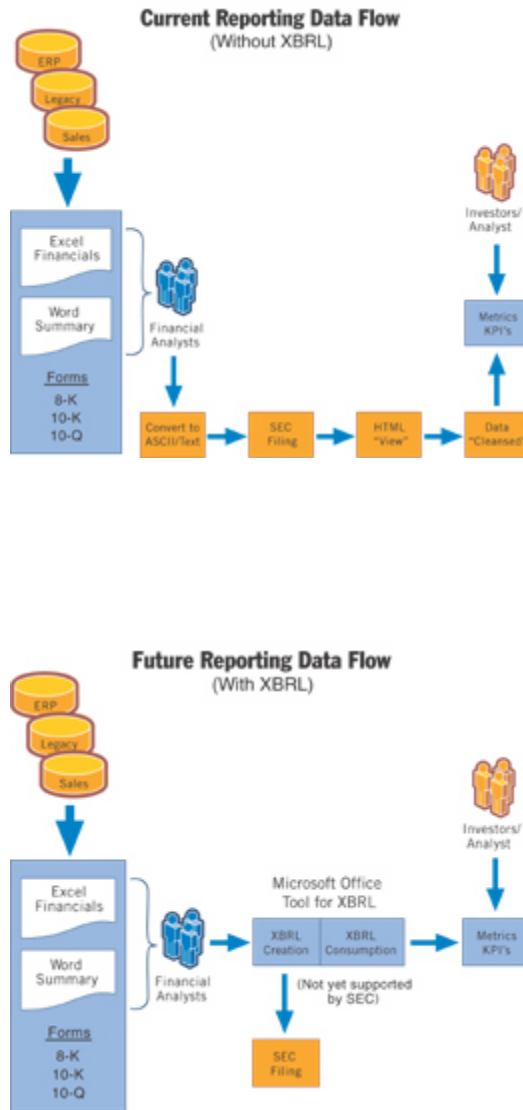**Note:** Image is in its original context at the source listed below.

Source: http://www.fsc.fujitsu.com/products/InterstageSuite/XBRL/largerImage1.html

FIGURE II

Digitalized Data Processing

2. scanning to digitalized data

1.documents in paper   3. Digital archive is now established. (CD/pc)

INTERNET

4. Now the documents are availabe in digital form from anywhere in the world.

Source: http://images.search.yahoo.com/images

FIGURE III

Financial Data Flow

Source: http://www.aicpa.org/pubs/jofa/may2004/naumann.htm

FIGURE IV

XBRL Seamless Data Collection And Dissemination

Source: http://images.search.yahoo.com/images
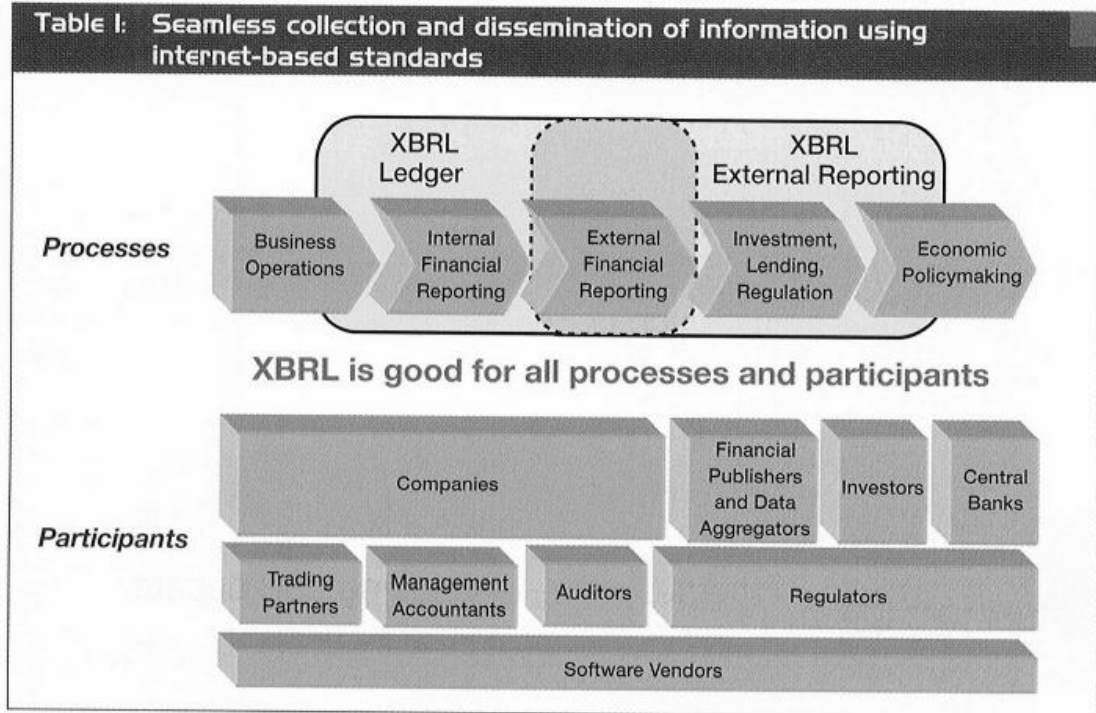
FIGURE V

The XBRL Process and Beneficiaries
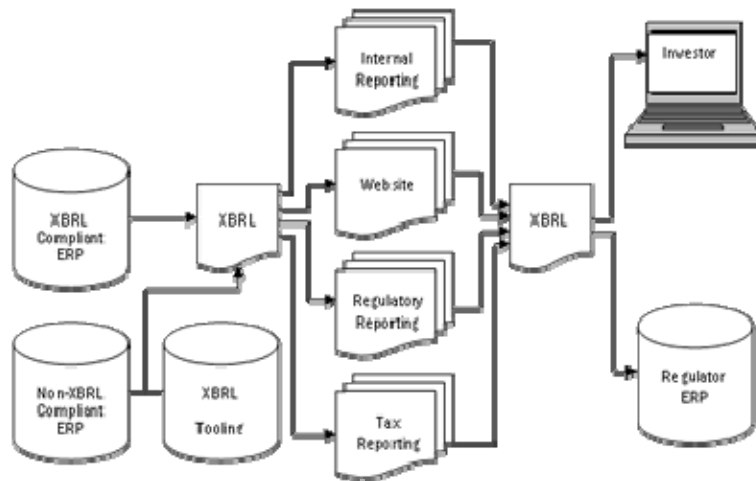
FIGURE VI

The XBRL Model and Associated Users
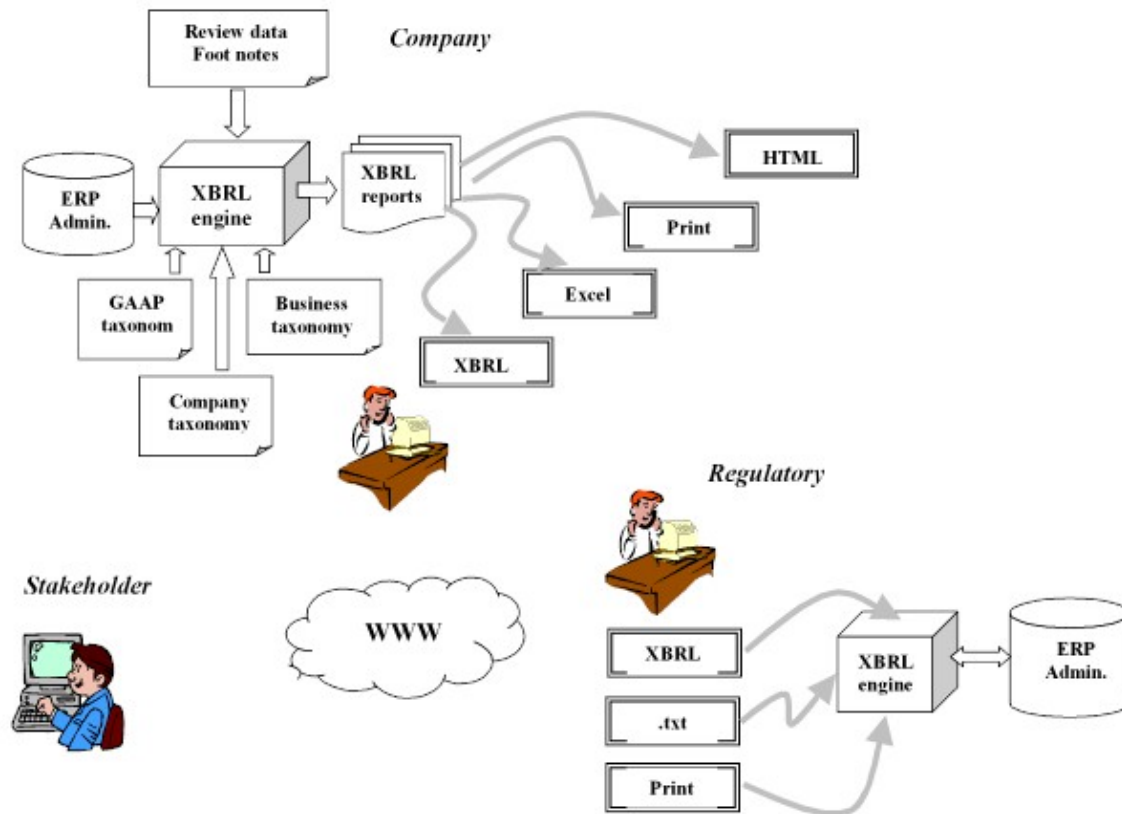
FIGURE VII

XBRL Software and Reduced Costs

Now — majority of cost relates to data discovery and re-keying

| Data | Localizing Data | Mechanics Re locate data | Analysis | Conclusion |

With XBRL — cost can be re-directed to analysis

| Data | Data Discovery | Mechanics Data publication | Analysis | Conclusion |

With Semansys /XBRL, — total costs are reduced, analysis enhanced

| Data | Analysis | Conclusion |
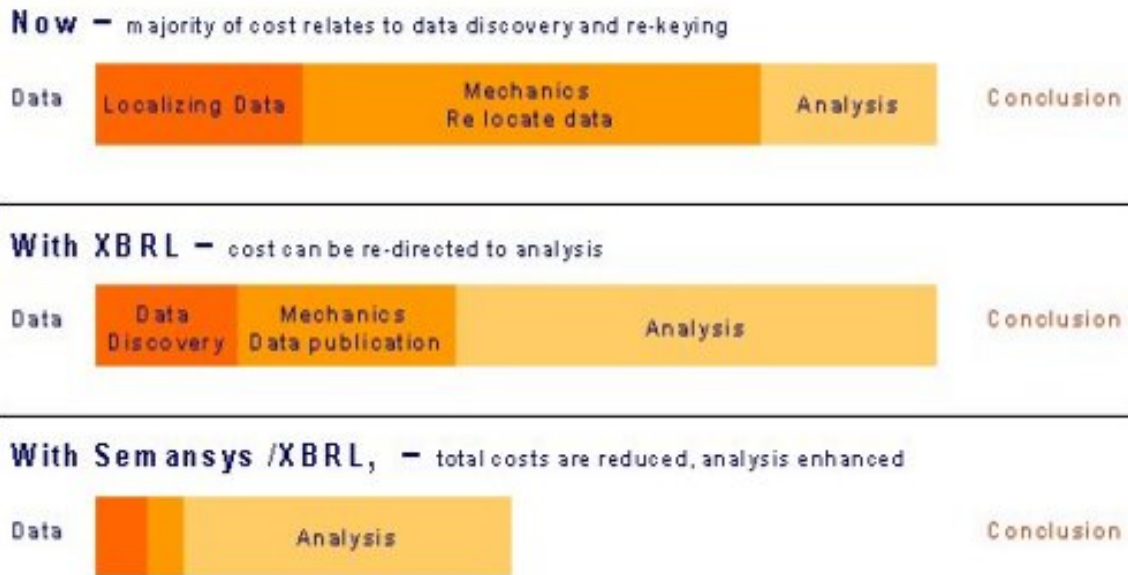
* Bars represent component cost/time, total bar length represents total costs/time

Source: http://www.innodata.de/xbrl_semansys.htm
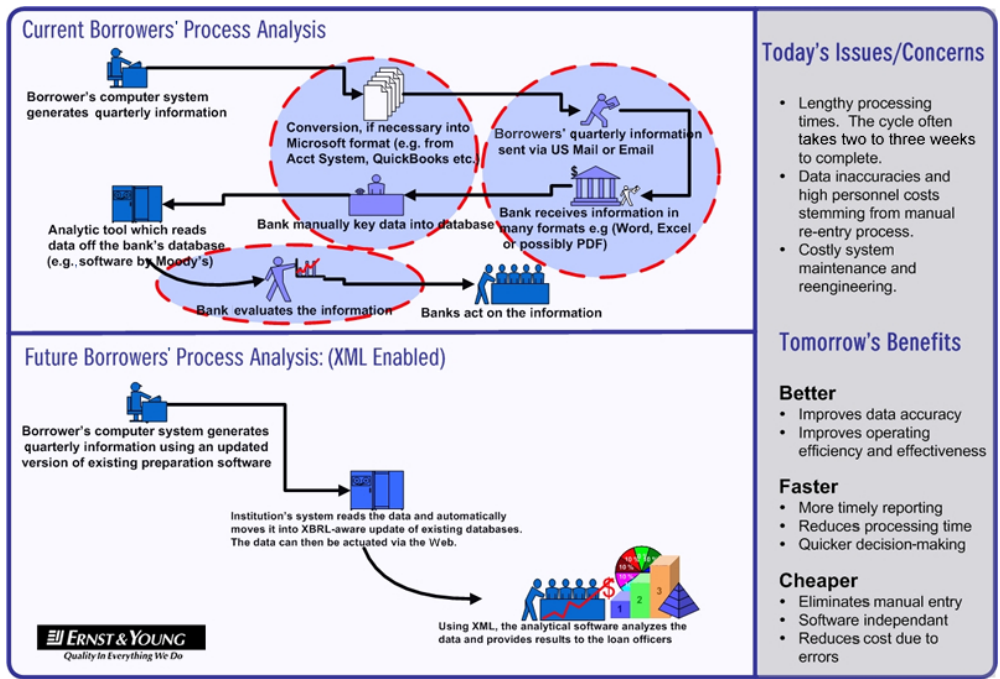
FIGURE VIII

Investor Reporting Utilizing XBRL

Note: Image modified from original source.

FIGURE IX

Borrowers' Process Analysis Utilizing XBRL
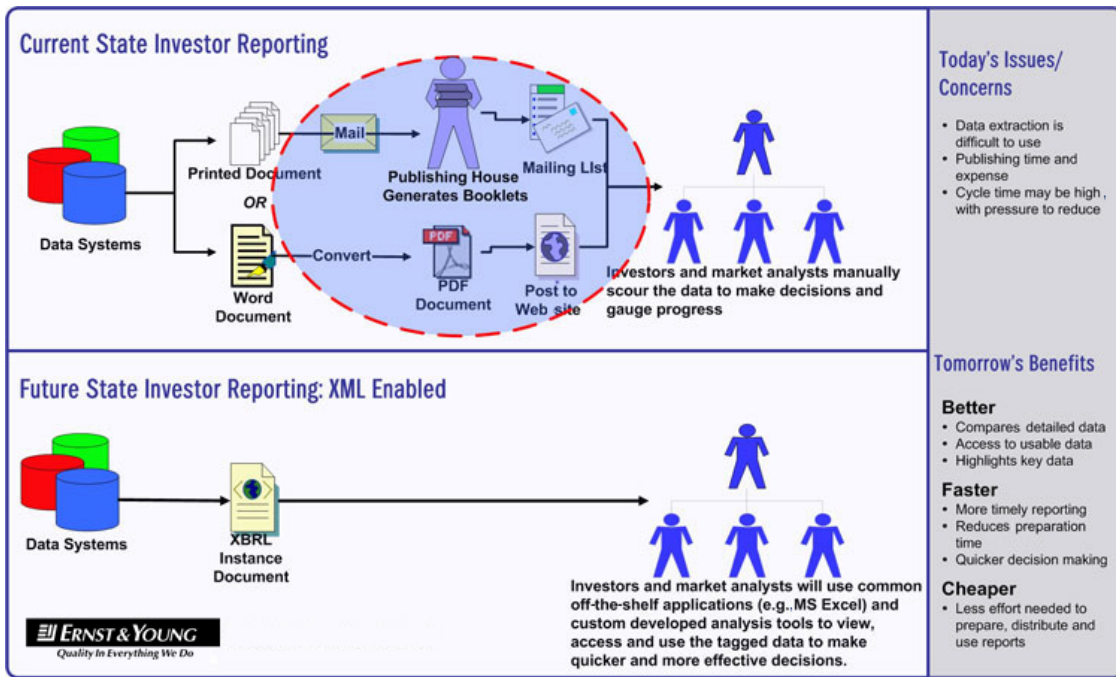
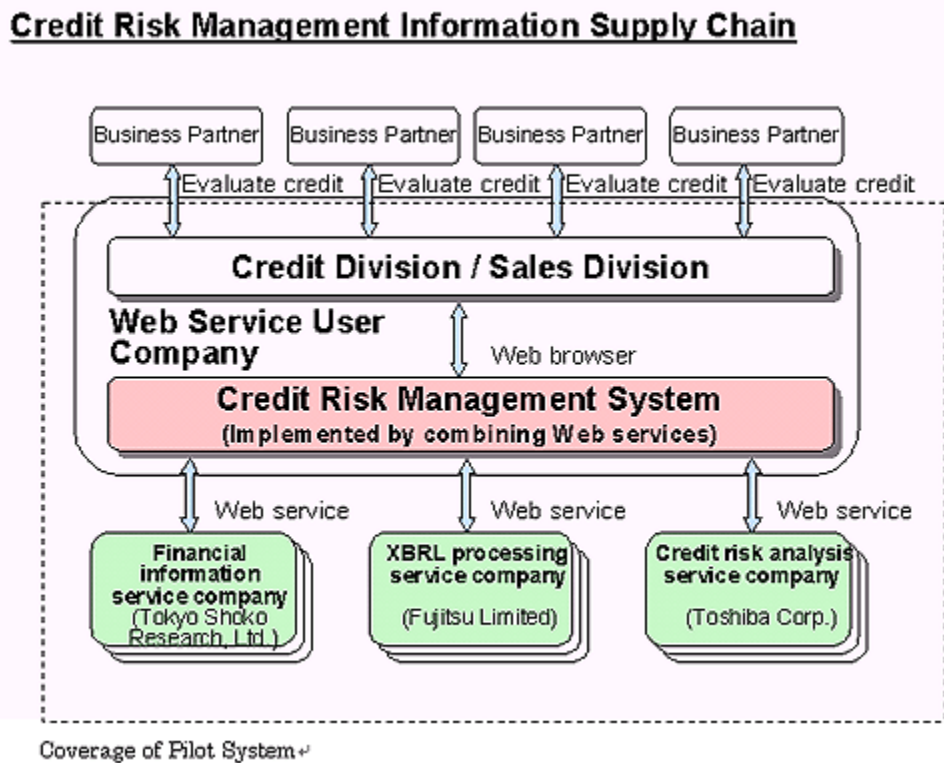**Note:** Image modified from original source.

Source: http://www.ey.com/global/content.nsf/International/XBRL-Borrower_Reporting

FIGURE X

XBRL Credit Risk Management Pilot System

Credit Risk Management Information Supply Chain

Coverage of Pilot System

Source: http://pr.fujitsu.com/en/news/2002/06/21.html