

Integrating XBRL Into The Accounting Curriculum¹

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Abstract

The rush to conduct business over the Internet has led to increased pressure for up-to-date and on-demand access to financial and non-financial business information. The providers and users of this information have banded together to create a standardized taxonomy based on XML to communicate business information over the Web. XBRL, the eXtensible Business Reporting Language, will provide this mechanism. Accountants and auditors will need to react quickly to the increased demand for accurate data that will make this feasible. The article covers XBRL's development process, the underlying XML framework and examples of its use on the Web. It introduces XBRL's educational impacts, and discusses its incorporation into an Advanced Accounting Information Systems course. Recommendations for incorporating XBRL across the accounting curriculum based on an informal Internet survey conclude the article.

Introduction

Information consumers today want instantaneous data access. Investors' demands for business information is increasingly frustrated by the inability of companies to publish "useful" financial information in a timely manner. Annual and quarterly reports represent the most accessible source of reliable information. Unfortunately, these reports are published weeks or months after the period they represent. Press releases are timelier, but their information is unaudited and tends to be predominantly optimistic. Supply chain partners might receive hard copies of highly summarized and very specific information. Investors might visit a firm to make their own conclusions. But other than unwieldy SEC filings, there is no central repository of easily accessible business information.

External demand for timeliness, reliability and flexibility in business reporting was documented by the Public Relations Society of America Foundation in a front-page article in the Wall Street Journal. They found that a company's annual report is considered to be the most credible source of company information, yet only 8% of the respondents actually read the reports. Investors are either investing without conducting analysis (which may be true for day traders) or they turn to other sources for more timely information (Wall Street Journal, 2000).

The Web has created an alternative media to paper for exchanging business information. However, there is great variation in the quality, timeliness and resulting usefulness of financial reports published on the Internet. Ashbaugh et al. (1999) observed that only seventy percent of the firms in their sample published financial information on their Web site, ranging from monthly sales data to two-year-old financial reports. They found that reporting usefulness depended on the ease with which the data could be accessed, how much data was included on the site, and whether the data could be downloaded by the user. In a more recent study, Ettredge et al. (2002) found that Web posting of published annual reports lag their filing with the SEC by an average of 30 days. Less than 15% of companies in their sample of large companies posted their reports to the Web in less than a week post-SEC filing, and a similar number posted to their Web site between two and three months after their SEC filing. Another 17% of the sample did not post their financials at all. These lags create an unacceptable delay in meeting the needs of online investors.

Readers with comments or questions are encouraged to contact the author via email.

Up until very recently, Internet reporting has consisted of PDF files or HTML-enabled pictures of static financial reports that replicate quarterly or annual report data. According to Ettredge et al., most (85%) of the companies in their sample that published annual reports on the Web provided them in PDF format, with 26% issuing HTML reports and 10% providing both formats (Ettredge, 2002). Translating annual report contents to these alternative formats is time consuming and has little internal value-added for the company, other than to provide a service to their business partners and other interested parties. Interestingly, it is the more profitable firms that publish online most quickly, as are the firms who provide both formats for access. This would imply that companies expect this media to be the source of choice for users to obtain “useful” information, and that timely ease of access is recognized as an important feature for these Web-savvy users.

Even though some firms clearly realize the import of publishing financial reports quickly over the Web, companies have yet to take full advantage of the Internet’s ability to communicate electronically. A major advantage of electronic over paper media is the inherent flexibility of electronic data. PDF and HTML files, while readable and easily accessed, do not allow the user to manipulate, summarize or analyze the data in anything other than the published form, unless data is reentered into a spreadsheet or analysis program. One way for a company to retain credibility while enhancing timeliness and flexibility of information access is to provide XML-based business information over the Web. XML (eXtensible Markup Language) is a Web-based language that enables content-recognizable information to be shared over the Web.² XML provides a framework within which industry or professional groups can tailor a set of standard definitions to be adopted by its peer group so that data from any type of source can be communicated and understood by any other system, independent of technology platform.

Many XML standards are being established to permit common transaction processing among like-minded industries or corporate functions (e.g., buying or selling computer hardware components, or exchanging human resources data). XML-enabled transaction processing will simplify Web transaction exchanges, and may completely replace EDI as the standard of choice as soon as reliability and security problems have been adequately addressed. XML parsers have been integrated into many Web browsers, Web-enabled ERP systems (e.g., Oracle Applications and Great Plains), and other business applications.

An obvious application of XML is to permit the exchange of business information within and among companies, investors, banks, the SEC, and whoever else would benefit from timely, reliable and comparable business information. A large and growing assembly of professional service firms, technology vendors, and financial data aggregators has banded together to recommend a taxonomy of financial and business reporting known as the eXtensible Business Reporting Language (XBRL). This group released the Enhanced XML Schema-based Specification for Global Business Reporting in December, 2001.³

XBRL has been formally launched by the International Accounting Standards Board (IASB), and in the U.S., Japan, Singapore, United Kingdom, Australia, Canada, and Germany. These countries will soon be joined by 10 additional countries, with many others expressing growing interest in creating a national XBRL presence.⁴ XBRL activity is extending beyond financial reporting to meet other industry needs such as financial services, stock exchanges and insurance. Several Fortune 1000 companies are currently testing the specification and the adaptation of the taxonomy with their own data definitions. For example, the Bank of America has begun a pilot to collect financial statements from their financial customers, and Morgan Stanley filed XBRL-tagged 10Qs with the SEC earlier this year.⁵ Several vendor members of the XBRL consortium have already released XBRL enabled products, including ACCPAC, Edgar Online, FRx Software, Hyperion, Navision, and Newtec, among others.

XBRL conferences and meetings are held worldwide on a frequent basis, exhibiting its international appeal as a global standard for communication. However, even though companies are beginning to experiment with its use, practice still lags theory. In a recent paper, Bovee et al. (2002) studied how closely the proposed (2000 version) taxonomy corresponded to current financial reporting practices for a set of 67 companies. They matched the proposed taxonomy to published financial statements, and found a good fit overall. However, there were significant and frequent exceptions to the robustness of the taxonomy, which they categorized as suggested new taxonomy tags, two or more tags grouped together, or firm-specific items. They recommend several paths for further study of the taxonomy to improve its viability and robustness internationally.

Given the extent of XBRL activity and attention in the business world (e.g., Zarowin and Harding, 2000), it is imperative that the academic preparation of our students includes exposure to what may soon become the dominant financial information dissemination media. In the sections that follow, this article gives some background on XBRL, and then outlines its use in an Advanced AIS course. The remainder of the paper reports on an informal survey of XBRL inclusion across the accounting curriculum, and provides examples on its use in a couple of other accounting courses. The article concludes with a call to all accounting educators to become aware of the implications of this alternative dissemination mechanism across the curriculum and the profession.

How Does XBRL Work?

XBRL provides a mapping language between stored data and its depiction either visually on a Web site or as it is read by a business partner's computer system. It does so by applying a series of predefined XML "tags" to each item in a published report. The tags are arranged in a hierarchy, so that parent/child relationships enable the definition, calculation, summarization or categorization of line items. For example, a simple XML item evaluates cash within a simple hierarchy, and identifies the cash balance for 2 years:

```
<item>
  <name>CashEquivalents.Cash</type>
  <label>Cash and Securities</label>
  <amount period="2001">5000</amount>
  <amount period="2002">6000</amount>
</item>
```

The XBRL taxonomy includes many more kinds of labels than can be seen from this small example. The attraction of XBRL is that the user of the report does not need to know XML or XBRL in order to work with the taxonomy, as is shown in Figures 1 and 2. Figure 1 depicts a sample income statement presented in XBRL format, and Figure 2 provides part of the XML-based code underlying the income statement. As is evident in Figure 2, XBRL employs a tree-like taxonomy that effectively represents typical financial reporting relationships.

The key distinction between XBRL and its HTML equivalent is that XBRL's XML labels give a context to data, while HTML is a presentation tool, with no understanding of a screen's content. With understandable context, the data that is transmitted between organizations can be interpreted and analyzed by both parties in the same way, perhaps with differing programs, tools and technologies. This saves time (for data entry and automation of analysis), reduces errors of transcription and interpretation, and increases comparability over time periods, companies, and industries (Zarowin and Harding, 2000). It also permits continuous data transmission when needed to meet a business partner or regulator's reporting requirements. Once a company's data is mapped to the taxonomy, these requests can be fulfilled automatically in proper format and degree of summarization. These capabilities drive the need for a continuous examination of the underlying data, to preclude the instantaneous transmission of faulty information.

Zachary Coffin, one of the original proponents of XBRL, has compiled a list of the Top Ten impacts of XBRL, as shown in Table 1 (Coffin, 2001). These ten "killer applications" will reap significant global benefits to companies over the next few years. If Coffin is correct, every aspect of accounting education will be touched or dramatically altered by XBRL's reach. In the next section, the role of XBRL in accounting education will be broached.

Figure 1: Extract Of XBRL Generated Income Statement⁶

CONSOLIDATED STATEMENT OF INCOME			
Great Plains Software, Inc.			
(Dollars in thousands, except share and per share amounts)	YEAR ENDED MAY 31,		
	1999	1998	1997
Revenues:)			
License)	\$ 79,685)	\$ 52,949)	\$ 35,919)
Service)	55,222)	32,710)	21,201)
Total revenues)	134,907)	85,659)	57,120)
Cost of revenues:)			
License)	19,355)	11,220)	6,362)
Service)	18,350)	11,118)	8,260)
Total cost of revenues)	37,705)	22,338)	14,622)
Gross profit)	97,202)	63,321)	42,498)
Operating expenses:)			
Sales and marketing)	47,982)	31,636)	21,935)
Research and development)	20,427)	12,586)	9,678)
General and administrative)	11,080)	7,587)	5,592)
Acquired in-process research and development)	--)	7,136)	--)
Total operating expenses)	79,489)	58,945)	37,205)
Operating income)	17,713)	4,376)	5,293)
Interest expense)	(3)	(2)	(98)
Other income, net)	3,595)	3,276)	656)
Income before income taxes)	21,305)	7,650)	5,851)
Income tax provision)	8,520)	3,203)	2,207)
Net income)	\$ 12,785)	\$ 4,447)	\$ 3,644)
Income (loss) per common share:			
Basic)	\$ 0.90)	\$ 0.33)	\$ (1.78)
Diluted)	\$ 0.86)	\$ 0.32)	\$ 0.36)
Shares used in computing income (loss) per common share:			
Basic)	14,231,102)	13,381,414)	7,629,460)
Diluted)	14,872,579)	14,089,092)	10,003,349)

See accompanying notes to the consolidated financial statements.

Figure 2: Extract Of XBRL Income Statement Code⁷

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- <!-- Cost of Revenues -->
<group type="ci:grossProfit.costOfGoodsAndServicesSold">
  <group type="ci:costOfGoodsAndServicesSold.costOfGoodsSold">
    <label href="xpointer(..)" xml:lang="en">License</label>
    <item id="IS-010" period="P1Y/1999-05-31">19355</item>
    <item id="IS-011" period="P1Y/1998-05-31">11220</item>
    <item id="IS-012" period="P1Y/1997-05-31">6362</item>
  </group>
  <group type="ci:costOfGoodsAndServicesSold.costOfServices">
    <label href="xpointer(..)" xml:lang="en">Service</label>
    <item id="IS-013" period="P1Y/1999-05-31">18350</item>
    <item id="IS-014" period="P1Y/1998-05-31">11118</item>
    <item id="IS-015" period="P1Y/1997-05-31">8260</item>
  </group>
  <label href="xpointer(..)" xml:lang="en">Total cost of revenues</label>
  <item id="IS-016" period="P1Y/1999-05-31">37705</item>
  <item id="IS-017" period="P1Y/1998-05-31">22338</item>
  <item id="IS-018" period="P1Y/1997-05-31">14622</item>
</group>
- <!-- Gross profit -->
<group type="ci:operatingProfit.grossProfit">
  <label href="xpointer(..)" xml:lang="en">Gross profit</label>
  <item id="IS-019" period="P1Y/1999-05-31">97202</item>
  <item id="IS-020" period="P1Y/1998-05-31">63321</item>
  <item id="IS-021" period="P1Y/1997-05-31">42498</item>
</group>
<!-- Operating expenses -->
<group type="ci:operatingProfit.operatingExpenses">
  <group type="ci:sellingGeneralAndAdministrativeExpenses.sellingAndMarketingExpenses">
    <label href="xpointer(..)" xml:lang="en">Sales and marketing</label>
    <item id="IS-022" period="P1Y/1999-05-31">47982</item>
    <item id="IS-023" period="P1Y/1998-05-31">31636</item>
    <item id="IS-024" period="P1Y/1997-05-31">21935</item>
  </group>

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Relationship to AIS Education

Users of information will soon be able to poll the Web or proprietary databases for data meeting specific search requirements, and easily compare across companies or time. Internally, XBRL will ease consolidations of data, permit better understanding of data acquired during mergers or acquisitions, and allow decision makers to concoct personalized reports without the filter of the financial or business analyst. XBRL extends the e-business oversight responsibility of accountants beyond transaction process integrity to reporting process integrity. The responsibility of the accountant and auditor will shift remarkably once XBRL comes into widespread use.

For example, because it is feasible that XBRL will permit anytime, any place access of data, the need for continuous audits becomes closer to reality. XBRL may be the impetus to forcing companies to move to a continuous audit environment, making this a real rather than futuristic challenge for auditors. If demand for current, audited financial information drives a move to continuous auditing, auditing must become a year-round process. Auditors will be required to examine enterprise systems processing and controls, Web site links to financial data bases, security of access to underlying data, and the match between XBRL definitions and audit standards or generally accepted XBRL usage. As a result, curriculum will need to be changed to provide a better understanding of these technologies, including enterprise systems, data base design and access, security and controls, and XBRL. Also, professional auditing processes will need to adapt to reflect the ongoing nature of the audit, including an increased reliance on control analysis, risk assessment, and XBRL report evaluation tools.

Table 1: The Top Ten “Killer Applications” With XBRL⁸

<p>Tie-10. XBRL-enabled Single-click Regulatory Compliance Tools. Will help organizations report to regulators.</p> <p>Tie-10. XBRL-enabled Consolidation Engines, including Application Service Providers (ASPs). Will help finance professionals manage and consolidate reporting of multiple units.</p> <p>9. XBRL-enabled Conversion and Intelligent Agent Web Tools. Will help users grab public information from multiple sources and pull it into a single, XBRL-structured repository.</p> <p>8. XBRL-enabled Loan Application and Maintenance Systems. Will help banks lend to more small and medium enterprises, and more accurately monitor their own positions.</p> <p>7. XBRL-enabled E-commerce Taxation Add-ins. Will help companies comply with tax laws coming from OECD and other authorities for cross-boundary e-commerce.</p> <p>6. XBRL-enabled Due Diligence Tools. Will help M&A teams assess the potential of potential candidates in a fraction of the time.</p> <p>5. XBRL-enabled US GAAP-to-IAS Reconciliation Tools. Will help finance and accounting professionals reduce the time it takes to do a reconciliation.</p> <p>4. XBRL-enabled Continuous Monitoring Systems. Will help finance and accounting professionals monitor company transactions continuously for real-time business intelligence and auditing.</p> <p>3. Audit Trail Systems for XBRL-ized information. Will enable finance and investor relation professionals and auditors to secure, track and control how business information is prepared, reported, manipulated and distributed by users.</p> <p>2. XBRL-enabled E-marketplaces. Will enable new, dynamic transactions of portfolios based on XBRL information.</p> <p>1. XBRL-enabled Economic Databases. Will enable timely macro-economic and industry benchmarking.</p>
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The infusion of XBRL knowledge within the accounting academic community is a fundamental necessity for faculty teaching students who will develop and use this technology. Since it is being developed under the auspices of many of the leading IS vendors, consulting and professional service firms, international accounting societies and financial information consolidators, the likelihood of its successful adoption as a business communication tool is quite high. Therefore, it is imperative that AIS academics understand the impact this advance will have upon the companies with whom faculty, students and graduates interact. Faculty must take the lead in integrating it into teaching and research, and spread the word among their colleagues across all areas of accounting, finance, and management so that their courses also reflect its potential impact.

The next section of this article describes an example of how XBRL could be fit into the accounting or AIS curriculum. This sample course module is especially interesting because it was added to the course about half-way through the semester, and easily substituted for material and a group project already on the syllabus. With longer planning time, the material could be woven throughout a sequence of auditing and AIS courses. The paper concludes with a discussion of available resources and ideas for incorporating XBRL across the accounting curriculum.

The XBRL Module

As a member of an executive committee for the AICPA, the author was exposed to XBRL in its early stages. In a March 2000 meeting, a presentation was made to the AICPA committee on this important new business-reporting taxonomy, which at the time was called XFRML (eXtensible Financial Reporting Markup Language). XFRML was officially renamed XBRL at the time of its official announcement in April, 2000 to signal its more broadly defined application beyond financial reporting.

This AICPA meeting took place during a semester in which the author was teaching graduate and undergraduate courses in Advanced AIS. Since an important element of the course is the creation and dissemination of high quality information, the XBRL initiative provided a good link to the complexities of communicating real-time information in a completely flexible format over electronic channels. An invitation was proffered to the head of the XBRL Project Committee for the students to take part in the XBRL evaluation process during the course module on business reporting. The invitation was accepted, and the New York-based AICPA representative heading the consortium came to class two weeks later to present an overview of XBRL and to invite the students to participate in evaluating the first draft of the proposal that had just been published on the Web site. This fortuitous arrangement need not be replicated by those introducing XBRL in 2002; there are many Web sites dedicated to XBRL that can serve as the source of overview materials, including sample PowerPoint slides.⁹

The actual assignments given to the undergraduate and graduate Advanced AIS students are available on request from the author. Both graduate and undergraduate classes had studied and used SAP to illustrate the importance of ERP systems in support of business processes and business reporting. The leadership of SAP in the XBRL initiative was a key tie-in to the course. Some undergraduate student teams analyzed XBRL's implications for SAP and the vendor's current plans for incorporating XBRL into the mySAP.com strategy. Other undergraduate teams addressed the potential implications of XBRL for producers of financial information. The XBRL Project Committee believed that the preparer community has much to gain beyond cost reduction, although this would be a key issue to investigate. Student projects included examples or hypothetical scenarios that would help promote XBRL to the preparer/CFO community, focusing on one of the following:

- Corporate accounting function as producer of financial reports in publicly held companies or in privately held companies
- Corporate-office accounting function as consolidator of financial information in a conglomerate or global corporation
- Internal auditor function
- CFO
- Treasury function
- Investor relations
- CPAs (corporate and IT auditors)
- Corporate IT function (e.g., CIO, CTO)
- IT consultants

The graduate student teams addressed either a technical or a managerial aspect of XBRL. The technical aspect was to review the proposed standard and give feedback in line with guidelines provided on the XBRL web site, or to submit several footnotes for inclusion in the taxonomy. As XBRL is defined in conformance with XML, these students taught themselves about markup languages. This option required very careful attention to detail and a fundamental knowledge of accounting.

The managerial option paralleled the undergraduate producer discussion, but focused on the implications of XBRL for users of financial information. Teams were asked to provide examples, hypothetical scenarios, or data on the value of the business reporting supply chain and potential savings and value-add from XBRL. They chose one of the following groups of users:

- Assurance services (other than financial statement auditors)
- Financial services (e.g., brokerage firms, NASDAQ and other markets)
- Investment Banks
- Commercial Banks (e.g., loan officers)
- Institutional investors (e.g., fund managers, portfolio managers)
- Individual investors (e.g., individuals, National Association of Investment Clubs, American Association of Individual Investors)
- Independent Software Vendors (Great Plains, SAP, Peachtree)
- Regulators (e.g., SEC, Edgar)
- Data resellers (e.g., Reuters, First Call)
- Customers or vendors who investigate the financial condition of a partnering company within their own supply chain

All projects were presented in class, and students submitted their reports directly to the XBRL Project Committee by the June 2000 evaluation deadline¹⁰. These students were the first to be directly involved with XBRL, and they were excited about playing a part in the development of a leading edge technology.

Examples From Other Accounting Courses

In fall of 2000, the XBRL Committee announced an international competition to encourage additional student feedback to the process. This, and the burgeoning of interest in the business world, combined to increase awareness of the potential of XBRL and its evolving relevance to the classroom. This section reports on an informal survey of the adoption of XBRL as a course topic by other instructors in a variety of accounting courses. An unscientific Web survey of courses that include XBRL as a topic was undertaken in 2001. Two of the courses will be described here; the others are summarized in Table 2.

The Cost System Design course at Bryant College is a senior-level Cost Systems course. Students are required to take AIS and Cost Accounting as prerequisites. The course coverage includes traditional cost systems, process and service costing systems, and digital business reporting. XML and XBRL are introduced to illustrate this latter topic, along with the Microsoft Digital Dashboard. As part of their XBRL studies, students are required to develop internal XBRL applications for industry groups. These applications include the financial services industry, consolidations, and merger and acquisition analysis. A copy of the assignment administered in Spring, can be obtained from the author¹¹.

The capstone research course at Bentley College is entitled "Professional Accounting Research and Policy Formulation". An objective of the course is to become proficient with information technology and various data bases for professional accounting research. The students are asked to write three research papers, including a course project, as part of the course requirements. The first five-page paper is assigned early in the semester, wherein students are asked to write a descriptive piece on XBRL and identify five issues for research or application development. The instructor then identifies promising papers for further development as the course project, which is a 10-page research paper and presentation. To promote high quality research, the instructor submits the best projects to one of three research competitions described in an appendix to the course syllabus. The XBRL competition is one of the three. In 2000-2001, one of the student papers received an Honorable Mention in the XBRL competition. It was later revised with the aid of the instructor and subsequently accepted for publication in a refereed journal. The project was repeated in the Spring, 2002 offering of the course.

After examining these courses as well as the courses on which Table 1 is based, a number of curricular observations can be drawn. XBRL is a topic that is covered from a variety of perspectives, from a technology that deserves monitoring by accountants or auditors, to an example of the application of XML, to a driver for changes in the accounting profession. Most instructors ask students to produce a research paper on the topic, with many using the XBRL Competition to set the objectives of a group assignment.

Table 2: Sample Results From Web Survey Of XBRL Courses

Course	University	XBRL Coverage
Accounting Information Systems	Arkansas State University	Research paper
	California State University, Fullerton	XML is focus of course Competition paper XML/XBRL compliant SAP R/3 research paper/presentation One XBRL exam
	University of Montana	Group presentation/paper
Advanced Accounting Information Systems	Bentley College	Course topic Research paper
	Bryant College	Course topic
	San Jose Sate University	Topic choice for group paper/presentation
	University of Alabama	Reading Assignment with discussion questions
	University of Northern Iowa	Research assignment Abstracts and questions on readings
Risk Management and Control in Ecommerce	Tennessee Technology University	Class topic
	University of Georgia	Class topic, demo, class assignment
Using Financial Systems to Create Value	Vanderbilt University	Readings Question on final exam
Computer Network Applications	Rutgers University	Discussed under Internet Trends
Capstone Accounting Research course	Bentley College	Report topic (5 pages) Topic choice for 10 page paper to be submitted to competition
Cost System Design	Bryant College	Course project
IS Audit and Control	Bryant College	Course topic

Most courses include a set of readings from the popular press as background to one or more course lectures. Others rely on links to one or both of the Web sites, www.xbrl.org and web.Bryant.edu/xbrl. In the near future, instructors will be able to revert to textbooks for student reference. Several AIS textbooks will include XBRL in their upcoming editions. For those instructors seeking more in-depth coverage, a text on XBRL will soon be

released for classroom use.¹² As XBRL becomes a norm for financial and business reporting, instructors will find themselves including it in a wider range of courses.

Conclusion

It should be increasingly obvious that Web-based business reporting will transform communication channels for inter- and intra-organizational information exchange. It is imperative that accounting educators quickly include this topic in the curriculum. XBRL provides what appears to be the leading mechanism for enabling this method of communication.

This article provides an explanation and motivation for learning more about this innovation, and gives concrete examples of how it can be incorporated into a course module. These are certainly not the only ways to teach about XBRL, nor are these the only places in the curriculum where the topic should be covered. The new competition, now in its second year, could be a logical extension to many courses, such as the one on accounting research methods. As reported on the Bryant College XBRL web site, the contest is open to student teams, advised by faculty, “to demonstrate their knowledge of accounting, AIS, finance, and information sciences and related fields to:


1. develop conceptual models, *taxonomy development* for a particular industry, country, or specific area of financial reporting,
2. create applications that use XBRL or
3. produce original research in how XBRL fits into the business, social and political environment.”¹³

These options span technical accounting knowledge, computer programming, and business process knowledge, giving a full set of options for augmenting a range of courses.

AIS courses provide an excellent opportunity for introducing the concepts of data representation and reporting standards, and the control issues they introduce. Accounting educators are also urged to update audit curricula to make sure students acquire an adequate understanding of the impact of the Web and XBRL on traditional financial information sharing methods. Finance instructors should include an overview of the impact of XBRL on the financial markets, particularly as it begins to augment the currently available data bases provided by Moody’s, Reuters, Bloomberg and others. As is evident here, almost every aspect of the accounting area has been affected by the Web, and will be further changed with widespread adoption of XBRL and related technologies. It is imperative that accounting education keeps pace with these changes, so that it does not become an anachronism in the eyes of the business world.

Suggestions For Research

Accounting researchers have begun to study the potential of XBRL in such areas as continuous auditing, real-time disclosure, and financial transaction support. These efforts must continue so that standard setting bodies will understand the widespread impacts of experimental data-sharing efforts now underway in practice.

In order to move beyond experimentation, XBRL must be shown to be usable as a generic mechanism that can support international data sharing. As XML technology moves closer to becoming the dominant technology for sharing information electronically, the imperative for understanding whether XBRL will be able to support financial reporting in a generic manner that will truly enable the level of information transparency necessary for these new accounting mechanisms becomes more and more critical. Those who are able to demonstrate mechanisms that provide an internationally common standard will be providing an important service to both the research and practitioner communities. 

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¹ Earlier versions of parts of the paper were presented at the Fourth Annual AIS Teaching Symposium, February 15, 2001 and in an XBRL panel the AAA IS Section Inaugural Meeting on January 12, 2002.

² See www.xml.org for details.

³ See www.xbrl.org for details.

⁴ Ibid.

⁵ Ibid.

⁶ Extracted from <http://www.xbrl.org/us/gaap/ci/2000-07-31/Sample/Viewer.htm>

⁷ From the XBRL web page associated with Figure 1.

⁸ From Coffin, 2001, pages 12-13.

⁹ See www.xbrl.org and web.bryant.edu/xbrl.

¹⁰ Additional or complete examples of student projects are available from the author on request.

¹¹ As of this manuscript's submission date, the students had not yet completed this assignment.

¹² Introducing XBRL: Making Decision in a Digital Economy, by Neal J. Hannon and Zachary P. Coffin, Prentice-Hall, 2002.

¹³ See <http://web.bryant.edu/~xbrl/contest.htm>

Notes