GUEST EDITORIAL

Special Issue of JIS on XBRL

I. INTRODUCTION

It has been a great pleasure to serve as the guest editor for this special XBRL (eXtensible Business Reporting Language) issue of Journal of Information Systems. I thank editor Miklos Vasarhelyi for this opportunity. Thanks are also due to the reviewers for their thoughtful and constructive reviews. Finally, special thanks to the authors for their contributions, without which this issue would not have been possible. In this note we provide a brief history of XBRL research, describe the contribution of this issue, and conclude with some thoughts on potential research opportunities in the field of XBRL.

XBRL is an open standard-based reporting language that allows companies to electronically report and exchange financial and nonfinancial information in a standardized, machine-readable format. It can facilitate the reporting process at each part of an organization’s supply chain, handle data presented in different languages and accounting standards, and be adapted to meet different users’ requirements.

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XBRL is an extension of XML (eXtensible Markup Language), which provides machine-readable tags for individual data elements. The goal of XBRL is to develop a set of standardized XML tags, collectively known as XBRL taxonomies, to meet the specific requirements of business information. The XBRL taxonomy is a description and classification system for the contents of financial statements and other business reporting documents, defining not only individual reporting concepts but also the relationships between concepts.

There are three types of XBRL taxonomies: general-purpose financial statement taxonomies, special-purpose regulatory reporting taxonomies, and the general ledger taxonomy (Baldwin et al. 2006). General-purpose financial statement taxonomies are specifically designed for companies preparing their financial reports in XBRL format. Special-purpose regulatory reporting taxonomies represent accounting regulations in different countries. Currently, more than 20 regulatory entities and other public authorities worldwide have adopted XBRL for reporting purposes (Baldwin et al. 2006). For example, the 2012 U.S. GAAP Financial Reporting Taxonomy issued by FASB conforms to U.S. GAAP (FASB 2012). XBRL-GL is a special-purpose taxonomy. It is designed to tag information in enterprise resource planning (ERP) systems ranging from business event to end reporting, enabling efficient handling of business information within an organization, facilitating internal reporting, and leading to an environment of continuous monitoring and continuous auditing (Vasarhelyi et al. 2004).

XBRL can ease the preparation, analysis, and exchange of business information. It can also reduce costs, increase efficiency, and improve accuracy and reliability for all parties involved in providing and using business data. For example, compared with manual processes, XBRL can reduce the time and effort necessary for data collection and report generation. In addition, because
of the standardized nature of XBRL, financial data users, including investors, creditors, analysts, financial institutions, and regulators, can analyze and compare XBRL instance documents much more rapidly and efficiently than they could with traditional PDF, HTML, or Word documents.

XBRL was first developed by a consortium created by AICPA in 1998. In 1999, 12 companies became the founding members of XBRL. Now, more than 600 organizations worldwide and over 30 countries are involved in its development and promotion (Richards et al. 2006). XBRL has already been put to practical use in a number of countries, and XBRL implementation is expanding worldwide. The rapid spread of XBRL has attracted much attention from researchers. The SEC’s 2009 mandate for XBRL use in financial reporting has made XBRL an even more popular research area.

Since XBRL is a relatively new area of research, many researchers have aimed to analyze the concept and benefits of XBRL from different perspectives (Baldwin et al. 2006; Debreceny and Gray 2001; Debreceny et al. 2005; Farewell 2006; Kull et al. 2007; Lester 2007). For example, Debreceny and Gray (2001) described the motivation and advantages of XBRL from a technical perspective; Baldwin et al. (2006) discussed XBRL’s impact on users and on the characteristics of financial information; Debreceny et al. (2005) discussed the role of XBRL in financial reporting and the impact of XBRL on the SEC’s filing program; and Farewell (2006) provided an introduction to XBRL through the use of research and technical assignments.

Because taxonomy is the key component of XBRL, development and evaluation of XBRL taxonomies have attracted many research efforts (Bonson et al. 2009; Bovee et al. 2002). Bovee et al. (2002) assessed the ability of the year 2000 version of the XBRL taxonomy to accommodate current financial reporting practices of public companies, suggesting some modifications to the taxonomy. Bonson et al. (2009) examined whether the IFRS-GP taxonomy adequately covers European companies’ practices and pointed out some directions to improve this taxonomy.

Since the benefits of XBRL are predicated upon accurate and reliable business reports, researchers are interested in checking whether XBRL data quality can be guaranteed (see, e.g., Bartley et al. 2010; Boritz and No 2009; Debreceny et al. 2010; Plumlee and Plumlee 2008; Srivastava and Kogan 2010). Debreceny et al. (2010) identified a large number of computational errors in first-round XBRL 10-Q filings. They suggested that most of these errors can be eliminated by (1) improving XBRL preparation software, (2) improving the SEC validation process, (3) enhancing the EDGAR filing manual that governs the filing process, and (4) training staff. Bartley et al. (2010) found that many errors in XBRL filings are related to filing inexperience.

Given all these possible errors, the users of XBRL are likely to demand assurance of XBRL instance documents. Plumlee and Plumlee (2008) proposed several important questions that assurance guidance must address. What constitutes an error? What is the exact meaning of materiality when individual data elements can be extracted and used outside the context of the financial statements from which they originated? Srivastava and Kogan (2010) proposed a conceptual framework of assertions to provide assurance on XBRL instance documents, and discussed how this framework could assist auditors in planning and evaluating XBRL instance documents. Boritz and No (2009) conducted a case study applying mock assurance procedures to the XBRL documents of United Technologies Corporation’s 10-Q filed on December 11, 2005. They found that auditors have other options than simply performing a 100 percent substantive examination. Computer-assisted auditing tools for XBRL documents could greatly simplify the assurance process.

As with other newly proposed technologies, XBRL adoption is of interest to researchers (Pinsky and Li 2008; Pinsky et al. 2005; Premuroso and Bhattacharya 2008; Yoon et al. 2011). This kind of research usually discusses how XBRL is adopted and whether its proposed benefits are actually achieved after adoption. Pinsky et al. (2005) examined corporate and regulatory usage of XBRL-enabled software and its effects on various stakeholders. The evidence shows that international XBRL usage can result in significant efficiency and data access gains to capital market participants, as well as taxpayers, labor unions, and regulators.
Premuroso and Bhattacharya (2008) investigated early XBRL adopters’ performance, market, and structure-related firm variables. They found that XBRL adoption is positively associated with corporate governance, firm size, and firm performance factors such as liquidity. Pinsker and Li (2008) interviewed four business managers involved in XBRL adoption in Canada, Germany, South Africa, and the U.S. to investigate the benefits and costs of XBRL adoption. They found that after adopting XBRL, the non-U.S. companies reduced their operating costs and U.S. companies achieved more efficient marketing. Yoon et al. (2011) examined whether XBRL adoption can reduce information asymmetry in a stock market context. Their results showed that there is a significant and negative association between XBRL adoption and information asymmetry, and the effect of XBRL adoption on reducing information asymmetry is stronger for large-sized companies than for medium- and small-sized companies.

II. SPECIAL ISSUE: ASSURANCE, EFFECTS, AND IMPLEMENTATION

In this special issue, we include four papers covering different aspects of XBRL. The first article by Alles and Gray (2012) discusses the demand for external assurance of XBRL filings based on two relative cost arguments. Since the external assurance services for XBRL filings are not mandated and there are several external XBRL-related assurance providers in the market, a manager will compare two kinds of relative costs: external versus internal assurance cost, and external assurance cost relative to preparation cost of XBRL filings. They argue that to keep the market of external assurance services for XBRL filings, external assurance providers should either reduce the cost of the service or make it appear to be less significant to clients. They further argue that external assurance providers can convert the cost of XBRL assurance from variable to fixed, spreading it among many filers or folding the cost into total audit fees to make it less noticeable to managers.

The second article, by Kim et al. (2012), and the third article, by Vasarhelyi et al. (2012), discuss the effects and consequences of XBRL from different perspectives. Kim et al. (2012) investigate the effect of mandatory XBRL disclosures on information risk and information asymmetry in both general and uncertain information environments. After analyzing the interactive data submitted to the SEC by 425 firms in the post-XBRL adoption period, they find that XBRL disclosure can increase information efficiency, decrease event return volatility, and reduce the changes in stock returns. Throughout this study, XBRL disclosure is shown to decrease information risk. Furthermore, XBRL disclosure can mitigate information risk in the market, especially when there is increased uncertainty in the information environment.

The third article, by Vasarhelyi et al. (2012), uses the technology acceptance model (TAM) to examine how XBRL can affect the usefulness of financial reporting information along five axes, including current data, disclosure format, historical data, data fidelity and assurance, and third-party data. Based on these five axes, they identify five XBRL evolutionary trends that will further enhance the perceived usefulness and ease of use of financial reporting information: (1) higher levels of disaggregation and standardization of financial reporting data; (2) increasingly standardized disclosures; (3) standardization and tagging of pre-XBRL mandate data; (4) assurance on XBRL filings; and (5) inclusion of standardized third-party financial and nonfinancial data.

The fourth article, by Janvrin and No (2012), investigates how early mandate adopters have implemented XBRL reporting through the XBRL instance document-creation process. They interview nine accountants at five accelerated filer companies and find significant hurdles hindering XBRL implementation. These hurdles include (1) lack of a clear role for management support and involvement, (2) significant diversity of opinion regarding outsourcing versus insourcing, (3) lack of organizational readiness or expertise, and 4) a need to develop internal controls over the tagging process.
III. FUTURE RESEARCH DIRECTIONS

The main objective of this special issue is to publish high-quality research in the XBRL domain using various research methodologies including behavioral, archival, and theoretical. In addition, we list some research opportunities related to XBRL. First, as XBRL is an Internet-based exchange medium, Internet-related issues also need to be considered for XBRL-related research (e.g., security). Without valid security, reliable and trustworthy XBRL service cannot be assured. Although several approaches such as access control and encryption have been utilized to protect information transmission, some limitations must still be addressed (Boritz and No 2005).

In addition, users’ trust issues also need to be studied. In an e-commerce environment, trading parties may not trust exchanged electronic data. With third-party assurance, XBRL can build XBRL instance mutual trust among trading partners. However, most of the current trust-related research remains at a theoretical level, such as conceptual model and general framework (Nehmer 2003); empirical research on using XBRL to provide trustworthiness of exchanged data is needed.

Second, capital market research is a very active area in accounting. Some benefits of XBRL, such as increased information quality and reduced information risk and asymmetry, can affect stock market and investor behavior. Additional research about how XBRL can influence capital market and relative participants’ behavior may also be interesting.

Third, since XBRL is now being used globally for business reporting purposes, it is important to conduct educational research regarding course content and delivery methods for effective learning. Case materials that communicate the fundamentals of XBRL are badly needed.

Fourth, research is needed in demonstrating the value of XBRL and XBRL-GL to continuous monitoring and continuous auditing. There are still issues about how to conduct audits when accounting systems directly prepare financial reports in the XBRL format. There are issues regarding internal controls, analytical procedures, and how XBRL can be used to comply with FASB requirements.

Finally, most current XBRL research has focused on the U.S. market. It is important to see how other countries have adopted or implemented XBRL, and how companies in other countries deal with the cost and data quality problems of XBRL. A comparison of different countries’ treatments of XBRL should be interesting. In addition, it would be of value to map U.S.-GAAP taxonomies to IFRS taxonomies. Such an effort would help in translating financial statements from one GAAP to another GAAP.

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REFERENCES


