The Improvement of Governance Decision Making Using XBRL

Akram Bodaghi, Ahmad Ahmadpour

Department of Management, Mazandaran University of Science and Technology, Iran
Department of Accounting, Mazandaran University, Iran
Akram.Bodaghi@gmail.com, ahmadpor@umz.ac.ir

ABSTRACT
Extensible Business Reporting Language (XBRL) has the potential to influence users’ processing of financial information and thus, their judgments and decisions based on this information. XBRL is a XML-based language, developed specifically for financial reporting. Using XBRL, as a search-facilitating technology, contributes to direct searches and simultaneous presentation of related financial statement facilitate, and also footnote information which could potentially help financial statements’ users. XBRL is more than a distribution mechanism for data or facilitating technology. XBRL, in effect, has the potential to significantly improve corporate governance. Putting that potential into practice requires an XBRL taxonomy model that is data based than is the document based focus of the current specifications, as well as a flexible rendering system.

KEYWORDS: XBRL (EXTENSIBLE BUSINESS REPORTING LANGUAGE), CORPORATE GOVERNANCE, DECISION MAKING, TRANSPARENCY

1. Introduction
XBRL is an issue that is directly related to one of IFAC’s key goals: enhancing the credibility of financial reporting and auditing across all sectors of the economy, public and private, for profit and not-for-profit, listed and unlisted.

The importance of this issue is underscored by the accelerating demand for enhanced financial reporting through the use of technology. All the information users in the financial reporting supply chain are demanding more extensive financial and nonfinancial information. They need this information on a timely basis. It needs to be easily accessible and, where possible, tailored to specific needs. Listed companies are responding by exploring ways to provide financial information faster, more accurately, and with greater confidence. Success, however, ultimately depends on two key factors: the quality and timeliness of the information produced; and the evolution of web-based technology tools that increase the flexibility and comparability of reported information, thus enhancing its value.

1 Extensible Markup Language
Additionally, the economics of XBRL are clear: XBRL provides a powerful return on investment, significantly lowering the cost of information production and consumption. It is a flexible, scalable solution that facilitates exchange of data, streamlines communications, expedites information delivery and enhances transparency of reported information. It enables all those directly or indirectly involved in developing or using financial information to do so more cost-effectively.

XBRL is not a software application; also it is not a new accounting standard. XBRL is a so-called semantic data format additional to an open and free electronic language providing each data element with a tag that identifies it unambiguously.

The data tags, prepared by XBRL format, provide information about the structure of financial data that allows software applications, such as search engines, parsers and so forth, to more effectively process the data. For example, software developed to search for these predefined data tags allows users to extract and simultaneously view all similarly coded information, notwithstanding where the information is presented in a firm’s financial statements. This search capability has the potential to contribute to increase the transparency of different accounting treatments, decrease users’ costs of processing information, and perform as a decision aid for users by facilitating the providing related information.

While search-facilitating technology has implications for numerous financial statement issues, recognition versus disclosure of financial information likely is one of the subjects which are most affected. In not too distant past, managers have strongly opposed standard setters’ proposals to recognize in the financial statements items such as stock-based compensation and unrealized gains/losses on financial assets, preferring instead that these items be disclosed in the footnotes. One possible explanation for this vigorous opposition to recognition is that there exist economic costs accompanied by recognition if debt covenants or other contracts are restricted by recognized, but not disclosed, amounts. A second explanation is that managers believe that the items in question do not meet the FASB’s relevance and reliability criteria for recognition, and thereby deem disclosure the appropriate reporting alternative. A third explanation is that managers believe that users fixate on recognized items and discount disclosed items in view of processing costs or cognitive limitations. Such a belief would lead managers to disclose information they believe would harm firm value if recognized in the body of the financial statements.

2. Recognition Versus Disclosure

The FASB’s conceptual framework states that an item should be recognized in the body of the financial statements only if it (1) meets the definition of a financial element (e.g., asset, revenue); (2) is measurable with sufficient reliability; (3) is relevant to users’ decisions; and (4) is reliable in the sense of being representational faithful, verifiable, and neutral (SFAC No. 5, para. 63). Items that fail to meet one or more of these criteria are candidates for disclosure.

Items primarily fail recognition tests due to uncertainty about the item’s existence or its monetary value (Johnson and Storey, 1982). Financial accounting standards rarely allow recognition and disclosure as acceptable alternatives for presenting financial statement information; one exception is stock option compensation. In the early 1990s, corporate managers and standard setters engaged in vigorous debate

---

2 Financial Accounting Standard Board
over the placement of stock-based compensation within a firm’s financial statements. After intense lobbying, the resulting standard, Statement of Financial Accounting Standard (SFAS) No. 123, Accounting for Stock-Based Compensation (FASB 1995), encourages firms to report the fair value of stock option compensation as an expense in the income statement but does not require this treatment. Under SFAS No. 123, firms can choose to follow the prior standard, Accounting Principles Board (APB) Opinion No. 25, Accounting for Stock Issued to Employees (APB 1972), and recognize only the difference between the market value of the stock and the option exercise price on the date of grant (usually zero) as an expense in the income statement. In this case, firms also must disclose the fair value of the stock options compensation and pro forma income in the notes.

Until 2002, only two firms in the Fortune 500, the Boeing Company and Winn Dixie, elected to recognize stock option compensation in the income statement. Recently, however, the number of companies that disclosed stock option compensation information in their footnotes is increasing. Thus, in the future, there is likely to be greater diversity in reporting for stock option compensation among companies, enhancing the importance of understanding users’ reactions to recognition versus disclosure.

3. The Role of XBRL in Governance Decision Making

One of the prominent models in decision making is that of Elliott (Elliott, 1998) which illustrates the steps in that process both sequentially, and in order of increasing value added:

![Business Events, Data, Information, Knowledge, Decisions Diagram]

The decision process is initiated with the completion of the business events that the firm engages in, be it selling products or purchasing raw material and labor, which are recorded in the firm’s data systems, such as its general ledger. But that raw data itself is too voluminous and disaggregated for meaningful interpretation. Hence, users have to apply their training and experience, aided by rules and tools for data manipulation, to extract the information contained within that data. For example, from the data contained in that general ledger, an accountant prepares statements of the firm’s annual earnings, cash flows and balance sheet, relying upon accounting standards to guide the aggregation of transactional data into those summary statements.

It is that information which users analyze to convert into decision relevant knowledge: for example, all business students are taught financial statement analysis to unravel the summarization inherent in financial reports and to conclude about trends and firm performance relative to competitors. Finally, that knowledge allows feasible decision alternatives to be derived and assessed, and a final decision made in the light of the goals and incentives of the decision makers. Elliott uses his model to argue that accountants need to move up the value chain, with the value added from decision making being orders of magnitude larger than at the data entry stage. The problem, as he sees is that much of accounting practice is focused on activities on the lower end of the value chain, such as data summarization and
aggregation into financial statements, as opposed to knowledge generation and decision making.

XBRL cannot change those practices, but we can use this decision making framework as applied to governance to ask how, and to what extent, tagging impacts governance decision making. And, in particular, whether XBRL can be pushed up the chain to higher value added activities, for as this value chain analysis indicates, XBRL cannot fundamentally change governance if its main application is to data processing and handling. Of course, there is no question that XBRL will have a major impact on the data stage of the value chain, as XBRL International makes clear (emphasis added):

“XBRL is a language for the electronic communication of business and financial data which is revolutionizing business reporting around the world. It provides major benefits in the preparation, analysis and communication of business information. It offers cost savings, greater efficiency and improved accuracy and reliability to all those involved in supplying or using financial data.” (XBRL 2008)

While these benefits are not be underestimated, they do not speak to the higher end of the value chain, particularly knowledge generation leading to different decisions about governance—as opposed to the same decisions arrived at faster or more cheaply. We now turn to discuss stakeholders in the decision making process and specifically their governance motivations.

4. Stackholders in Governance Decision Making

Boards of directors, internal and external auditors, analysts, ratings agencies and investors all have a role to play in governance, but their informational needs and analytical capabilities differ. Those stakeholders inside the firm already have access to a larger set of information than the financial statement summaries that will be tagged under XBRL. Therefore, for these players the process by which data is transformed into governance-related decisions is what tagging has to impact if it is to add value. By contrast, for stakeholders outside the firm, the primary use of XBRL will be to facilitate the communication of firm information.

XBRL supports most of the goals expressed by participants of different reporting scenarios. It is an empirical issue whether XBRL will increase transparency mainly through the use of official taxonomies so the reported facts are clear and well documented for the users, or whether firm-specific taxonomies will signal important differences more than causing confusion and ambiguity. The fair view on the company and on the group is achieved also through the validation procedures which can be applied to the reported instance documents. Further automatic consumption of instance documents enhances the protection of market participants, reveals malpractices and mistakes of tax payers as well as secures the borrowing. Supervisors, tax offices and borrowing banks have the ability to import XBRL reports into their analysis systems without necessity of manual data input. Also automated warning systems can be introduced where the focus is not on data integration but on data analysis.

Finally, the use of XBRL combined with the other user readable formats allows providing the general public with the user-oriented publication of financial information clearly referenced to XBRL taxonomy. It is important to differentiate between open and close XBRL reporting in this case. Manual input can be fully eliminated in case of closed reporting where reporting entities are not allowed to extend the
taxonomies. In such a case it is enough to provide a mapping between taxonomy elements and analysis system (usually represented by a database schema). In open reporting scenarios it is necessary to manually (or semi-automatically) map additional concepts in company-specific extension. More difficult to assess is the impact of XBRL on the assurance of financial reports. Trites (Trites, 2006) indicates that issues concerning XBRL in the context of assurance are numerous, pervasive and evolving. It always has to be kept in mind, though, that the ultimate source of governance is the discipline of market forces, through the stock price and the entity’s cost of capital. Thus to facilitate that mechanism, the efficient and error free transmission of entity information to users outside the entity always has to be the main priority of XBRL. Decision making, however, is more than having access to information, as is obvious from the fact that boards of directors are continuously striving (and lately, often failing) to figure out how to analyze all the information they can freely request. The communication of information is only a means towards the end of better decision making using that information, and hence, it is on that process where the emphasis must lie. Moreover, with a general purpose tool like XBRL the identity of users is less important than the understanding of the method by which any such user makes their decisions about governance. Developing high value adding applications of XBRL to governance decision making requires a more detailed understanding of how such decisions are made, but before turning to that topic, we need to explain where the decision model really begins, with data.

5. XBRL and Search-Facilitating Technology

XBRL uses predefined data tags that provide information about the content and structure of a dataset, allowing search technology to more efficiently and effectively categorize and present the information. With knowledge of the labels associated with the data tags, users of electronic financial reports can easily extract and custom-format information to suit their analyses. For example, in our context of stock option compensation, a user can search for “salary expense” and retrieve simultaneously all items in the financial statements with that data tag, whether in the body of the statements or in the footnotes. Technology that facilitates directed searches potentially alleviates cognitive processing costs and limitations that lead to differences in users’ judgments and decisions between firms that choose recognition versus disclosure. XBRL data tags contribute to the accomplishment of this by providing detailed information about the content and structure of the data, providing search engines to effectively perform a directed search and simultaneously present related financial statement and footnote information. Furthermore, search-facilitating technology can overcome users’ knowledge limitations by acting as a decision aid that identifies related information and presents it simultaneously, providing users with an opportunity to integrate data better and make appropriate comparisons between firms that choose recognition versus disclosure. In other words, presenting information in a way that enhances the structure of the data and facilitates users linking relevant information allows users to more efficiently (and often effectively) acquire and use the information (Larkin and Simon, 1987).

For a company with outstanding stock options, reported net income is higher when the firm chooses to disclose stock option compensation in the footnotes than when the firm recognizes stock option compensation on the face of its income statement. We expect the difference in reported net income to influence users’ financial
performance judgments unless they adjust net income for stock option compensation disclosed in the footnotes. It is flagrant that search-facilitating technology will decrease the influence of recognition versus disclosure by making the firm’s stock option compensation reporting choice more transparent and directing attention to the pro forma income statement effects of stock option compensation that is disclosed in footnotes. In concise, in the presence of search-facilitating technology, users’ financial performance judgments will be less influenced by the choice of recognition versus disclosure of stock option compensation than in the absence of search-facilitating technology.

If users’ investment decisions incorporate their financial performance judgments, investment decisions should reflect the predictions made in the prior hypothesis. Specifically, search-facilitating technology will lead users to be less influenced by differences in financial performance (net income) between recognition and disclosure. We state the corresponding hypothesis with respect to investment decisions below.

In the presence of search-facilitating technology, users’ investment decisions will be less influenced by the choice of recognition versus disclosure of stock option compensation than in the absence of search-facilitating technology.

Search-facilitating technology may also affect other reasons for a differential user reaction to recognition versus disclosure: specifically, reasons related to perceived financial statement reliability such as inherent differences in relevance/reliability and managers’ use of disclosure to decline negative information. Search-facilitating technology probably will make differences in recognition/disclosure policies between companies more transparent so that this technology retains placement signals (i.e., shows where different information items originate (Hodge, 2001), which XBRL does. Thus, search-facilitating technology can draw attention to a firm trying to play down stock option compensation by choosing disclosure in the footnotes rather than recognition on the income statement. This heightened sensitivity to a firm’s disclosure choice will result in users having negative perceptions about the reliability of financial statements of firms that choose disclosure. These arguments lead to the following hypothesis related to reliability.

In the presence of search-facilitating technology, users’ judgments of financial statement reliability will be more influenced by the choice of recognition versus disclosure of stock option compensation than in the absence of search-facilitating technology.

6. Proposed Method

Our experiment is consisted of sixty nonprofessional financial statement users. We choose these users as participants in that research suggests that they are more likely to be affected by cognitive processing limitations and costs than professional users (Hunton and McEwen, 1997). Furthermore, nonprofessionals play an important role in the capital markets. We randomly assigned participants to one of four conditions in a 2x2 between subjects design. In the one hand, the two independent variables are presentation format including non-searchable and searchable; on the other hand, placement of data including recognition and disclosure. The searchable condition contained a search-facilitating engine by XBRL at the bottom of the computer screen that provided participants to retrieve all information pertained to a specific account. The non-searchable condition contained
the same information (financial statements and notes) in a PDF-formatted document, which did not have the search engine at the bottom of the screen. We manipulated recognition versus disclosure by having one of the two companies (Company Y) recognize stock option compensation expense on the face of the income statement (recognition condition) or disclose it in the notes (disclosure condition). Company X always disclosed stock option compensation expense in the notes. In the disclosure condition, where both companies disclosed stock compensation, company Y outperformed company X on four key income statement ratios. Given identical financial reporting, the difference in key ratios reflected economic differences between the two companies. In the recognition condition, where company X disclosed and company Y recognized stock option compensation, company X outperformed company Y on the four key income statement ratios unless participants adjusted company X’s income statement to reflect stock option compensation, i.e., put the two companies on equal footing.

We examine two primary dependent measures: acquisition and investment decisions. We capture acquisition by asking participants in the questionnaire to identify whether company X and company Y disclosed or recognized stock option compensation information. Our acquisition dependent measure is the percentage of participants who correctly identify how each company reported stock option compensation information. We capture participants’ investment decisions by asking them to allocate an investment of $10,000 between company X and company Y. Our investment decision dependent measure is the percentage of $10,000 participants invested in company Y.

7. Experimental Result

Out of 40 participants who accessed to materials in the XBRL-enabled search engine, 21 used the search engine to view footnote information. These 21 users set search group in our experiment. Other 19 users who were exposed to the search-facilitating technology but selected not to use it, along with 20 users who were not exposed to search engine constitute non-search group. Table 1 shows The Effect of Search-Facilitating Technology on Users’ Acquisition, and also Table 2 illustrates The Effect of Search-Facilitating Technology on Users’ Investment Decisions.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Information’s Placement</th>
<th>Difference(Disclosure-Recognition)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search group</td>
<td>87% 69%</td>
<td>-18%</td>
</tr>
<tr>
<td>Non-search group</td>
<td>94% 43%</td>
<td>-51%</td>
</tr>
</tbody>
</table>

Table 2. Mean percentage invested in company Y

<table>
<thead>
<tr>
<th>Participants</th>
<th>Information’s Placement</th>
<th>Difference(Disclosure-Recognition)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Conclusion

Current paper investigates the potential for search-facilitating technology to improve nonprofessional investors’ use of financial information in investment decisions, using the context of recognition versus disclosure of stock option compensation. We find that when stock option accounting varies between two firms, search technology contributes users to both acquire and integrate relevant information. Participants who used XBRL-facilitating technology were more likely to acquire footnote information, and also they were more likely to integrate the footnote information with related information on the face of the income statement when making judgments and decisions. When compared to participants who did not use search-facilitating technology, differences in investment decisions were detected. It can be seen that the implementation of XBRL improves the transparency of a firm’s financial statement information and managers’ choices for reporting that information.

Additionally there is a link between search-facilitating technology and managerial decisions apropos of financial reporting. Consequently, they predicted that the effect of XBRL on users’ decisions may alleviate the benefits of managers lobbying for and choosing financial reporting approaches that artificially enhance the financial performance or condition of the firm. As XBRL increases the transparency of financial reports in general and managers’ financial reporting system choices and disclosure management efforts in particular, the disclosure reputation of firms along with user’s interpretation of the quality of financial information presented will be enhanced. Accordingly, as XBRL increases the transparency of management’s financial reporting choices and disclosure management to the uses of financial information, the reliability and the reputation of their financial information will be more easily analyzed and evaluated. As a result, as the adoption of XBRL to support financial reporting process becomes more common, managers may become aware that their capital market positions are being affected; hence, their attitudes and decisions concerning financial reporting system choices and financial disclosure management may change. Provided managers conceive that disclosure management may damage firms’ reputation and affect users’ investment decision after XBRL adoption, they will become more likely to choose more precise or neutral accounting policies and procedures on their financial reporting. Alternatively, if managers perceive that XBRL adoption makes their financial disclosure management transparent, they will become less likely to engage in financial disclosure management that is harmful to the users of financial reports.
References


