

The Role of XBRL in Enhanced Business Reporting (EBR)

Enrique Bonsón
University of Huelva

Virginia Cortijo
University of Huelva

Tomas Escobar
University of Huelva

ABSTRACT: This paper analyzes how XBRL (eXtensible Business Reporting Language) can contribute to EBR (Enhanced Business Reporting) to improve financial reports' transparency. We examine XBRL's technological and organizational advantages that can facilitate the implementation of the EBR model. XBRL, and the consortium associated with it, can help EBR provide greater interaction with users, help companies identify relevant reporting data, and harness technological advances to overcome the weaknesses inherent in traditional business reporting models. EBR and XBRL efforts combined can work effectively to improve the current business reporting model.

INTRODUCTION

This paper analyzes the role that XBRL (eXtensible Business Reporting Language) can play to facilitate the implementation of the EBR (Enhanced Business Reporting) model. EBR was initially developed by the American Institute of Certified Public Accountants (AICPA) to overcome the limitations of traditional business reporting models. XBRL and its consortium, applied to the EBR model, has the potential to facilitate greater interaction with users, help companies more easily identify relevant reporting data, and harness technological advances to overcome the weaknesses inherent in traditional business reporting models.

This paper identifies and discusses features of XBRL, both as a technological standard and as an international organization, which could serve as efficient tools to drive the implementation of EBR. The analysis of XBRL's potential role in EBR's implementation is essential to understand how XBRL plays a role in the EBR framework and leads to improve the current business reporting model to meet the growing needs of stakeholders.

The financial scandals that took place during the first years of the 21st century can be considered as a consequence of capital markets' lack of control and transparency. While there are several potential causes (fraud, earnings management, insider trading, etc.), financial scandals have often been attributed to traditional business reporting models' failure to

Corresponding author: Virginia Cortijo
Email: virginia.cortijo@decd.uhu.es

fully meet investors' needs. It is necessary to design and implement new accounting information systems that better suit the new business environment (Escobar et al. 2008). Since the late 1980s a series of studies in accounting and other fields have emphasized the need to reengineer and improve the traditional business reporting model in order for financial statements to more accurately reflect companies' true economic value (Institute of Chartered Accountants of Scotland [ICAS] 1988; Institute of Chartered Accountants in England and Wales [ICAEW] and ICAS 1990, 1991; Canadian Institute of Chartered Accountants [CICA] 1988; Rimerman 1990; Wallman 1995).

In 1991 the AICPA, amid growing demands for an improved financial reporting model, established the Special Committee on Financial Reporting which is also known as the Jenkins Committee. This discussion forum was set up to analyze users' increasing demand for business information (focusing on investors and lenders) and develop the content of company business reporting to accommodate users' needs.

The Jenkins Committee proposed a new business reporting model which was far more comprehensive than the traditional reporting framework. However, very few of the recommendations made by the Jenkins Committee were put into practice (Vasarhelyi and Alles 2006).

In December 2002, the AICPA established the Special Committee on Enhanced Business Reporting (SCEBR). SCEBR was assigned the objective of developing a strategy to improve the disclosure of financial information by companies, and to provide guidelines for the production of additional reports that could meet markets' growing demands for financial information (EBRC 2004). However, these guidelines were very general and the degree of abstraction made their effective application difficult. Therefore, the need for further specification including detailed descriptions and requirements became apparent.

At this point, XBRL can play a fundamental role through its taxonomies. Taxonomies provide a machine-consistent way to represent semantic rules for different areas of information. These taxonomies can add significant value to the EBR framework because their creation requires the development of tags that represent each piece of information. Therefore, an XBRL taxonomy based on EBR can specify the contents of the EBR framework.

XBRL is supported by an international consortium of companies, agencies and experts, who are working together to promote and support the XBRL standard. The XBRL consortium works according to a set of formal procedures, from which the EBR consortium can benefit.

The relevance of XBRL to achieve EBR's final goal of greater transparency in business reports is significant to the extent that the AICPA decided to join the XBRL and EBR consortium management efforts into a single assurance services team. However, there is still no academic research that analyzes the specific advantages of XBRL that may contribute to EBR model. Therefore, this paper identifies and analyzes the technological and organizational advantages of XBRL that can facilitate EBR's implementation.

The remainder of this paper is organized as follows. The second section gives a brief overview of the evolution of business reporting models. The third section analyzes the technical and organizational aspects of XBRL that can help to improve the implementation of EBR. The final section concludes with a summary of the main findings of this paper.

FROM TRADITIONAL BUSINESS REPORTING MODELS TO EBR

The deficiencies of traditional business reporting models can be grouped into two broad categories: (1) communication of financial accounting information, and (2) content limitations.

Communication of Financial Accounting Information

Bonsón et al. (2001) argue that the unidirectional character of paper-based reporting does not allow companies to satisfy the particular needs of financial information users. Further, Bonsón et al. (2001) argue that timeliness of financial information needs to be improved to increase relevance.

Some of current financial reporting frameworks' deficiencies can be overcome by the use of the new technologies. Giner and Larrán (2002) conclude the Internet to be a channel for the disclosure of business information that can be used interactively. Consequently, each group of users is able to obtain the information they need to make their own decisions. They also argue that the Internet allows companies to report a larger volume of information to more users in a timely manner at less cost.

On the other hand, the Internet can also create new and unanticipated problems. Although the problem of information overload has existed for many years, it has been exacerbated by the evolution of information and communication technology. The advent of the Internet changed the way in which business was conducted and led to an increase in the amount of information available in the workplace (Edmunds and Morris 2000). Locating good quality information among the vast amount of information available is one of the biggest challenges of the Internet (Bond 2004). This problem, together with the inconsistent presentation of the information by companies and the inherent limitations of HTML, makes it difficult for users to find the information that they seek (Debreceeny and Gray 2001).

Further improvement in the communication process between the issuers of financial information (companies) and users (e.g., shareholders, investors, analysts, regulators, public administrations) would be useful. It is important to adopt a communication standard, such as XBRL, that connects users and companies at a reduced cost and with more efficient data collection and report issuing processes.

Content Limitations

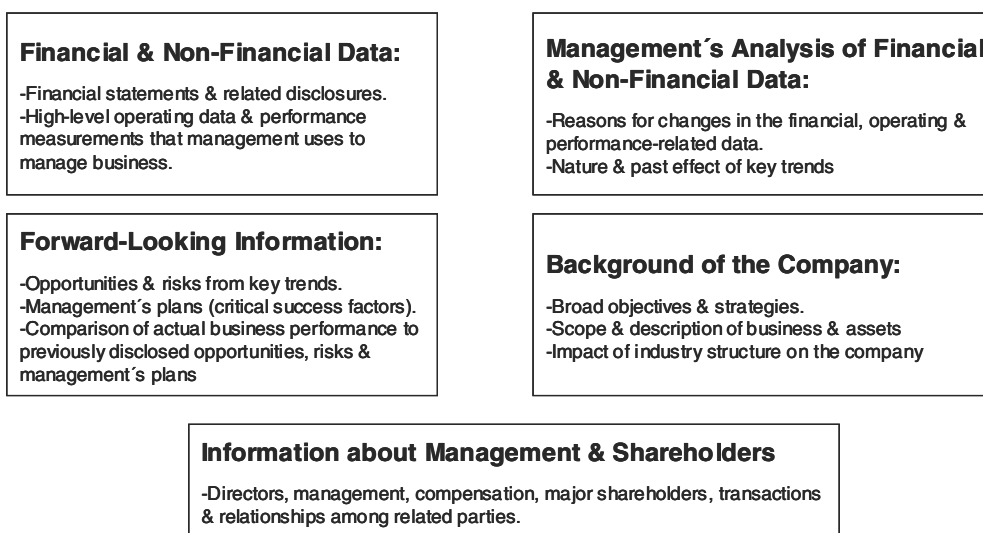
In addition, researchers and practitioners argue that information disclosed by traditional business reporting model is incomplete. Various academic studies demonstrate that the value relevance of the information provided by companies has been decreasing over the last decades (Brown et al. 1999; Core et al. 2003; Cortijo-Gallego et al. 2007).

This problem is aggravated by the increasing importance of intangible assets and intellectual capital, which are considered to be the real sources of wealth and growth for companies (Lev and Zambon 2003; Sánchez et al. 2002; Cañibano et al. 2000). However, despite their growing importance, they are not accurately reflected in financial statements (Healy and Palepu 2001; Rimerman 1990). The value relevance literature emphasizes the need to create a business reporting model that is capable of providing information that users need to correctly assess companies' economic value.

Consistent with concerns of accounting's loss of relevance, in 1991 the AICPA created the Special Committee on Financial Reporting, which is commonly known as the Jenkins Committee. This committee's main objective was to recommend techniques that could improve business reporting. This committee's general conclusions were included in a comprehensive report (AICPA 1995).

As shown in Figure 1, the business information required by investors and lenders includes: financial and nonfinancial data, together with the management's analysis of this information, and a description of the objectives defined by the company, as well as the strategies and the organizational structure designed to achieve them (including information

FIGURE 1
Business Reporting Model (Jenkins Committee)



about the managers and shareholders). The report also stresses the importance of forward-looking information that can help to reduce the uncertainty associated with the decision process.

Although the Jenkins model was more enhanced than the traditional one, very few of the recommendations suggested were put into practice (Vasarhelyi and Alles 2006). Concerns about the declining relevance of traditional business reporting were subsequently addressed by the accounting profession, through a number of initiatives such as the Weygant Committee, the Kolton Committee, and the Elliot Committee. In December 2002, the AICPA established the SCEBR. SCEBR's final goal was to improve the corporate disclosure of financial information and to provide guidelines for the production of additional reports that might satisfy the growing needs of financial information users (EBRC 2004).

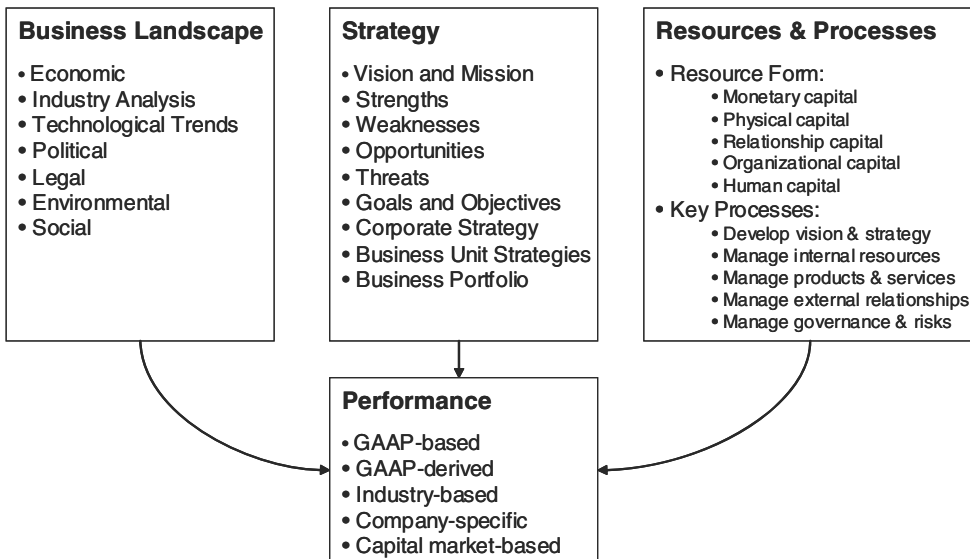
In order to reach this goal, the committee created the EBR framework (see Figure 2). This framework organizes the disclosure of additional information not currently covered by Generally Accepted Accounting Principles (GAAP).

According to the EBR framework, companies must describe their business landscape by disclosing information about their customers and competitors, as well as the technological, social, legal, political, and environmental conditions that may have a significant influence on its business. Report its mission, objectives, strategies, risk management policies, and explain their organizational structure and its business units.

The EBR framework also requires companies to describe their resources and processes that are employed to implement strategies. Company resources can be divided into two main groups: tangible and intangible assets.

Finally, the EBR framework required companies to report their performance using not only GAAP-based measures but also GAAP-derived measures. The EBR framework also urged companies to provide sector performance measurements, company-specific indicators, and segmented information.

FIGURE 2
EBR Framework



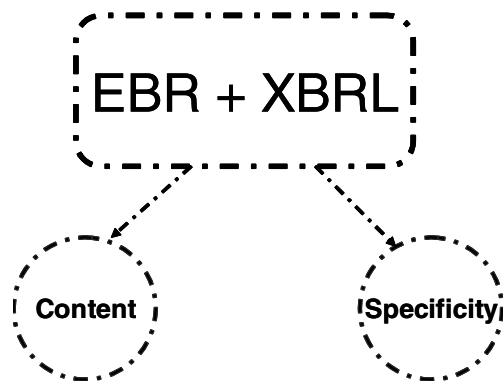
The EBR framework can be considered more comprehensive than the Jenkins Committee business reporting model. The EBR framework recommends companies to disclose information on corporate responsibility, in both its main perspectives: respect and protection of the natural environment, and commitment to social, ethical, and charitable principles. In addition, the EBR framework stresses the importance of information technologies and suggests companies explain how they ensure their technologies are operating as intended and how integrity and reliability of information are assured.

However, the guidelines of the EBR framework are general, and critics argue that its degree of generality may make its application difficult. Therefore, it is necessary to establish a set of requirements with greater level of detail. At this point, XBRL can fulfill an essential role through the development of taxonomies that provide specific labels and relationships for representing each item of information. These taxonomies add value to the conceptual framework of EBR because they provide a machine-consistent way to represent semantic rules for different areas of information.

Therefore, by combining EBR (that defines a complete reporting model) and XBRL (that provides very specific definitions), it is possible to establish the business reporting model that would fully meet the information requirements of users (Figure 3).¹

¹ Along these lines, the AICPA states: "XBRL, a new global open standard for formatting financial information, is revolutionizing the way financial information is being reported. EBR is a framework around company disclosures that will give investors a more complete picture. XBRL is the 'how' and EBR is the 'what' of financial reporting."

FIGURE 3
Complete-Specific Business Reporting Model



METHODOLOGY AND ORGANIZATIONAL ASPECTS OF XBRL: IMPROVING THE APPLICABILITY OF REPORTING MODELS

XBRL is used as the language of business communication in various settings because it offers many technological advantages. As stated in the XBRL 2.1 Specification (2006): “XBRL allows software vendors, programmers, intermediaries in the preparation and distribution process, and end users who adopt it as a specification, to enhance the creation, exchange, and comparison of business reporting information.”

XBRL is a language based on XML. Therefore, it is able to tag individual concepts. As a result, financial reports, also known as instance documents, can be searched quickly and accurately. The implementation of XBRL requires the creation of taxonomies. In addition to the files of plain text and extension .xml that contain the real information to be transmitted, there also exists a reference: a taxonomy (Bonsón et al. 2008). XBRL taxonomies provide an identifying tag for each individual item of data, as well as a set of rules against which each XBRL file can be validated.²

In a market-driven environment, the development of XBRL taxonomies requires the collaborative effort of experts from many different fields. Therefore, this process can be considered as a catalyst for initiatives of cooperation that could not otherwise take place (Cohen et al. 2005). The EBR consortium can benefit from this experience.

The creation of an XBRL taxonomy for the EBR model would benefit from the cooperation between members of the EBR and XBRL consortiums in the process of developing specific tags that represent each piece of information required by the EBR framework. As a consequence, the content of the EBR framework would be more specific than its current state. This higher level of specificity could facilitate the implementation of the EBR model. In addition, the AICPA states that the development of an XBRL taxonomy based on the EBR framework “would enable investors to easily compare similar information for

² It is possible to identify two different kinds of validation: (1) XBRL validation of XBRL instances against XBRL Schema and Linkbases, and (2) Business rule validation of XBRL instances against user-defined business rules.

different companies³ while also enabling investors to identify areas where useful information is not yet being provided” (AICPA 2008).

Collaboration between the XBRL and EBR consortium is supported by the AICPA. In 2006 the AICPA created a single assurance services management team to oversee the coordination of EBR and XBRL activities. This initiative indicates the profession’s view that XBRL is necessary to reach EBR’s final goal of greater transparency in business reports.

Other features of XBRL that can help the EBR consortium accomplish its objective of bringing business reporting into the 21st century are:

- Improve accuracy and reliability of business data through the validation process. XBRL instance documents are validated against XBRL Schema and Linkbases as well as against user-defined business rules. This process ensures that the XBRL report complies with the rules included in the taxonomy used as the basis for the XBRL instance document.
- Taxonomy extension: the extensible nature of XBRL implies that it can be adjusted to meet specific business needs, even at the individual organization level. Sometimes companies are required to include in their business reports additional concepts that are particular for their activity and are not included in the taxonomy they are using. In these cases, companies may create an extension to the original taxonomy with the appropriate elements and inter-relationships for their special reporting requirements, without loss of comparability and integrity of data.⁴ This feature allows the comparison between EBR reports from different companies through the use of intelligent software tools.

The EBRC (2006) proposed structure does not require all companies within a specific sector to disclose the same performance measures and indicators. Instead, the EBRC encourages the development of “root primes” which can allow companies to construct their own metrics. If extensions are done under strict rules, users will be able to deconstruct these metrics, understand the meaning of their underlying “root prime” component elements, and make comparisons between performance measures from different companies.

- The nature of XBRL taxonomies. They consist of a core part, the *schema*, which contains definitions of elements, and a set of *linkbases* that provide relationships between different elements and link them to specified external resources.

Dimensions are another important feature of XBRL taxonomies from which EBR can benefit. Dimensions can be defined as each of the different aspects by which a fact may be characterized, while measures are the data being reported. Whereas measures are variables to monitor, the dimensions are the subclasses to which the different values of the variables belong. Tables are created from the combination of dimensions and measures. Dimension can enhance the implementation of the EBR framework because they formalize the disclosure of multidimensional information (see Figure 4).

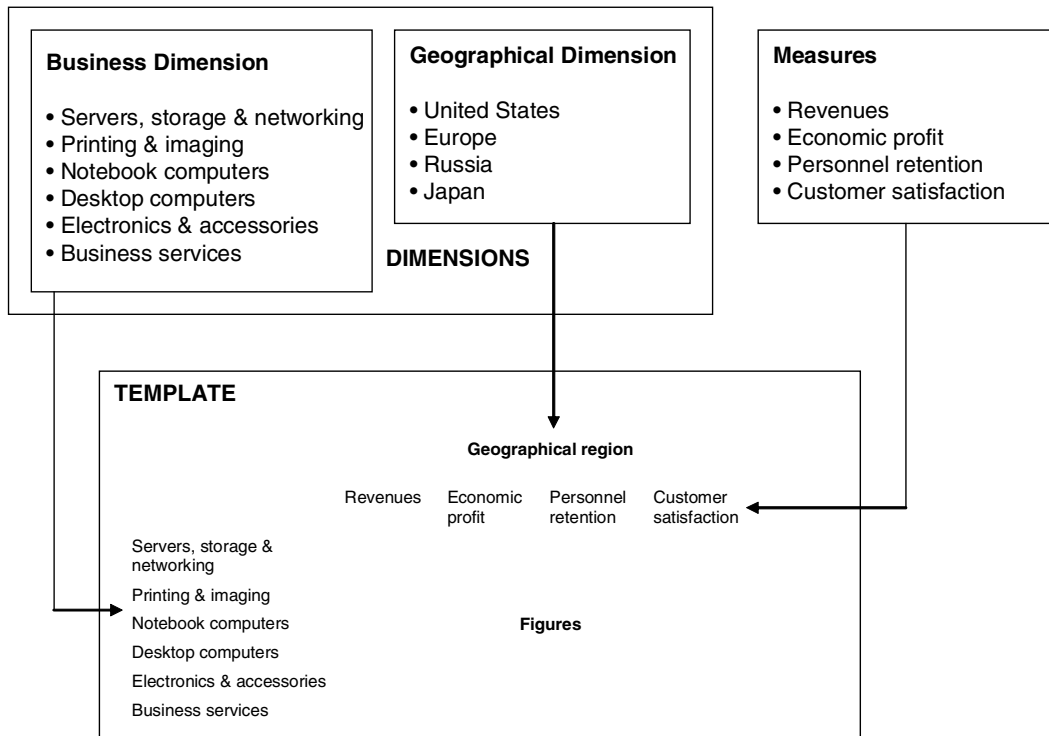
- XBRL instance documents are electronic files so they can be more easily stored and processed. Also, the XBRL standard information format enables interoperability between diverse information systems, and thus it may enhance the efficiency of the business reporting process.

Information advocated by EBR is both qualitative and quantitative and it has

³ Comparability may be not reached if companies report different information with the same tag; in this case, tags provide no comparability.

⁴ If extensions are properly developed.

FIGURE 4
Example: Creating a Template According to the Needs of a Company



different degrees of granularity. XBRL is specially designed to represent these kinds of information.

- XBRL is a generic tool that can represent EBR. Changes in EBR do not require changes in XBRL, only in the taxonomy represented by XBRL. If there is a modification in EBR guidelines, taxonomies should be updated to represent new reporting requirements.
- XBRL can enhance comparability within and between companies. The use of a standard terminology allows different departments within an entity and different companies to use the same labels for the same concepts. Therefore an XBRL-EBR taxonomy can potentially facilitate the comparison of the EBR information provided not only for a company across time but also between different companies, if extensions are constructed according to a strict set of rules.

The creation of an XBRL-EBR taxonomy, together with the use of XBRL General Ledger (GL) and software applications specifically designed for XBRL, can facilitate the automatic preparation of EBR reports. This fact can facilitate the promotion and adoption of the EBR model.

XBRL is also an international nonprofit consortium of companies, organizations, and government agencies that work together in order to build the XBRL language and promote and support its adoption. The XBRL consortium develops its activities according to a set

of formal, yet flexible procedures. The XBRL consortium combines new technologies of communication with mailing lists, phone calls, traditional mail, face-to-face meetings, and international conferences. XBRL events are meant to be a meeting point for people coming from the professional and academic fields, who want to share and develop their knowledge about different aspects of XBRL and corporate reporting. EBRC members, through international and influential XBRL events, can better explain the EBR framework and its objectives and speed up its diffusion. Further, the EBRC, through these conferences, can recruit representatives from corporate and investment communities who can help customize the EBR framework on a sector and industry basis.

The EBR consortium can also benefit from the working methodologies of the consortium, which are explained in many different reports, also known as XBRL Governing Documents.⁵ The quality of XBRL working methodology is supported by the success of many different initiatives, such as the IFRS and COREP projects, which are summarized below.

In 2002, the European Parliament accepted the IFRS (International Financial Reporting Standards), issued by the IASB (International Accounting Standards Board), as the official accounting rules for all listed European companies, including banks and insurance companies (European Parliament 2002). The International Accounting Standards Committee Foundation (IASCF), aware of the capacity of XBRL to standardize financial statements, decided to create the “Primary Financial Statements (PFS), Financial Reporting for Commercial and Industrial Entities, International Accounting Standards (IAS)⁶ Taxonomy.” This taxonomy established an XBRL standard for the financial statements prepared according to the IAS, and its first version was published in November 2002.

The main purpose of the IFRS-XBRL taxonomy is to include the elements most commonly observed in general purpose financial statements. However, the IFRS is a principle-based GAAP and it only offers guidelines, not specific rules. For this reason, the total set of elements included in the taxonomy is larger than the set of elements required to be disclosed by the IFRS guidelines. The additional elements are included because they are either commonly observed disclosures under IFRS or are required to ensure structural integrity of the financial statements.

On the other hand, the objective of the COREP-XBRL Project is to deliver an XBRL taxonomy that represents the Common Reporting framework (COREP), for the new solvency ratio, for credit institutions and investment firms.

COREP framework was developed in 2006 by the Committee of European Banking Supervisors (CEBS) as part of its objective of promoting convergence in supervisory practices within the European Union (EU). COREP is a very important initiative because it allows all EU supervisory authorities to satisfy their reporting requirements with a single database, or at least a common vocabulary and definitions. Although national supervisory authorities are free to decide how they are going to implement the reporting framework, the CEBS holds the stance that XBRL may be a useful tool to build a harmonized European reporting mechanism. For this reason, the CEBS, advised by leading European XBRL experts, developed the COREP taxonomy.

⁵ The document: XBRL International Technical Working Group and Work Product Process (2007-04-14) can be found at: http://www.xbri.org/XSB/XBRL_Technical_Working_Group_Processes-Approved-2007-04-17.htm.

⁶ To avoid the confusion that can arise with the terms IFRS and IAS, it is necessary to explain that, in 2001, the IASC (International Accounting Standards Committee) changed its operating structure and re-named itself the IASB (International Accounting Standards Board). This body accepted all the International Accounting Standards (IAS) issued by its predecessor, and adopted the nomenclature International Financial Reporting Standards (IFRS) for future standards.

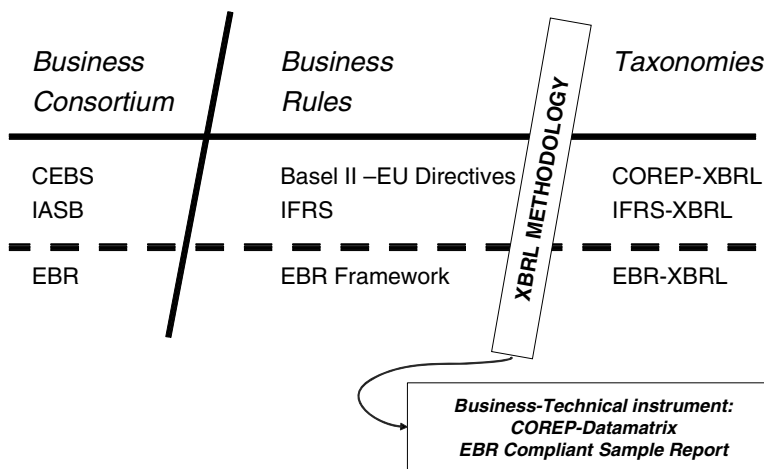
Both IFRS-XBRL and COREP-XBRL reached their main objective, which was to create XBRL taxonomies that are able to reflect the two different financial standards: IFRS and COREP.⁷ Further, both taxonomies have been evolving over the years to include the last developments of IFRS and COREP.

The IFRS-XBRL taxonomy has been applied by some companies⁸ in the preparation of their financial statements. Regarding COREP taxonomies, the regulatory authorities of some countries (France, Spain, Belgium, Cyprus, Poland, and other countries) require financial institutions to use different national extension taxonomies for the preparation of their solvency reports.⁹

The working methodology of both projects (IFRS-XBRL and COREP-XBRL) was the same (see Figure 5):

- First, a rule is issued by a regulatory authority (CEBS) or an independent accounting standard setter (IASB). This rule is usually very general or abstract, and in order to facilitate its implementation it is necessary to reach a greater level of detail.
- Second, a consortium or organization assumes the responsibility of detailing the initial regulation. In other words, the consortium undertakes the task of “translating” the original regulation into a set of particular business concepts that should be disclosed by regulated companies.

FIGURE 5
XBRL Working Structure: From the Reporting Model to the XBRL Taxonomy



⁷ There exist multiple COREP taxonomies because some countries developed their own national extension taxonomies. The list of COREP extension taxonomies is available at www.corep.info/corepTaxonomy/extension_taxonomies.html.

⁸ In November 2007, Reuters became the first company to make its IFRS-based financial reports available to the public on the SEC’s website in XBRL. Reuters submission is available online at: www.sec.gov/Archives/edgar/data/1056084/000095013507006690/0000950135-07-006690-index.htm.

⁹ For more information about the European countries that apply COREP-XBRL taxonomy, on a compulsory or voluntary basis, please visit the website: www.corep.info/corepTaxonomy/corep_adoption.html.

- Third, the consortium develops a deliverable XBRL taxonomy whose content is based on the original standard or regulation. This taxonomy also complies with all the technical and regulatory requirements of quality.

In the case of EBR, there already exist a business reporting model (the EBR framework) and an assurance services management team, composed of members of the AICPA, whose objective is to oversee the coordination of EBR and XBRL activities. Based on the idea that XBRL can really help the EBR consortium accomplish its mission of meeting current business realities, it would be desirable to create the EBR-XBRL taxonomy. This taxonomy could stimulate and facilitate the implementation of the EBR Model.

The process of development of the EBR-XBRL taxonomy could be as follows:

- The initiative for creating the taxonomy can come from members of the EBR consortium.
- The EBR-XBRL working group could contain three different working sub-groups: Business Reporting, Technical, and Support.
 - a. The experts in business reporting, coming from the EBR consortium, would issue a report that contains a detailed description of the information that companies should disclose according to the EBR Framework.
 - b. The technical experts, who are or have been involved in XBRL, together with data modelers, taxonomy builders and techie types, would create the EBR-XBRL taxonomy. To reach this goal, they would analyze the different technical options and choose those that fit the best in the EBR environment, with the advice of the experts in business reporting.
 - c. The support subgroup would be in charge of planning and organizing all the activities carried out by the XBRL-EBR working group: meetings, round tables, conferences, seminars, etc. In addition, the support subgroup would manage and publish information and explanatory documents, taxonomies, and test cases.

In conclusion, XBRL's technological and organizational advantages, together with the suitable software and interest from users, have the potential to promote and speed up the implementation process of the EBR model. The successful cooperation of EBR and XBRL activities and resources can substantially enhance business reporting.

FINAL REMARKS

This paper analyzed XBRL's key aspects that would be instrumental in the implementation of EBR. As a result of our analysis we found that XBRL could be beneficial in both technical and organizational aspects.

From a technical perspective, XBRL has the potential to enable more transparent, relevant, reliable, and efficient reporting practices and processes of business reporting. With XBRL, companies can disclose more information in a more timely and accurate way.

However, XBRL is also a consortium of around 550 companies and agencies worldwide with the objective of building and promoting the XBRL language. From an organizational perspective, the EBR consortium can benefit from the working methodologies and from the expertise and experience of the members of the XBRL consortium. The proper coordination of EBR and XBRL activities can help to improve the current business reporting model so that it can satisfy the needs, challenges, and opportunities of the 21st century.

With this paper we attempt to start a new research stream that focuses on the role that XBRL, as well as other enhanced technologies, platforms, and standards, can play in the

real application of the EBR model. In addition, future research is needed to analyze XBRL's limitations and how these can be overcome.

REFERENCES

- American Institute of Certified Public Accountants (AICPA). 1995. *Improving Business Reporting—A Customer Focus (Comprehensive Report of the Special Committee on Financial Reporting)*. New York, NY: AICPA.
- . 2008. *Whitepaper: The Shifting Paradigm in Business Reporting and Assurance*. Available at: http://www.aicpa.org/Professional+Resources/Accounting+and+Auditing/BRAAS/downloads/AICPA_ASEC_Whitepaper_Final_20082008April_2008.pdf.
- Bond, C. S. 2004. Web users' information retrieval methods and skills. *Online Information Review* 28 (4): 254–259.
- Bonsón-Ponte, E., T. Escobar-Rodríguez, and S. Gago. 2001. *Los sistemas de reporting digital. Hacia un nuevo enfoque de la contabilidad financiera*. Electronic Publication, Premio Cubillo Valverde IV. Madrid: ICAC.
- , ———, and F. Flores-Muñoz. 2008. Meta-data language for online identification: An international project. *International Journal of Metadata, Semantics and Ontologies* (forthcoming).
- Brown, S., K. Lo, and T. Lys. 1999. Use of R² in accounting research: Measuring changes in value relevance over the last four decades. *Journal of Accounting and Economics*, 28: 83–115.
- Canadian Institute of Chartered Accountants (CICA). 1988. *Report of the Commission to Study the Public's Expectations of Audits*. Toronto, Canada: CICA.
- Cañibano, L., M. García-Ayuso, and M. P. Sánchez. 2000. Accounting for intangibles: A literature review. *Journal of Accounting Literature* 19: 102–130.
- Cohen, E. E., T. Schiavina, and O. Servais. 2005. XBRL: The standardized business language for 21st century reporting and governance. *International Journal of Disclosure and Governance* 2 (4): 368–394.
- Core, J. E., W. R. Guay, and A. V. Buskirk. 2003. Market valuations in the new economy: An investigation of what has changed. *Journal of Accounting and Economics* 34: 43–67.
- Cortijo-Gallego, V., D. Palmon, and A. Yezegel. 2007. Changing business environment and the value relevance of accounting information. *Advances in Quantitative Analysis of Finance and Accounting* (forthcoming).
- Debreceeny, R., and G. Gray. 2001. The production and use of semantically rich accounting reports on the Internet: XML and XBRL. *International Journal of Accounting Information Systems* 2: 47–74.
- Edmunds, A., and A. Morris. 2000. The problem of information overload in business organizations: A review of the literature. *International Journal of Information Management* 20: 17–28.
- Enhanced Business Reporting Consortium (EBRC). 2004. *Enhanced Business Reporting Consortium: Business Plan*. New York, NY: EBRC.
- . 2006. *EBR Comment Letter in Response to the IASB Management Commentary Discussion Paper*. New York, NY: EBRC.
- Escobar-Perez, B., J. M. Gonzalez-Gonzalez and A. Lobo-Gallardo (2008). Organizational control system in a continuous improvement environment: Special reference to the role of management accounting. *Business & Management* 15: 1–32.
- European Parliament. 2002. *Regulation (CE) No. 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the Application of International Accounting Standards*. Available at: <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:243:0001:0004:EN:PDF>.
- Giner, B. and M. Larrán. 2002. The use of the Internet for corporate reporting by Spanish companies. *The International Journal of Digital Accounting Research* 2 (1): 53–83.

- Healy, P. M., and K. G. Palepu. 2001. Information asymmetry, corporate disclosure and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics* 31: 405–440.
- Institute of Chartered Accountants in England and Wales (ICAEW), and Institute of Chartered Accountants of Scotland (ICAS). 1990. *Financial Reporting: The Way Forward*. London, U.K.: ICAEW and ICAS.
- , and ———. 1991. *The Future Shape of Financial Reports*. London, U.K.: ICAEW and ICAS.
- Institute of Chartered Accountants of Scotland (ICAS). 1988. *Making Corporate Reports Valuable*. Edinburgh, U.K.: ICAS.
- Lev, B., and E. Zambon. 2003. Intangibles and intellectual capital: An introduction to a special issue. *European Accounting Review* 12: 597–603.
- Rimerman, W. T. 1990. The changing significance of financial statements. *Journal of Accountancy* (April): 79–83.
- Sánchez, M. P., C. Chaminade, and M. Olea. 2002. Management of intangibles: An attempt to build a theory. *Journal of Intellectual Capital* 1: 312–327.
- Vasarhelyi, M. A., and M. G. Alles. 2006. Reengineering business reporting: Creating a test bed for technology driven reporting. Working paper. Available at: <http://raw.rutgers.edu/MiklosVasarhelyi/078.pdf>.
- Wallman, S. M. H. 1995. The future of accounting and disclosure in an evolving world: The need for dramatic change. *Accounting Horizons* 9: 81–91.
- XBRL 2.1 Specification. 2006. Available at: <http://www.xbrl.org/Specification/XBRL-RECOMMENDATION-2003-12-31+Corrected-Errata-2005-11-07.rtf>.
- XBRL International Technical Working Group and Work Product Process. 2007. Available at: http://www.xbrl.org/XSB/XBRL_Technical_Working_Group_Processes-Approved-2007-04-17.htm.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.