THE OPTIMIZATION OF THE INTERNAL AND EXTERNAL REPORTING IN FINANCIAL ACCOUNTING: ADOPTING XBRL INTERNATIONAL STANDARD

Vasile Florescu[1]
Cătălin Georgel Tudor[2]

ABSTRACT: *More and more enterprises, especially the listed companies, have adopted new accounting norms and regulations (IFRS or US GAAP, Bale II and, in perspective, SURFI), manifesting interest for publishing financial reports using a standard format able to considerably improve their communication, data collection in the receiving units, control and analysis of financial information. When switching to the new accounting rules specified in international or regional standards and norms, regulatory and control bodies recommend the XBRL format for financial reporting, with recognition of the regional jurisdiction. Our paper makes a review of the literature, presents the XBRL specific elements and proposes possible solutions for internal and external financial reporting of an enterprise. Finally, it concludes on the benefits of adopting XBRL at national level in a potential XBRL Romania project.*

Key words*: accounting norms, financial reporting, XBRL, taxonomy, XBRL jurisdiction.*

JEL Code: M15

Introduction

Globally, an increased interest for efficiency, consistence and transparency in financial reporting can be observed. The international normalization organisms propose an open and free standard, namely XBRL (*eXtensible Business Reporting Language*), based on XML (eXtensible Markup Language) and structured in direct compliance with accounting regulations. Presently, multiple enterprises (principally listed companies), and financial and fiscal institutions (as supervisory and regulatory authorities) on many countries and from many areas of activity adopt XBRL for external reporting (and, partially, for internal use in consolidation and group reporting purposes). Recently, XBRL became a viable option even for the public sector. There are already a number of extensions like XBRL IFRS or XBRL US GAAP, created for the adoption of some specific norms and regulations for the reporting in the financial-accounting. The XBRL regulators have already launched a project aiming the convergence between the reference elements of US GAAP regulations (proposed by FASB) and IFRS (proposed by IASB), by defining a common conceptual framework. Also, the normative context encloses the Bale II for bank reporting, able to satisfy the requirements applicable to banks and financial institutions in risk management and capital. The option for XBRL is justified by the fact that XBRL proposes a common referential, a presentation format and a framework for the financial reporting production in order to eliminate the actual territorial and international discrepancies, to assure transparency, understanding, comparison criteria and the exchange of financial reporting. At the same time, the document reporting in a standard XBRL format allows an improvement in analyzing accounting data and the financial information capitalization (using modern IT&C tools like Business Intelligence). In addition, in

---

[1] Academy of Economic Studies, Bucharest, Romana str., No. 5, Sector 1, e-mail: vasile.florescu@gmail.com
[2] Academy of Economic Studies, Bucharest, Romana str., No. 5, Sector 1, e-mail: catalin.tudor@gmail.com

assuring the data sources control, XBRL ensures the integrity of reporting information by using the XML structured format adapted to financial particularities. By its universality, XBRL facilitates and automates the import of data from heterogeneous computing environments. In addition to meeting regulatory requirements, enterprises adopting XBRL format benefit from a new context for improvement and cost reduction relative to their reporting processes. The XBRL advantages have determined the ERP (Enterprise Resource Planning) systems vendors to adopt XBRL standard for the reporting documents production.

Research methodology

The present study combines the descriptive research with the constructive one, using research methods like literature review or practice-based methods used in the financial-accounting information systems field. The literature review plays an important role in synthesizing relevant ideas and opinions to the research area circumscribed to the standardization issue of the internal and external financial reporting complex process.

The descriptive research focused on observations, examinations and tests, enabling some personal opinions formulations related to the current paper theme. By this approach, our study tries to investigate some defining elements of a possible project for specifying a set of rules for the XBRL adoption at national level, governing the manner of interaction between the rapporteurs and beneficiaries of financial and accounting information.

The constructive research is adopted in defining a solution for achieving the XBRL benefits in performing internal and external financial-accounting statements reporting function, responding to a situation of widespread standard adoption at regional or even national level.

Literature review

The evolution in the XBRL world was extremely rapid (Johnson, 2005; Carrignon&al, 2007), moving from the state of initiative of the American accounting expert Charles Hoffman in 1998 to the state of international standard used globally and promoted by a considerable number of national and international jurisdictions. An increasing number of papers is dealing with the XBRL issue and focuses on a variety of topics, from which we can underline some important ones:

- The XBRL fundamentals (Richards, 2002; Andone, 2004; Marion, 2005; Cohen, Schiavina, Servais, 2005; Hamon, 2007;. Florescu&Al, 2009);
- The accounting norms formalization (Debreceny & Gray, 2001; Teller, 2006);
- The XBRL involvement in the enterprise reporting processes (Debreceny & Gray, 2001; Cohen, Schiavina, & Servais, 2005);
- XBRL advantages on different users types (Johnoson, 2005);
- The impact of XBRL language adoption on the enterprise verification and control (ICCA, 2002);
- The communication and financial analysis optimization by using XBRL language (Lepecier, 2008);
- IT&C solutions for migrating to XBRL (Florescu & Al, 2009).

This paper goes beyond the authors' research preoccupation for the adoption of XBRL as standard format and tool in business reporting, in general, and financial reporting, in particular. (Florescu, Amza & Tudor, 2009).

XBRL specific elements
Fundamentals

In a relative short time interval, XBRL has evolved from the American accounting expert Charles Hoffman reflection presented in ACIPA (American Institute of Certified Public Accountants) to the status of international standard for business reporting, developed and periodically updated in tight relation with the accounting standards, principles and regulations

(IFRS, US GAAP), being adopted, presently, in many countries on all continents, and promoted by XBRL International Incorporated Consortium and by many national (XBRL US, XBRL Japan, XBRL France, or XBRL Canada) and regional (XBRL Europe) jurisdictions.

The XBRL standard allows organizations to structure and qualify information (financial, in general), by the means of tags. The basic principle of the XBRL format is to identify, in a unique manner, the place of reported information in a dictionary named *taxonomy*. Such information entered in a cohesive fashion may then be recognized and treated by various manners depending on the different needs of use. In order to use taxonomy, any financial fact from the financial statement reported by an organization is labeled, and the attached label is perceived like a "bar-code" of the reported information. The XBRL flexibility permits, among others, the appealing to a referential defined by various taxonomies.

XBRL operates with a set of particular concepts, and the most essential are: taxonomy document, XML schema, linkbases, Discovery Taxonomy Set (DTS), instance document, XBRL document (
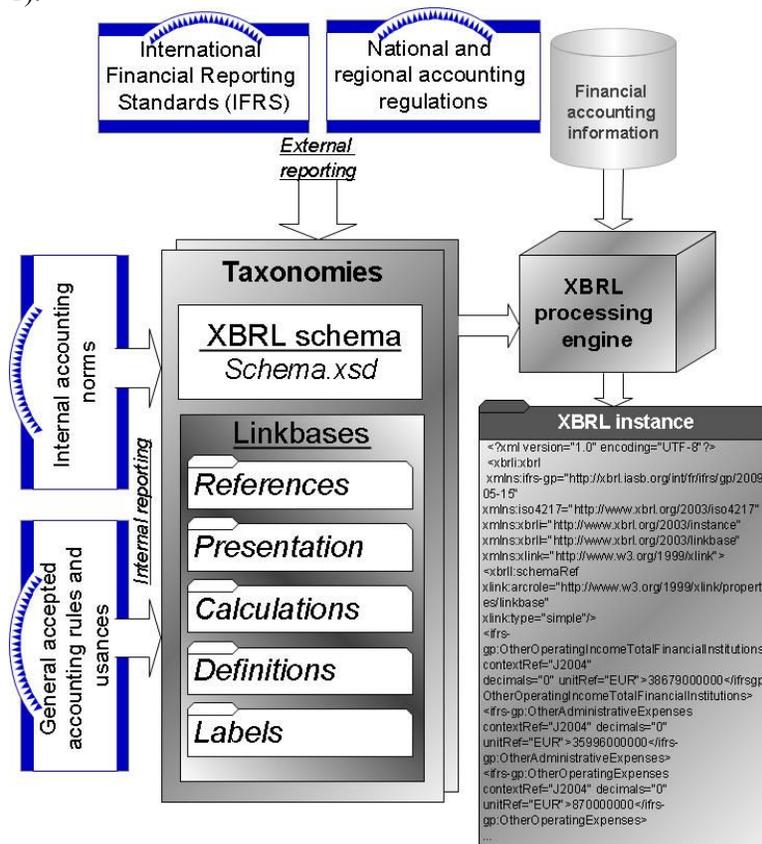
Figure no. 1).

Figure no. 1. XBRL fundamentals
(adapted from http://www.iasb.org/XBRL/Resources/Fundamentals.htm)

An XBRL taxonomy is one way to describe a rich set of semantics for business reporting that is expressed in XML. Taxonomies describe the rules and format in which information is required. Usually they are created by the authorities or interested organizations that collect the information and are used by financial information providers to send their accounting data in accordance with the used taxonomy structures. The taxonomies refer to a particular system for classifying the reported information. An XBRL taxonomy presents a set of rules enclosing the necessary data for reporting, the attributes that each informational element must comply with, or what rules should be used to calculate certain values. Today, many countries manifest a strong

interest to develop the most appropriate taxonomies that cover various areas of activity. Therefore, a considerable number of national XBRL jurisdictions has been created, having the primary goal to promote and accompany the national XBRL taxonomy development, in coherence with accounting regional regulations.

Speaking in XML terms, the taxonomy document encompasses the labels dictionary used for financial facts classification system, and defines the content of XBRL instance documents, by using standardized techniques like *XML Schema* and *XLink* (the XML link language representing the relationships between elements: references, presentation, calculation, definitions, labels). While the XML schemas used in taxonomies define the elements corresponding to a concept that can be referred in an XBRL document, the XML links express the relationships between these concepts or between taxonomy concepts and other informational sources. Conceptually speaking, an XBRL instance is a collection of financial fact (reporting atomic informational elements) tagged by XML reporting specific labels, whereas a taxonomy document provides the meanings, definitions and relationships between these fact (Deshmukh, 2006).

The XBRL instances are XML documents using certain taxonomy for presenting the actual financial facts for the reported period. Practically, the XBRL document is created by placing the financial information in the elements described by the XBRL taxonomy schema and correlated with *XBRL linkbases*. This document must comply with all the rules listed in the chosen taxonomy, and usually requires the use of software solutions for creating and validating them. Any XBRL document instance must contain only the data being included in the report. The ensemble of the files compounding the taxonomy is referred as Discoverable Taxonomy Set (*DTS*).

Due to the preoccupation on XBRL adoption line, in the present, more and more regulatory bodies recommend financial reporting in XBRL format, manly for the listed companies. The XBRL adoption is about to become an informational coherence issue (or strategic alignment) at national and international level. CEBS (Committee of European Banking Supervisors) have developed the COREP taxonomy designed to facilitate reporting on solvency ratios basing on BALE II directives (Invoke, 2008). In perspective, the SURFI project will also strengthen XBRL. The regulators have already started a project on the convergence of U.S. GAAP referential (proposed by the FASB) with the IFRS one (proposed by the IASB) and the current preoccupation is to define a common conceptual framework for their conceptual alignment.

XBRL involvement in the reporting process

According to regulatory international organism in electronic reporting field (XBRL International), the XBRL technology provides a common platform for the business reporting process, contributing to the credibility and facilitation of financial data communication between reporting enterprise internal and external users. XBRL can address both the internal reporting, for the financial-accounting data analysis at organizational level in terms of performance criteria and business activity validation, and the external reporting, aiming the publishing of information centralized in accordance to local accounting rules and regulations to different beneficiaries from outside the enterprise (
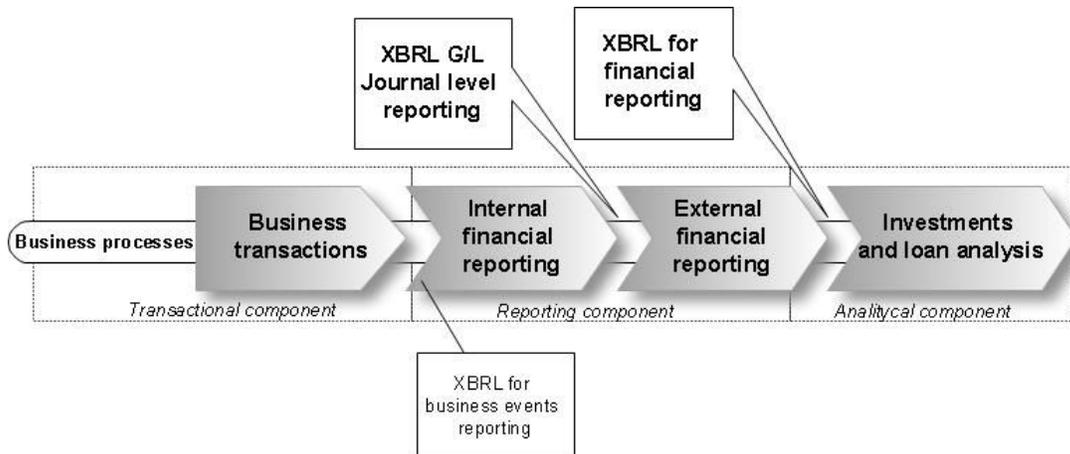
Figure no. 2).

Figure no. 2. The XBRL involvement in the enterprise reporting processes (adapted from Debreceny & Gray, 2001; Cohen, Schiavina & Servais, 2005)

From our point of view, can be defined three main components able to guide the enterprise reporting process: the *transactional component* managing the basic informational support from the enterprise operational activity, the *reporting component* with business information synthesizing role for the reports production, aiming the internal and external use, and the *analytical component* that can operate both inside and outside the organization, with the main goal of extracting, processing and analyzing the financial information resulting from the business reporting.

In general, internal reporting aims at operational business processes, but, equally, it provides a holistic image on the management processes: acquisitions, human resources and payroll, production planning, forecast management or cash management, representing a mandatory phase for the external reporting process preparation. From the perspective of external reporting, a scenario that we can expose for presenting the XBRL platform opportunities is the centralization of information resulting from contributors financial statements by a regional revenue authority.

From the technologies point of view, XBRL is the XML language application in financial reporting field, permitting the automatic data exchange and the accounting information extraction by any information solution or existing technology. XBRL is reporting-oriented and not accounting transaction oriented, meaning that its use is recommended after the financial information aggregation from operational business activity and its presentation to standardized reports.

XBRL advantages on different users types

XBRL considerably improves the financial information reliability and access speed. All participants benefit from the XBRL use. Companies prepare financial reports more quickly and, by this means, it can be perceived an increasing effectiveness of business decisions (Business Intelligence). Adopting XBRL allows investors, business analysts and regulators to improve the distribution, search and financial information analysis. The financial reporting taxonomies development based on accounting standards (IFRS or U.S. GAAP) and XBRL adoption brings significant advantages for both the beneficiary and the report emitting organizations. Johnson (2005) groups the advantages offered by the XBRL adoption on several types of users:

- companies producing financial reports;
- regulatory institutions;
- stock exchanges;
- analysts and advisors;
- banking unit, management, credit and loan companies;
- financial information institutions;

- auditors and accounting experts.

Rallying to Johnson opinion that is important to depict the benefits of XBRL use for each category of economic actor involved in financial reporting process, we describe some significant advantages of XBRL adoption in the light of each type of user activity idiosyncrasies.

By using XBRL the *financial reports producers* can achieve some important benefits:

✓ cutting costs by preparing data in one form and automatically providing information in various forms, avoiding re-entering data and other manual tasks;

✓ the improvement of the divisions and subsidiaries results consolidation with a higher speed and greater consistency;

✓ the improvement of financial data accuracy and reliability;

✓ the effort focused to forecast analysis and decision-making, and not to collection, preparation and compilation of data;

✓ the efficiency of decision making (by the means of Business Intelligence tools and techniques); more effective communication with shareholders; institutions will be able to benefit from major Web sites as a means of communication;

✓ improved relationships with shareholders, by providing more transparent and easier to use information;

✓ process simplification and cost diminution for business and financial-accounting reporting;

✓ faster responses from third parties, including banks and regulators.

By recommending the use of XBRL *regulatory institutions* can:

✓ benefit from a huge amount of data stored automatically in their information system (usually in Data Warehouses providing contributors financial statements information from different time periods), without re-collecting, re-formatting or other supplementary action;

✓ cut data processing costs, as a consequence of some routine task automation;

✓ quickly identify problems in periodically received financial statements;

✓ review and compare information faster, efficiently and securely (by using IT applications in the process of data validation and analysis);

✓ focus efforts for analysis and knowledge management, controlling data and activities, and improving the complex process of decision making;

✓ provide a quick response to third parties;

✓ promote efficiency in tax returns collecting process.

By adopting XBRL, the *stock exchanges* and *money markets* can benefit of:

✓ the effectiveness, completeness and reliability of data collection processes;

✓ the products value and competitiveness increase (e.g. information obtained from processing data provided to institutions and private investors);

✓ transparency and robustness of market information.

The *business analysts and advisers* who use financial reports in XBRL format can achieve some important benefits, such as:

✓ greater transparency, clarity and consistency of financial data;

✓ knowledge achievement about using, comparing and auditing a set of financial information by the use of IT&C solutions;

✓ powerful software tools for data analysis, comparison and benchmarking;

✓ the feature for selecting data from different organizations for comparison and analysis purposes.

Banking units, credit and loan institution use XBRL for:

✓ rapid gathering of data through secured financial reporting;

✓ cost reduction for data processing;

✓ financial information analysis and comparison (under reliability, completion and efficiency conditions) using automated processes;

✓ quick traceability of financial performance;

✓ more reliable decision taking and providing the answers towards customers.

By adopting XBRL format for business reporting, *financial information institutions* are able to:

✓ get financial data from different sources under a standardized form;
✓ reduce, in a significant manner, the financial data collection and storage activities costs;
✓ focus on data analysis activities rather than on data collection activities;
✓ provide a clear, precise and in depth perspective of the financial performance;
✓ provide products based on the data from the XBRL reports.

Auditors and accounting experts performing missions in organizations that have adopted XBRL can:

✓ quickly obtain reliable data for specific professional missions;
✓ considerably reduce the efforts and costs of analysis and data collection;
✓ simplify and automate the audit, control and other important tasks;
✓ focus the effort on analysis and added value activities.

XBRL adoption costs and potential disadvantages

The XBRL adoption costs are different from one company to another and vary in accordance with the intended goal. Thus, the most common goal can be considered the exchange of financial reporting information between different business partners, characterizing the external reporting process. From another view, the validation of business reports conformity with the informational requests is, also, an important company achievement by the use of XBRL. Furthermore, if we refer the internal business reporting we may consider XBRL as a tool and method of easily analyzing the financial information and reusing it for further purposes. Taking into consideration these three implementation goals, the XBRL adoption costs can be grouped in two main categories: pre-implementation and post-implementation costs. For a company, first category may include software licenses, the development time and other resources costs, the implementation costs, and the staff training costs. These costs may increase if some compliance with a given taxonomy is requested for the disclosure of financial information. The post-implementation costs refers to all the exploitation expenses resulting after the XBRL adoption such as the review of the financial information going to be reported by an outside XBRL publishing expert or the costs associated with the security of the information exchange over the Internet if a third party will be involved (like a timestamp provider). We must state that the post-implementation costs differ significantly for an automated fashion of financial information XBRL processing from a manual information filing process, the total cost being increased by the great amount of time and staff involved in the process. That is why we will consider that the Return of Investment (ROI) for an XBRL project can be achieved only by automating the XBRL reporting process, hence opening the way for the benefits of this standard.

An important disadvantage of XBRL adoption by a company differs in relation to beneficiary of published information and reporting period. XBRL permits the diminution of enterprise financial reporting period, providing even the possibility of *continuous reporting*. A more timely presentation of facts will show a more relevant picture of the enterprise financial status.

For a smaller reporting period, if the beneficiaries are investors or shareholders or even business partners, financial reporting does not reflect the reality that must be followed by a period of at least one semester or a year. This situation can be better understood for the economic domains involving, by their nature, a cyclic business activity.

Another possible disadvantage resulting from XBRL adoption is expressed by Stienert-Threlkeld (2009): "there are concerns that high error rates and relaxed auditing requirements will lead to unreliable information" and "sixty-eight percent of XBRL submitted forms were not consistent with the standard financial statement filings". Such a problem can occur if the XBRL documents filling

process is not fully automated by tools integrated in the organization information system, or there is a misunderstanding of using the XBRL standard by the electronic reporting participants.

Another important issue in the XBRL standard adoption is the assurance of exchanged information security. If the data is available at any time, there is greater need for accuracy at all times otherwise it could prove to be ambiguous. Sometimes such approaches related to information security are very expensive, leading to greater overall implementation costs.

Who manages the XBRL standard?

The XBRL standard is managed by XBRL International organization, a "not-for-profit corporation" created in 1999, under the auspices of Accountants Organization (AICPA). It comprises more than 550 members grouped within national jurisdictions (XBRL Germany, France XBRL, XBRL Australia, Canada XBRL, XBRL U.S., XBRL China, XBRL Korea, etc.) or regional entities (XBRL Europe).

XBRL International manages intellectual property and ensures XBRL development and usage rules and international community information and work dissemination, especially through the free publication of taxonomies, created by the national or regional jurisdictions. A national jurisdiction shall act to promote and accompany the development of national XBRL taxonomy. It includes the reporting process to a national framework, referencing a national nomenclature. The projects of creating the XBRL national entities (maybe soon XBRL Romania) are the correspondent for an explicit will of partnership in order to create a representative entity for promoting the national projects, (projects for taxonomies creation/development; XBRL accommodating projects and so on) and to stimulate the dialogue with other regional entities (XBRL International, for example).(Florescu & al., 2009).

XBRL adoption in European countries

The most important moments in XBRL adoption by some European countries, from our point of view, are specifically determined by the shift to the financial and accounting international standards together with the need for giving the same meaning to the reported financial information. Following this idea, the distinguishing events in the last years are:

• The year 2006 is marked onto the European Area by the encouraging of Committee of European Banking Supervisors (CEBS) of the members countries of EU for adopting the XBRL within Bale II congress (Starting from 2007 prudential and accounting reports are addressed to the national banks by the Banking Committee in order to use XBRL) and by the IASCF agreement for elaborating an IFRS taxonomy for small and medium size enterprises. XBRL International and IASCF develop together with the Price Waterhouse Coopers experts the taxonomy for XBRL IAS/IFRS that translates IFRS norms in the form of basic reporting concepts expressed in an open information standard;

• In France enterprises can send the annual accounts to the National Trade Register Office on-line using the Internet (www.i-greffes.fr). The data transmissions is secured by the use of digital certificates that provides the electronic signature;

• European Commission supports XBRL in order to be used on regulation documents transmission or commercial information communications within EU;

• XBRL Europe is formed as a regional XBRL jurisdiction comprising, in this moment, members from Western European countries. The main goal of the XBRL Europe is to assist XBRL adoption. It can provide detailed information of the 46 identified XBRL projects in 17 countries in Europe like Belgium, Spain, UK, Netherlands, Luxembourg, Denmark, Sweden, Germany, France, Italy, and Ireland. These examples and especially those in the annual accounts reporting sector show that using technological improvements like XBRL can reduce administrative burden and generate savings to companies.

• The European Committee of Central Balance Sheet Data Offices (ECCBSO) is involved in a project for creating a prototype database and a filing and storage solution for company balance sheets that are generated with a standardized common digital reporting format based on XBRL and IFRSs, named ERICA (European Records of IFRS Consolidated Accounts).

By investigating the practical use of the solutions for financial reporting in a digital format in some Central and Eastern European countries, we can observe that only some of the biggest companies (usually multinational ones) make the disclosure of information in electronic form. According to XBRL Europe, the XBRL adoption and usage in CEE differ from country to country (www.eurofiling.info). Thus, referring to the most important XBRL Europe projects (COREP and FINREP taxonomies, providing an XBRL representation of the Committee of European Banking Supervisors (CEBS) Common Reporting Framework and Financial Reporting Framework) countries like Lithuania, Poland, or Bulgaria has already decided to use XBRL for their solvency reporting. Other countries, like Slovakia or Czech Republic are using different format for the disclosure of financial information, while the others have not expressed an opinion about using the reporting standard. These statistics refer only to the XBRL adoption and usage in some regulatory institutions from these countries, but they are relevant for expressing the interest of these states in standardizing the financial and business reporting by some specific regulations.

In this moment, the penetration rate of the XBRL standard in these countries is very low, due to some economic, social and cultural factors. The financial information disclosure may be mandatory (the regulators have adopted the new method for acquiring financial periodic information) or voluntary (guided by the need of making public the enterprise's performances or at some third parties request). The entry of these countries into the EU means that they have to adapt to a new cultural environment, and incorporate its symbols, rules, institutionalized beliefs and normative systems (Bonsón & Escobar, 2006). In addition, there are some important key differences between IFRS and Central and Eastern European accounting systems, that may form a barrier in adopting XBRL.

With reference to the situation in Romania, the adoption of XBRL standard in mandatory financial reporting (especially for the regular publication of financial statements) must be preceded by the establishment, in advance, of an organism with the main role of developing procedures for normalizing and regulating the exchanges between business partners and, in particular, between taxpayers and state authorities.

In adopting XBRL standard the state plays the role of intermediary between Romanian national organizations and financial reporting regulators from other EU countries, trying the harmonization of financial reporting at national level with the one existing in Central and Western European countries, and seeking to align the reporting to different financial-accounting standards (such IFRSs).

IT solutions for internal and external financial reporting by the nationwide XBRL standard adoption

Technological aspects of the XBRL implementation in Romania, as standard in financial reporting, should be discussed for each type of entity involved in the exchange of information: the beneficiaries and reporting enterprises. For the beneficiaries' side, this involves some technological aspects regarding the dissemination of approved taxonomies and the transfer of information in order to be validated, collected, analyzed and, eventually, stored for a specific period of time. The technological solutions for the rapporteurs should take into consideration the particularities arising from decisive factors for an equilibrate reporting process: type of reporting (mandatory or voluntary), type and number of potential users (for personalizing the information in accordance with the specific needs), the reporting period (continuous or periodical business reporting), type of required taxonomy (should be formulated by an regulatory authority), etc. The IT solutions needed by an enterprise to comply with the XBRL standard must take into account the automation of

production, distribution, utilization and interpretation of business information for a real-time reporting. It should enable the quick achievement of financial facts, the incorporation in the instance documents by using some specific taxonomy and the correct dissemination of financial information to the beneficiaries. Although many software applications are offered by the IT market for creating XBRL documents (usually for filing the financial information in the specific tags), the technological solutions should address the specificity of any enterprise and should be integrated into the company information system. This is why nobody can talk about a single or a standardized solution to achieve this goal. The ultimate objective of an IT project for adopting XBRL for an enterprise is to permit the publication of financial information in accordance with the selected taxonomies that the enterprise must comply with.

The development of a reporting solution capable of transmitting the financial accounting information content to different institutions and interested partners in a comprehensible format, easily to process and analyze, involves a substantial effort because of the Internet connected application particularity, on one hand, and due to the enterprise responsibilities implications, on the other hand. In order to represent a viable solution for the enterprise, XBRL should be regarded as information technology and not as an ad-literally reporting instrument. The rapid XBRL adoption for improving external enterprise financial reporting can be obtained by using XBRL on a common infrastructure for the both reporting enterprise information system and consumer information system, making the use and exchange of financial information easy and secure. The instruments such a platform must provide, constituting, to a certain extent, a part of the accounting information system reporting component, can be classified, very generally, into two broad categories:

- *taxonomies related instruments*, allowing viewing (browsing), editing and construction of relevant taxonomies for specific reports;
- *XBRL instances related instruments*, allowing the creation of XBRL reports in respect with the selected taxonomy, viewing, editing and validation of each set of financial information that makes up the report.

Supplementary, such a platform may contain additional instruments for extracting, transforming and loading XBRL formatted information in data warehouses, or for automatic aggregation of reported financial information from various branches of the same organization (when, for example, the reporting is used internally for accounts consolidation at group level).

In traditional internal reporting may be seen several major drawbacks related to the financial-accounting data transfer in a heterogeneous environment involving different information systems.

Typically, this transfer involves, more or less, the human factor, having the primary task to manually enter various items in the internal reports that are sources of information in other systems. As a result, in reporting, the manual data processing is often accompanied by content errors in the reported information, followed by some dramatic consequences for the information quality and reliability. In response to these disadvantages, the XBRL GL (General Ledger) is considered nowadays a viable solution for the automated transfer of financial information resulting from internal reporting, since the production of internal accounting reports required for any financial accounting information system and the extraction and interpretation of the XBRL documents structure by the computer system can be done automatically.

XBRL GL has been created to reduce the information systems inability to generate compatible and integrable financial-account reports, making use of the XML specific benefits. (Shilman, 2005). GL is an extension of the XBRL general language, mostly addressing accountants, financial analysts and financial auditors, providing more detailed and specialized reports resulting from the internal financial accounting. Some quality characteristics of XBRL General Ledger recommend this extension as an effective option for the enterprise operational financial information reporting (source: XBRL Corporation, 2001):

- The independence from the chart of accounts. It is not compulsory to have a standard chart of accounts, XBRL GL providing the solution to retain financial information in a generally comprehensive way.
- The independence from the current enterprise reporting system, permitting the relevant financial or non-financial facts collection, together with the different relationships between these facts (totals, aggregations, dependency relations, calculation formulas, etc.). This will allow the information comprehensibility without calling any enterprise reporting proprietary format.
- Independence from the computer system, which will allow to freely define import-export procedures for the reported information.
- The possibility of using GL extension in accounts consolidation at group level.

The scenarios using the XBRL GL as a standard for internal business events reporting, in general, and financial reporting, in particular, are manifold, from the subsidiaries and branches accounts consolidation to detailed accounting information transmission in order to be audited internally or externally. As an example of how XBRL GL extension can be involved in the internal reporting processes, we present a possible use in consolidating the subsidiaries accounts in the central financial accounting information system of an organization.

The model in figure 3, created using BPMN language, explains, in a generic way, the sequence of activities and processes for consolidating financial information from various accounting reports generated by one subsidiary computer systems.
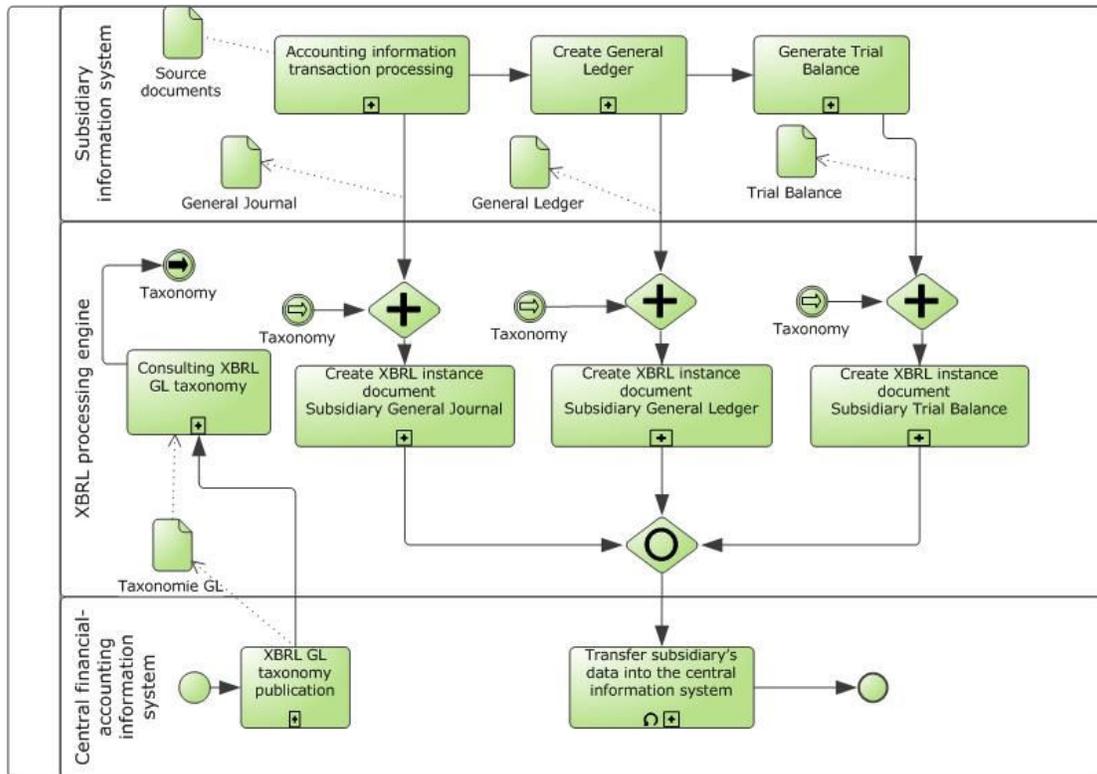

Figure no. 1. A model of using XBRL technology in accounts consolidation at group level

Using an information-processing engine in accordance with XBRL specifications, XBRL instance data is loaded into the central information system as accounting information.

To highlight the functionality of XBRL processing engine and its role in transferring information to the company external customers, we describe a scenario involving a web service

designed to provide connection between the internal information system that generates financial information, and the beneficiary information system.

To ensure uniformity of data received from various reporting organizations, the beneficiary of reported information publishes a taxonomy that defines the reports structure and semantic. The sequence of activities split in two components necessary for external reporting is described by the model presented in Figure 4.

As the external reporting process implies a well defined information exchange over the Internet, the best IT solution responding to the need of connecting two heterogeneous information systems is loosely-coupled integration by the means of web services, being able to transfer information under an XML format, and, consequently, being capable to process and publish XBRL instances.
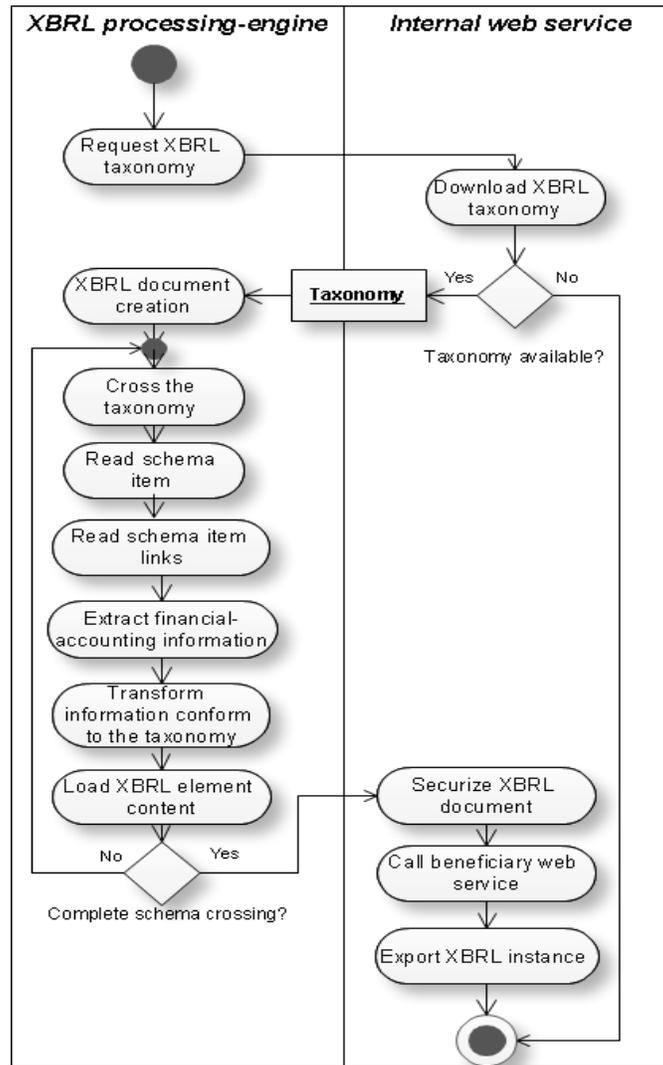

Figure no. 2 The XBRL processing-engine functions for gathering and transmitting financial information over the Internet

Knowing that the business information credibility relies on its integrity, and information transferred over the Internet is vulnerable to interceptions and attacks, the quality of the financial information depends on the assurance of its authenticity. Therefore, the XBRL exchange should

always rely on some security policies and methods specific to the XML data transfer. Along with the encryption of the entire XBRL document or the validation of its integrity by the use of some digital signature or digital certificates, there are also some trustworthy, neutral, reliable, concise and independent entities for assuring the non-repudiation of the transferred information called Time-Stamp Authorities facilitating services and communication between the rapporteurs and beneficiaries and confirming the time when the information transfer was made at.

Conclusions

In the context of streamlining the financial reporting process, XBRL has major implications in relevant information dissemination, required to express the enterprise's health and business performance. Therefore, the regular publication of financial statements to different partners or financial and regulatory authorities or the standard accounting information collection for internal reporting needs is becoming unavoidable. The XBRL adoption in business community as *de facto* standard in business reporting, in general, and in financial reporting, in particular, can only occur through a combination of two factors: the existence of a regulatory framework at national level, and the existence of technological solutions for integrating the XBRL language into the organizations information systems.

For the future, we can predict that the alignment of the Central and Eastern European countries to the European Union requests regarding the content and the format of financial reporting, along with the IFRS adoption as a base for financial accounting, will determine these countries to better analyze the oportunity of using XBRL standard in mandatory or voluntary financial information disclosure in an electronic form. The projects for XBRL standard adoption at national level should be aimed at its use regulation in accordance with mandatory reporting specificity, but also in compliance with regional regulation or international accounting standards (such IFRS) that internal companies must align with, in order to publish financial information.

In Romania, such a project should involve a number of actors with a political, economic and social level decision role, including here fiscal and accounting regulatory authorities, the Body of Experts and Licensed Accountants (CECCAR), the Chamber of Financial Auditors, the academic body, financial and loan institutions, software companies, and other organizations with a primary role in defining taxonomies for internal and external reporting and guidelines for information exchanges through XBRL. To improve external financial statements reporting as well as internal reporting processes there is a need to search for viable solutions for implicating XBRL standard and techniques in the reporting component of the enterprise financial-accounting information system. To exemplify, this paper summarized the XBRL possible use in the internal and external accounting information reporting process, by presenting the sequences of specific activities of collection, processing, aggregation and presentation of accounting information at different levels of detail required for various needs.

References:
1. Andone, I, 2004. XBRL – a new language for accounting and finance professionals, Informatica Economică no. 2(30)/2004, Bucharest.
2. Bonsón, E., & Escobar, T. 2006. Digital reporting in Eastern Europe: An empirical study. International Journal of Accounting Information Systems no. 7, pp. 299–318.
3. Cox, C., 2008. Conference XBRL organise par ACIPA, Internationl Accounting Bulletin, No 422, January.
4. Carrignon, D., Christ, N., Paillat, J., Peridy, R., 2007. Veille XML: XBRL, FpML, FIX, EPITA, electronic document available on-line at www.mmma2007.be

5. Cohen, E. E., Schiavina, T., Servais, O., 2005. XBRL: The standardised business language for 21st century reporting and governance. International Journal of Disclosure and Governance *,* No.2 (4), pp. 368-394

6. Debreceny, R., & Gray, G. L., 2001. The production and use of semantically rich accounting reports on the Internet: XML and XBRL. International Journal of Accounting Information Systems *,*No *2*, pp. 47-74.

7. Deshmukh, A., 2006. Digital Accounting: The effects of the Internet and ERP on Accounting*.* Hershey, USA: Idea Group.

8. Florescu, V., Amza, C., Tudor , C.G., 2009. The Normalization of Financial Data Exchange Over The Internet: Adopting International Standard XBRL. The 5'th International Conference European Integration, New Challanges for the Romanian Economy. Oradea, România.

9. Hamon, P., 2007. Comprendre XBRL et la taxonomie Comptes annuels. Ed. Books On Demand.

10. Invoke, 2008. Les aports d'XBRL au reporting financier, Livre Blank XBRL, september, available on www.invoke.fr.

11. ICCA, 2005. Incidences du langage XBRL sur la vérification et le contrôle, Institut Canadien des comptables agréés. available online at: http://www.icca.ca/recherche-et-recommandations/documents/it-advisory-committee/item12055.pdf

12. Johnson, D., 2005. XBRL la solution au service de la communication financière*,* available at http://johnsondavid.hautetfort.com/files/xbrl_pr_d.a.johnson.2.pdf.

13. Lépicier, S., 2008. Optimiser la communication et l'analyse financière avec le langage XBRL*,* FORUM de la TRANSPARENCE financière, 1ere édition Maroc, www.xbrl.fr

14. Lesourd, M., 2007. XBRL dans le contexte français, 62e Congres de l'Ordre des Experts-Comptables, Lille, France.

15. Marion, C., 2005. Le langage XBRL: ou comment automatiser le reporting financier, Aplril, in Échanges Review, N° 220.

16. Microsoft, 2005. Improving financial reporting and analysis using XBRL and MS Office*,* Microsoft technical report.

17. PwC, 2007. Relever le challenge IFRS à l'aide d'XBRL, PriceWaterhouse Document, Ed. Francis Lefevre, available at: www.pwc.fr/fr/pwc_pdf/pwc_ifrs_xbrl.pdf

18. Richards, J., 2002. An introduction to XML/XBRL and The anatomy of XBRL instance documents*,* Murdoch University

19. Shilman, I. (2005) XBRL. 3rd International Conference: Sciences of Electronic,Technologies of Information and Telecommunications. Sousse, Tunisie.

20. Stienert-Threlkeld, T. (2009). Will XBRL Filings Produce Reliable Data? Security Industry News, 21(5).

21. Teller, P., 2006. Formalisation des normes comptables : vers une ontologie des notions de comptabilité, INFORSID.

22. XBRL Corporation., 2001. XBRL General Ledger - executive summary and strategic overview. available at: xml.coverpages.org/XBRLGLexecsumm.pdf

23. XBRL France, 2006. XBRL: Introduction a la technologie XML des rapports financiers*,* available at http://www.xbrl.org/fr/FAQ%20et%20Livre%20Blanc/Livre%20blanc%20XBRL%20Franc e.pdf