



Cheaper, smarter, faster: benefits to analysts from

Christian Dreyer CFA and Mike Willis explain
the benefits of a new system for handling
company information

XBRL (eXtensible Business Reporting Language), like other fancy tech-acronyms, tends to remind some of the great expectations that bubble-era internet technologies used to instill without actually delivering. This article provides an overview of XBRL and discusses real economic benefits from XBRL adoption accruing to the investment community as well as to their invested companies.

What is XBRL?

The idea behind XBRL is simple: instead of treating financial information as a block of text – as in a standard internet page or a printed paper document – it provides an identifying tag

for each individual item of information. This is computer readable. For example, company ‘Gross Margin’ has its own unique tag.

The introduction of XBRL enables automated processing of business information by computer software, cutting out laborious and costly processes of manual re-entry and comparison. Computers can treat XBRL data intelligently: they can recognise the information in an XBRL document, select it, analyse it, store it, exchange it with other computers and present it automatically in a variety of ways for users.

XBRL can handle information in different languages and accounting standards. It can be adapted to meet different requirements and uses. Information can be transformed into XBRL by suitable mapping tools or it can be generated in XBRL by appropriate software.

XBRL is a royalty-free, international, XML-based information format designed specifically for business information, also referred to as ‘Interactive Data’ by the US SEC. This



XBRL

information standard is governed by a group of more than 450 business reporting supply-chain organisations from 27 countries.

XBRL International is a not-for-profit consortium comprised of representatives from local jurisdictions that are focused on the progress of XBRL in their markets. The collaboration of international representatives provides a diverse source of market intelligence and awareness underpinning the development priorities of XBRL. Day-to-day operations are managed by professionals who provide both administrative skills and technical insights. The development of XBRL and its accelerating market adoption is an ongoing international effort.

The use of XBRL involves several distinct components:

- **The language** – as described in the XBRL 2.1 specification, which is the set of technical rules and instructions applied by software applications. The XBRL 2.1 specification enables disparate software applications to

exchange business information seamlessly.

- **A dictionary** – relevant reporting taxonomies which provide the semantic agreement or ‘dictionary’ for reported concepts and relationships.

A unique company report (the instance document) – expresses company specific business information in the XBRL format that leverages the XBRL 2.1 specification and relevant reporting taxonomies. As a result, the company reported information can be automatically accessed, validated and immediately included and used within analytical models.

- **Software tools** – incorporate the XBRL format and thereby enable preparers and investors to efficiently and effectively produce, consume and analyse business information.

These components are used to describe a very wide range of business information concepts and relationships contained within company annual reports, statutory reports, compliance reports (such as income tax, anti-money laundering, statistical) and internal company ledgers. The extensibility of XBRL enables the flexibility necessary to describe this broad range of business information. While highly flexible, XBRL is not a set of accounting standards. Rather, it is used to represent reporting concepts in accordance with generally accepted principles. XBRL is not a detailed chart of accounts; rather, it is used to describe a chart of accounts and other ledger level concepts. XBRL is not a GAAP translator, but it is used to enhance the transparency of information useful in GAAP compliance processes. XBRL is not a software application, but it is used to move information efficiently between disparate software applications.

Novel concept

The flexibility achieved by XBRL was intentionally designed into the XBRL language by its creators; the membership of the XBRL International Consortium. This group is comprised of a broad representation of capital market participants who are actively collaborating on this standard business information format. Like other internet-based standards, XBRL follows a market or supply chain oriented open standards process. The collaboration of market participants on standards is not a novel concept in the world of internet standards. Applying it to business information provides all market participants with an opportunity to engage in this open dialogue. So while many view XBRL as a ‘technology’ or ‘internet language’, it should also



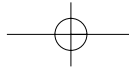
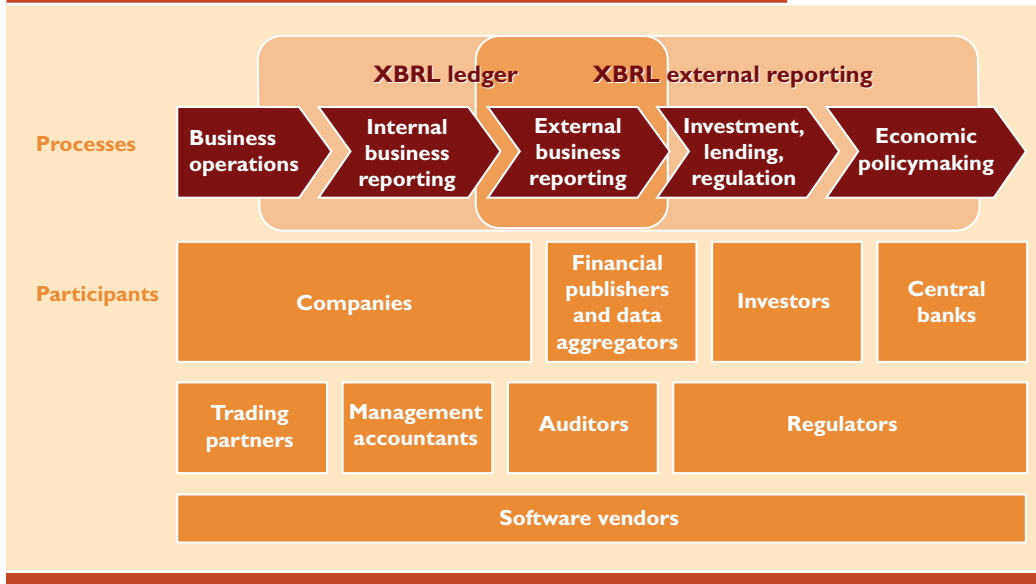


Figure 1: The business reporting supply chain



Source: EBRL

be considered an ongoing collaborative dialogue focused on enhancing the business reporting supply chain.

Finally, XBRL is the only international standard for business reporting information. There is not a VHS/Beta Max competition in this standards arena; XBRL is the definitive international standard and its accelerating adoption in markets around the world confirms this.

Where is XBRL?

The market adoption of XBRL is in its early stages. The status of adoption is as diverse as the market reporting practices. Some of the adoption efforts are mandatory while others are voluntary. Some market efforts are driven by leading regulators while others engage entire national governments. Some are focused on financial reporting while others capture all forms of statutory, tax and financial reporting. Regardless of the scope of specific country adoption efforts, one thing is consistent across all markets; the adoption of XBRL is accelerating. Here is a summary of the status in various leading markets:

- **The China Securities Regulatory Commission** has mandated XBRL filings for all public companies and sponsored related projects at the stock exchanges in China. There are currently over 10,000 company reports available in the XBRL format from the Shanghai Stock Exchange.
- **The Financial Services Agency in Japan** has incorporated XBRL into EDINET, the statutory disclosure system. The Tokyo Stock Exchange has established the TSE XBRL site to facilitate the incorporation of XBRL for disseminating, receiving and providing

enhanced information relating to business results, thus improving the provision of information to investors. In January, the Bank of Japan went into production of an XBRL system for gathering data from 500 financial institutions.

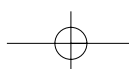
- **The Spanish Stock Exchange** has already begun using XBRL for receiving and distributing public reports from more than 3,000 listed companies and has more than 20,000 company reports available in the

XBRL format. The Banco de Espana is receiving regulatory data in XBRL from banks in the Spanish market and has developed a Financial Information Exchange System to support XBRL reporting by credit institutions.

- **Netherlands** – The government has embarked on the Dutch Taxonomy Project wherein all governmental agencies are collaborating to ‘reduce the administrative burden of businesses by 25 percent in four years... by using the open standard of XBRL’.
- **United Kingdom** – In March, 2006 HM Revenue & Customs (HMRC) began accepting tax computations in XBRL format within its Corporation Tax Online service. In June the UK government announced plans to make XBRL mandatory for filing of company accounts and tax returns which will provide significant benefits for both government and business in 2010.
- **United States** – US bank regulators moved to an XBRL format for specific regulatory reports for all US financial services companies in October 2005 and are currently expanding the scope of this project to other reports. The Securities and Exchange Commission has an ongoing XBRL Voluntary Filing Program that has some of the most recognisable US public company participants such as: 3M, Bristol-Myers Squibb, Dow Chemical, GE, Microsoft, Pepsico, Pfizer, United Technologies Corporation and Xerox.
- **Other countries**, including France, Italy, Canada, South Korea, Brazil, India, Sweden and Singapore also have XBRL market implementations under way.

The barcode in the financial reporting

‘The speed enhancement available to analysts is a sea change rather than any form of incremental improvement’



supply chain

Capital markets involve a wide range of participants and processes; however, the flow of business information involves several media breaks, each of which invariably consumes manual effort, time and accuracy while limiting the scope of information ultimately used. The manual exchange of information occurs at virtually every step of the business reporting supply chain both within company processes and also between companies and their stakeholders. The disparate nature of existing proprietary software application formats hinder the access, validation, reuse and analysis of information at virtually every step of the business reporting supply chain.

XBRL provides a standardised way to describe business information as it passes between the disparate applications used by the various supply chain constituents. XBRL enhances supply chain processes by allowing software applications to 'understand' information based upon a common standardised language. Like the Universal Product Code (UPC, or barcode), a standardised way to describe information enables automation of many of the manually-executed steps. Current access and validation processes are problematic due to the paper paradigm formats currently used for company reporting (Word, PDF, and html) that subject investors to risk of manual transformation, errors and omissions.

Companies currently report in these formats that are not machine reusable, thereby creating a series of cascading manual processes as investors struggle to find, access, validate and analyse reported information. This intricate process often involves tracking down company reports on regulatory sites and/or company web sites, cutting and pasting or manually retyping information into spreadsheets, and preparing analysis models based upon this manually acquired information. This set of manual process steps creates an inherent cost and time barrier to consider in assembling the information necessary for an effective analysis of company results.

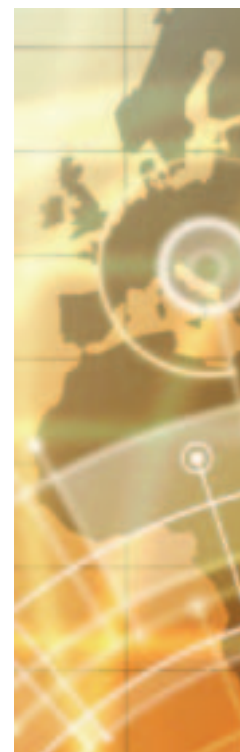
To reduce the cost and time of information access, many analysts purchase company reported information from aggregators who use parsing and tagging processes and provide company reported information in proprietary tagged formats that enable more cost-effective reuse by investors and analysts. These third-party information sources typically include only a small portion of company reported information and much of it is 'normalised' to the standard data model of the intermediary rather than to the actual concepts reported by the

companies. While it is true that XBRL is disclosure neutral compared with incumbent formal reports, it is certainly not so compared to what most analysts actually use in their day-to-day work for lack of better quality (not stratified) information.

Consider these questions

Current reporting formats promulgate the inability to reuse company reported information immediately, resulting in relevant information simply being left on the cutting room floor and not timely included within investor analytical models. As a result, investors have to make a cost/benefit decision on the amount or completeness of company information for timely inclusion in analytical models. To test the validity of this cost/benefit hypothesis, consider these questions:

- How long does it take to include company reported information in analytical models? (Are you thinking in terms of hours, days or seconds?)
- What is the time interval between company issuance of reports/press releases and the inclusion of that information within analytical models? (Hours, days or seconds?)
- Are there company reported disclosures, particularly in the Notes to the Financial Statements or in Management Discussion and Analysis that are valuable to analysis but routinely excluded due to the cost or time necessary to accurately include?
- What is the current mix of resources deployed to accessing and validating information as opposed to analysing it?
When companies publish their business information in XBRL, which can include both



**'XBRL enables analysts and investors to get
a more complete financial picture by drilling through
the information contained in the face financial
statements to electronically incorporate
footnotes such as debt, leases, options and taxes
for more comprehensive analysis.'**

Mark Schnitzer, Morgan Stanley, AEI Conference, May 30th Washington DC

Benefits accruing to the analyst community are significant

Greater transparency of company reported information is provided by the XBRL tags applied to the concepts included within the company report. The explicit nature of the unique tags assigned to each individual reported concept enables software applications to find and reuse the requested information literally at the click of the mouse. Knowing the exact nature of the reported information allows analysts to enhance the clarity and quality of analysis. Further, as the tags are applied by company management, normalisation and omission errors associated with the information intermediaries are eliminated.

Increased speed – When you consider the timing of current company report information reuse, it is measured in hours or days. The speed of access and reuse for XBRL formatted company reports is measured in seconds. XBRL formatted reports are proactively accessed via web services and incorporated into analytical applications in a matter of seconds. The speed enhancement available to analysts is a sea change rather than any form of incremental improvement. Time gained here translates into better understanding of the objects of analysis and/or broader coverage.

Enhanced information – The amount of information included within current analytical models is subject to the high access costs associated with paper-based formats of company reports. XBRL lowers the access costs to levels approaching zero and provides structure for all of the information included within company reports. As a result, all reported and relevant information is easily included within analytical models or assessments. This type of complete analysis may only be done in special circumstances today.

Better management – Current analysis processes are adversely impacted by the paper-based reporting formats. For example, analytical modeling formulas are typically based upon the physical location of the information within spreadsheets. A formula that represents a simple concept, say 'current ratio', would be articulated based upon the physical location of the relevant data (eg G2/M2 where G2 is the cell location of current assets and M2 is the cell location for current liabilities). This physical orientation of information hinders development, sharing, reuse and management of modeling formulas (macros) across spreadsheets, applications and analysts. The current physical orientation of information within spreadsheets also limits the analyst's ability to share their intellectual property or formulas with other analysts and/or customers effectively.

XBRL enables analysts to build modeling formulas (macros), based upon the standardised vocabularies used for taxonomies. The 'current ratio' formula based upon XBRL will look more like a logical sentence (eg

'currentassets/currentliabilities'). In this scenario, a spreadsheet application provides a view of the company information and executes the analytical formula based upon the logically defined information of 'currentassets' and 'currentliabilities'. As a result, analysts have an enhanced working environment in which they have the ability to construct modeling formulas based upon common taxonomies from both the public-sector companies and those unique taxonomy extensions developed within the analyst's firm.

More automation – As with the barcode, better information structure allows for greater levels of automation within business processes thereby further lowering costs and increasing quality. Some analysts are already using XBRL to reduce costs and improve effectiveness of their internal analytical processes, either through intermediary offerings or internally developed applications and products. Other analysts are applying semantically based artificial intelligence agents to make subjective assessments on narrative disclosures that are structured in the XBRL format.

Other implementation considerations – XBRL is also useful in applying more automation and controls to pervasive internal compliance and reporting processes. The application of the XBRL Ledger taxonomy to internal disparate data stores, spreadsheets, and other compliance processes renders the same benefits as those described above: greater access speed; enhanced information transparency; better management; and more automation and control.

The costs of XBRL adoption are largely associated with process re-engineering and redesign. XBRL specific costs consist of upgrading software applications and/or licensing XBRL taxonomy management related tools. When the cost, time, quality and effectiveness enhancements are considered, the payback of the investment is measured in months rather than years.

Taxonomy status – The range of public company capital market taxonomies is outlined on the XBRL.org website, including those representing Generally Accepted Accounting Principles (GAAP) reporting concepts for the International Accounting Standards Board and for GAAP in jurisdictions such as Canada, China, Germany, Ireland, Korea, New Zealand, and the United States. These taxonomies allow public companies to apply XBRL to their company reports. The recent mandatory application of IFRS to all publicly listed companies in the EU will extend the scope of applicability of the IFRS taxonomy. Taxonomies are living representations of market reporting practices and are therefore are subject to ongoing efforts to enhance, update and expand the taxonomy concepts, relationships and references.



financial and non-financial information, as well as both numeric and textual information, management, analysts, investors and others can retrieve and analyse the information they need within a matter of seconds. This step substantially lowers the cost of information delivery, access, reuse and analysis. All supply chain participants, including company management, investors, creditors, regulators, auditors, intermediaries and others benefit from this enhanced transparency.

Lack of analyst awareness

The results from the March 'Question of the Month' e-mail survey among CFA Institute Members shows that the majority of respondents

are not familiar with XBRL, while those that clearly support the concept. So, what should financial analysts know about XBRL? There are four general areas of interest: benefits; other implementation considerations; taxonomy status; and comparability – fact of fiction? (*see box*)

Development of public company capital market taxonomies is focused on generalised industries and reporting concepts. Taxonomies are available for a range of industries such as commercial and industrial, banking, insurance, investment management, brokers and dealers, but not for all industry segments. Even for companies outside of these industry groups, available taxonomies can be applied without excessive extensions to meet their specific

industry requirements. For example, Microsoft applied the commercial and industrial taxonomy to its company report and required only seven taxonomy extensions to the concepts in its primary financial statement tables. Extensions of public company capital market taxonomies are eternally (without temporary limitation) applicable for individual company reports (business segment information, unique reporting definitions or concepts and provide analysts with an audit trail clearly identifying unique company concepts and/or changes from period to period.

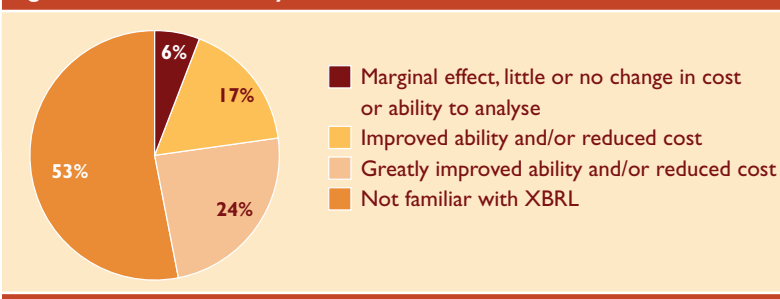
Current taxonomies cover a range of common note disclosures; however, more detail is desirable on some of the more complex disclosures. This situation does not prevent the use of the taxonomies, but does require companies to extend the taxonomies to meet their more complex and detailed reporting needs such as income tax or defined benefit plan disclosures. This results in repetitive extensions by company preparers for common disclosure items rather than simply for unique company reporting elements.

Broader range

The taxonomy for non-financial reporting or the Management Discussion and Analysis and/or Operations and Financial Review (generically MD&A) is the weakest of all taxonomies. Since there is no reporting framework or generally accepted reporting concepts for MD&A, the existing taxonomy looks more like a shopping list of existing reporting concepts. The problem with the MD&A taxonomy is not related to XBRL. Rather, in creating the MD&A taxonomy, the absence of a current generally accepted framework for MD&A is highlighted. This is more of an opportunity than a problem. Migrating reporting processes, concepts, and taxonomy development to the internet provides for a more market supply chain oriented collaborative dialogue. As a specific example, analysts can now engage on the collaborative development of an MD&A type framework outlined by the open market Enhanced Business Reporting Consortium (www.ebr360.org). This market consortium has an XBRL taxonomy and plans to provide it to the market on a royalty free basis.

There is also a much broader range of regulatory and statutory taxonomies promulgated by country, regional and international bodies for their specific purposes. As companies report in accordance with these taxonomies, and the respective regulators and government agencies expose this information to the market via web service, a wealth of

Figure 2: What the industry thinks



additional low-cost, high-quality information is provided for inclusion within analytical models.

Comparability of company reported information is often an expected outcome of reporting in the XBRL format. This expectation is derived from the association of XBRL Taxonomy descriptions applied to specific company reporting concepts via unique XBRL tags. A reported element with a taxonomy label of, for example, Gross Margin, is expected to have a specific associated description that will enable the user to make assessments on its comparability to other company reports where this same taxonomy label of Gross Margin is used. At this point, the XBRL Taxonomies provide labels that replicate the existing reporting labels found on the paper paradigm formatted reports without the benefit of any additional taxonomy definitional guidance.

While the XBRL Taxonomy platform is an enabler for this type of enhanced comparability, at this time it does not provide the level of market agreement on the definition of Gross Margin necessary for the comparability purpose or expectation. XBRL is an information format standard and the taxonomies are developed by collaboration among market participants. In

'Once data in SEC-mandated reports is made interactive, the numbers in financial reports will jump off the page. They'll not only be instantly searchable and retrievable, but you'll also be able to immediately download them into spreadsheets and an unlimited number of software applications.'

Chris Cox, Chairman of the US SEC;
Remarks Before the Securities Industry Association November 11, 2005

Where you can learn more

XBRL International
www.xbrl.org

US Securities & Exchange Commission
www.sec.gov/spotlight/xbrl.htm

Financial Executives International
www2.fei.org/advocacy/xbrl.cfm

International Accounting Standards Board
www.iasb.org/xbrl/index.html



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order for an XBRL Taxonomy definition of Gross Margin to achieve the level of market agreement necessary to enhance comparability, a dialogue among market participants is necessary to define Gross Margin such that it may be applied by company preparers and then relied upon by investors and other consumers. To achieve enhanced comparability, market participants need to collaborate on the specific and concrete meaning of these terms.

What analysts should do

The short answer is that they should act in their own best interest. Standards of all types are designed to enhance supply chain processes and XBRL does not deviate from these objectives.

A primary purpose of XBRL is to enable migration of the business reporting supply chain from a paper-based manual set to a more automated and integrated set of processes where automation can more effectively drive down process costs, enhance efficiencies and improve information transparency. As a result, it is expected that market adoption of XBRL will generally be based upon realisation of economic incentives rather than regulatory mandates. So, do not wait for regulatory mandates as your competitors will not. As market participants recognise the benefits that accrue to their specific organisational processes and functions, realisation of these benefits will follow.

What analysts should do next depends on their own processes, goals, and objectives. If the benefits above are aligned with their institutional objectives, then they should work to revise their processes based upon this more interoperable reporting standard. Some specific next steps might include:

- Analysts should not wait for a market mandate; they should act now to realise the benefits within firm processes.
- Apply XBRL enabled tools to analytical processes to make them more efficient.
- Apply XBRL to more effectively manage analytical intellectual property. This feature is embedded within XBRL Tools (examples of tools are summarised on the XBRL site).

- Request that covered companies provide their reported information (annual reports, quarterly reports and press releases) in the XBRL format.
- Engage directly in the collaborative market taxonomy development efforts relevant to relevant jurisdictions and covered companies.
- Consider additional company coverage as cost and time efficiencies are realised.
- Evaluate novel modeling approaches (for instance, bottom up industry sector analysis based on segment information) that were considered to be too time and resource intensive before.
- Learn more about this topic (conferences, blogs, local jurisdictions, other market participants).
- Join the XBRL Consortium in the local market.

The market adoption of XBRL is part of a larger migration to the internet by capital markets and related supply chain participants. XBRL is not a 'technology' alternative product; it is an enabler for transition of the business reporting supply chain onto the internet. XBRL provides a primary semantic communication and business reporting standard; however, collaboration of supply chain participants on the relevant reporting frameworks, concepts and definitions is needed to realize the full benefits. This requires an ongoing dialogue among the market participants (specifically those from the preparer), analyst and investor communities.

If financial analysts act in their own best interest to enhance the business reporting supply chain, it will happen. ■

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