

Corporate Communications for the 21st Century

A white paper discussing the impact of Internet technologies
on business reporting



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Abstract

XBRL (Extensible Business Reporting Language), a new Internet language for business reporting, provides significant benefits to producers and consumers of financial and non-financial information. The greater the degree of collaboration between all participants in this supply chain, including government regulators and public sector accountants, the greater the benefits that this information format enables for all participants; companies, regulators, investors, and government agencies alike.

At PricewaterhouseCoopers, we acknowledge that successful XBRL implementation requires both content expertise and technology knowledge. Our XBRL proposition for our clients leverages the strengths of our existing business advisory solutions. This involves integrating specific XBRL components into many of our existing offerings and methodologies.

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Executive Summary

Corporate reporting is in the spotlight today more than ever before. Though most of the attention has been focused on *what* is (or is not) reported, there is another side to the story, *how* information is being delivered. While regulators and the markets deal with the 'what,' answers to the 'how' are quicker in coming. The development of a new Internet language, XBRL (Extensible Business Reporting Language) - the business reporting extension of the 'smart data' standard, XML (Extensible Markup Language) - is likely to fundamentally transform how businesses provide information to investors, markets and regulators - and how each of these stakeholder groups make more informed decisions.

Clearly, the Internet has revolutionised how we communicate – and this is particularly true in the business environment. Accompanying this revolution has been a growing demand for businesses to disclose more relevant information to an ever-wider group of stakeholders, on a more frequent and timely basis.

To meet stakeholder demands for greater speed and volume of communications, businesses must find better and more effective ways of communicating. This is particularly apparent in the reporting of financial information where the use of clearly presented hard facts to drive out market rumour and guesswork has taken on a new urgency.

With business-to-business documents like purchase orders and invoices, sophisticated systems have been developed to integrate systems and companies. But to date, there has been a problem with communicating accurate and unambiguous financial information effectively across the Internet. Incompatible systems and software have prevented genuine cross-platform communication and data sharing, and limited the usefulness and transparency of the reported information. This has left both companies and capital markets little better off than in the days of the printing press. The advent of XBRL will change all that.

XBRL is platform-neutral - it is the same whatever type of computer or software you are using. It allows all recipients of financial information provided in the XBRL format to analyse and use precisely categorised information instantly, with no need to re-key or convert to other formats. XBRL reduces the need for human intervention when moving financial and business reporting information from one system to another, or one organisation to another.

XBRL offers many advantages over traditional reporting methods, effectively freeing information from the constraints of time and place and providing crispness and clarity. For the first time, preparers will be able to channel the information in their financial statements, without distortion, directly into the myriad of analytic tools of their investors and other stakeholders, all in a single format. Among the most prominent benefits are:

- Lower preparation costs
- Reduced preparation time
- Simplified international access
- Broader information availability
- Enhanced analytical capabilities
- More informed investment decisions
- More trustworthy information when associated with a digital signature

XBRL has the potential to transform the corporate reporting supply chain. Its progress in doing so depends on continued cooperation between the key industry players such as the AICPA, Deutsche Bank, Ernst & Young, FDIC, General Electric, the IASB, KPMG, Microsoft, Moody's, Morgan Stanley, Oracle, PricewaterhouseCoopers, and Reuters who, as members

of the XBRL International consortium, are working towards establishing it as the data standard for all corporate reporting. Their efforts to date suggest that the widespread adoption of XBRL is a question of 'when', not 'if.'

As well as transforming the corporate reporting supply chain, widespread adoption of XBRL will bring benefits to all participants. Consumers of information will have faster and richer content to work with; producers will be able to create and disseminate richer information better and faster; and the interoperability that XBRL affords means that regulators are more likely to obtain the degree of transparency that they require, quicker. In short, the speed, efficiency and reliability of business reporting will be exponentially enhanced by the widespread adoption of XBRL. These same benefits will offer investors, creditors and other information consumers better access to the information necessary for more informed decisions.

Of course, there are hurdles to be overcome before XBRL is adopted as the reporting language for business. XBRL will only work if the collaborative efforts that have contributed to its development to date continue to flourish and the business information supply chain participants continue to deliver. XBRL is not a new set of accounting standards; it is a language in which those standards can be incorporated and expressed. XBRL provides a bridge between those who prepare information and those who use it for decisions. The greater the number of parties who actively participate in its development, the stronger that bridge will be and more informed decisions will be the result, an outcome beneficial to all supply chain participants.

Quick facts

- The Internet has forever changed our expectations about communications; this affects businesses in many ways.
- Recent market events have shown that corporate communications methods are obsolete and not meeting the needs of the markets.
- A collaborative group seeking to leverage Internet technology to improve corporate communications have come together in the form of XBRL International.
- XBRL (Extensible Business Reporting Language) is a key element in addressing today's corporate communication failures, and provides significant additional benefits.
- Continued active participation in XBRL International, by all members of the corporate reporting supply chain, will ensure that the benefits of XBRL can be realised across the whole supply chain.



Introduction

The Internet is driving an information revolution. Extensible Markup Language (XML) is an exciting new Internet technology that is already being used for the electronic exchange of transaction data in a wide range of companies, both internally and externally, and across supply chains enhancing the exchange of information, goods and services. XML is the core language, it is applied in the form of agreed dialects or sub languages that address a specific business process. The application of XML for accounting entries and business reporting information is called the “Extensible Business Reporting Language” or XBRL. XBRL is an interoperable information format that facilitates the exchange of business reporting data between disparate information systems.

The XBRL International Consortium of currently approximately 170 organisations worldwide provides agreement on this Internet-based information standard. XBRL offers significant benefits to both the preparers and consumers of financial and non-financial information including companies, investors, analysts, regulators and government reporting entities. XBRL is relevant to any organisation or individual that either produces or uses financial reports. Collaborative participation, by all members of the corporate reporting supply chain, in developing and using XBRL will bring about enhanced speed and quality of information supply.

The information age

Overview of changes in business, corporate communications and capital market expectations

Technology advances have revolutionised the way information is exchanged and the way business is conducted. The Internet allows information to move quickly and easily all over the world and makes information accessible at any time – in any place – to anyone with Internet access. Internet technologies are now widely used within businesses as the basis of internal corporate communications, and open Internet standards are now a key element of any IT platform. As a result there is an ongoing transformation in the way business is conducted and regulated, and whilst this leads to opportunities there are also new risks to be managed. The onslaught of the information revolution has profound ramifications for corporate reporting, for both preparers and users of this information.

Business is moving at an increasingly faster pace – a fact not lost upon the financial markets, which are loudly demanding that business reporting keep up. It is clear that speed is of the essence and loss of accuracy is an increasingly apparent risk. XBRL makes it easier for companies and governments to report and for stakeholders and regulators to quickly access and analyse information. As a consequence there will be increasing transparency and demands for additional information. The greatest benefit to all participants in the business reporting supply chain will flow from collaborative development efforts to leverage the Internet-enabled reporting platform. It is time for corporate reporting to adopt an Internet-optimised platform and, thereby, gain its benefits.

As information moves further, faster, and reaches more and more people, it becomes increasingly obvious that paper has few, if any, advantages over electronic information formats. The reasons are clear: digital communication is a faster, cheaper, and more efficient way to reach a global audience. For the audiences of business reporting data, looking to the Internet for information, especially for time-sensitive corporate disclosures, has become a given.

However, the Internet hasn't yet provided a consistent way for users to extract and analyse data, including the information that companies disseminate in corporate reports, press releases, and other communications posted online. One aspect of this is about to change, because XBRL provides a common way for disparate information systems to exchange business reporting data (interoperability).

With this new technology tool, organisations that share their financial information internally using Internet technology add agreed XBRL labels to it. Extracts from the XBRL based electronic information can then be published as conventional human readable documents on Internet sites at the touch of a button. This will allow both internal users and external users, via the Internet, to efficiently seek out, identify, select, and import such information directly into software on their own computers. The broad implications are revolutionary: unprecedented levels of connectivity between companies, between individuals, between companies and individuals, between companies and regulators, between individuals and regulators, and between regulators and regulators will enhance the effectiveness of these information exchanges. In terms of financial reporting, this new Internet technology will enhance the way companies communicate both internally and externally, benefiting all members of the corporate reporting supply chain.

High profile corporate failures have outlined the need for transparency and call for change in the way companies report to investors and financial markets. There are regulatory demands for more timely information, more comprehensive information and new types of information. Businesses are also looking to use their reports as part of their competitive arsenal including for instance environmental and similar reports on corporate sustainability. XBRL is again part of the solution to how this information is collected, consolidated and published. XBRL enables core data to be presented in more than one format or report and is therefore sufficiently flexible to accommodate new reports and additional content.

Equally important as what companies report (content) is how they report it (format and presentation) and visionaries are advocating the importance of the information format.

“A ... cutting edge issue is how best to harness the power of technology – computers and the Internet – to facilitate more complete and more rapid corporate disclosure.”

Robert E. Litan, Director, Economic Studies Program, The Brookings Institution and Bear, Stearns & Co. Inc, in Testimony before the US Senate

The evolution of information formats – from clay tablets and printed pages through e-mail, web sites, and PDF-files to XBRL – is central to any progress in enhancing the transparency of financial markets. XBRL is the latest information format for business reporting, it is essentially a language that can be understood by both computers and humans and it is being developed in collaboration so that there is broad agreement on its content.

XBRL also expresses how the various language building blocks fit together to form an end document such as a set of financial statements. As a result the standard XBRL blocks within different documents can be compared at the touch of a button. Consequently, the strongest support for this new technology is likely to come from two areas, the capital markets and financial services sector and government regulators. Both of these groups and their constituents will benefit from the greater usability of information which facilitates targeted analysis, easier comparisons between companies and across industries, and, ultimately, quicker decisions.

Over time, the capital markets and their regulators will almost certainly focus on the heightened level of corporate communication that the new technology enables, and call for greater transparency in external reports. There are two primary factors underlying these calls for more disclosure: first, the critical data needed by investors, analysts and regulators is substantially the same as that used by managers to make both strategic and operating decisions; and second, the technology used to generate in-depth information channels within companies is the same one used to generate corporate communications to the public via the Internet. Financial market participants are already clamouring for companies to provide a broader continuum of information.

Thus, it is not a far stretch to imagine the pressure that the full range of capital market participants can place on managers who are viewed as “information barriers” by virtue of their decisions about what to share and what not to share with the public. XBRL alone can also lead to significant data collection and interoperability benefits across a supply chain for regulators or companies handling large volumes of forms.

XBRL is valuable for any entity for external reporting in isolation but is even more valuable when it is part of a more comprehensive solution. Companies and government agencies alike are looking to achieve efficiencies in their own activities from interoperability and joined-up systems. Solutions typically use Internet technology including XML, and XBRL is but a small addition.

In addition to tagging information for reporting purposes, XBRL is also used to tag accounting data, as commonly recognised by general ledger and other applications, including journals. This information is of a totally different nature and detail to the high level information finally presented in reports and is represented in a specific sub-taxonomy – XBRL GL, the Journal Taxonomy.

Improving the Internet’s information exchange abilities

The Internet has grown to its present popularity largely because Hypertext Markup Language (HTML) made it relevant for business and personal use. HTML provided the common blueprint needed for describing and linking information, thereby making user access easier. Software vendors quickly made using HTML a simple matter: today, creating an HTML document is straightforward from almost every software application. Document creators do not even need to know anything about how HTML works to make content Internet ready.

HTML has some shortcomings, however, and these are addressed by the next big step in Internet technology: Extensible Markup Language (XML),¹ which brings “smart data” to the Internet through self-describing data structures. XML, like HTML, is freely available and also a standard recommended by the World Wide Web Consortium (W3C).² XML enables powerful capabilities, which explain why it is the fastest-growing Internet technology today.

What makes this new technology distinctive? HTML's shortcoming is that it generally provides information in formatted documents that a person must read through to locate desired pieces of information. Thus, information is transferred as an indivisible whole (i.e. as a "document"). This means that, right now, the Internet is not much more than a gigantic bulletin board, allowing browsers to surf for documents on various web sites. With XML, information is actually separate from its document presentation format, so documents can be searched for specific information in context and, once located, that information can be served up independently of the document. By making information more structured and understandable through commonly used tags, XML is quickly becoming the primary facilitator for transferring data over the Internet in a more efficient, timely, and interactive manner.

In short, XML improves Internet-based communication because it adds:

- **Relevance to individual users** by providing a structure and context for data
- **Interoperability between disparate software applications** by enabling applications to exchange data seamlessly
- **Diversity in the use of data from a single source** by separating data from its presentation style
- **Re-usability of data** by separating data from application logic
- **Greater efficiency at a lower cost**

Moreover, XML technology offers:

- Enhanced digital signatures that allow users to authenticate the source and integrity of the information presented
- Validation that information complies with pre-set rules
- Linkages to other relevant internal and external content
- An application or system independent environment

By making information easier to access, use, and reuse, XML has taken its place as the next way to build languages for the Internet.

"Although technologists may not utter XML with quite the battle-cry zeal they did last year, XML trudges on and remains a crucial consideration for organisations as they make their technology decisions."

Meridien, January 11, 2002.

XML provides the foundation for the next phase of the global information revolution and you should expect it to become the primary technology for transferring data over the Internet.

The X-files

Since the W3C recommended XML as the standard for defining and naming data in February 1998, there has been a full-scale, global XML movement, made up of several significant constituents. Notably, almost all software vendors are supportive, and most are eager to add XML capabilities to their applications so they remain competitive. XML is currently a file import and export option for all of the major Enterprise Resource Planning (ERP) vendor applications. It is also a key feature in the most recent versions of many major desktop applications. In addition, many major industries have consortiums with broad participation by leading companies that are working to agree on industry-specific XML data standards. The goal of these consortiums is to define operational-level transactions in their

industries' supply chains. Efforts are also under way to combine Electronic Data Interchange (EDI) (the "old" way to exchange standardised business documents electronically) with XML, so EDI messages can be exchanged within the XML framework.³

Why the rush toward XML? The business landscape is now more competitive and the speed of change is increasing. XML is the latest addition to the Internet technology and standards platform and will enable businesses to process information more quickly, whilst achieving cost efficiencies, and improving customer responsiveness. The potential benefits are so great that a business not embracing Internet and XML technology could very quickly find that its competitive position has been seriously eroded.

New connections between existing systems

To gain the benefits promised, information must be easily exchanged inside and outside organisations. In addition, new kinds of information must be quickly and easily assimilated into business, governmental and regulatory accounting systems. XML meets all of these needs, making it possible to integrate vertical supply chains – from manufacturers to distributors to retailers to end users – quickly and cheaply. This integration drives efficiencies by removing one of the biggest obstacles to timely decisions by management, investors, analysts, regulators, and others – differing/disparate information systems. The costs of implementing common ways to exchange data every time companies seek to establish new relationships has hindered the formation of many otherwise sound business alliances. This is especially true for companies that are less technologically sophisticated. By more easily integrating disparate systems, XML and industry-specified data tags make business exchanges of information over the Internet more practical and affordable for all companies, large and small, in any part of the world.

The common cause of business rivals

Developing and agreeing on industry XML specifications is very important for achieving the full promise of the Internet's next step in the information revolution. The only way this can happen is if stakeholders in an industry work together. XML provides an Internet platform for an agreed dictionary of terms used in a particular process that has standard components for all stakeholders in that industry. XML is a tool that provides little supply chain benefit without cooperative industry efforts. Therefore, it is vital that companies and other supply chain participants become involved in or, at the very least, maintain an awareness of, decisions and proposals being made by their industry XML consortium(s). These standards will govern the data transfers foundational to supply chain operations in the not-so-distant future.

Once standards are adopted, businesses will be able to cut costs almost immediately by using the Internet to automate data transfer operations that are now manual, including processing purchase orders, invoices, payments, and many other tasks. In addition, industry "marketplaces" will bring buyers and sellers together in real time, enhancing the exchange process. This effort is already under way in the Information Technology supply chain, largely through the efforts of that industry's consortium, called RosettaNet.⁴

Corporate reporting supply chain enhancements

XML is about to exponentially accelerate the pace of business and web services are becoming a realistic proposition. The extent of the change and its rapid pace coupled with regulatory pressure on reporting poses challenges for the corporate reporting community and its primary constituency, the capital markets and financial services sector. Corporate reporting faces its own challenges but for corporate reports to continue providing supply

chain participants with relevant information needed to make decisions, corporate reporting must also keep pace with the changing business environment and informational demands of the management and the market.

The corporate reporting industry has its own consortium that is developing XBRL, the adaptation of XML for the business reporting information supply chain.⁵ The XBRL reporting process has fundamental advantages over the way reports are assembled and distributed today because XBRL enables:

- Lower preparation cost
- Reduced preparation time
- Simplified information access
- Broader information availability
- Enhanced analytical capabilities
- Better investment decisions; and
- More trustworthy data when associated with an XML digital signature

A working example of the impact of XBRL on the corporate reporting supply chain

A pilot showing XBRL in action, has been developed collaboratively by Microsoft, NASDAQ and PricewaterhouseCoopers and is available at <http://www.nasdaq.com/xbrl>. The demo consists of

1. Exemplary data tagged in XBRL from a small group of companies,
2. A Web Service providing the data presented to the Internet, and
3. An analytical worksheet in Microsoft Excel that consumes user selected data from the Web Service and allows the user to quickly and efficiently analyse/manipulate the selected data.

This demo provides a basic working example of how the business reporting supply chain is transformed by the Internet, by XBRL and by other relevant tools to provide currently reported information to investors in a significantly more efficient and effective manner.

This demonstration also highlights the shift of the corporate communication process from a 'publishing model' to a 'broadcasting model'. Today, corporate communications operate in a publishing environment wherein investors come to a (company) site; search/surf for published documents, open those documents and manually read them looking for relevant information to include in their analysis. This process has a high cost of consuming information for investors thereby limiting the inherent transparency of the reported information.

The Internet, Web Services and XBRL provide companies with a significantly more effective manner to reach their constituents providing them with reported information in an accurate, complete and highly reusable manner. Web Services act as a sort of broadcasting channel persistently pushing company information to constituents in the XBRL format so that it can be immediately consumed by their analytical applications and/or viewing tools including browser, worksheet software, data warehouse and many other software tools.

"We're excited that Nasdaq – one of the world's largest stock exchanges – in concert with Microsoft, and PricewaterhouseCoopers have developed a pilot program to support greater transparency and access to financial statements of public-listed companies using XBRL. This system will better serve all users of financial information through quicker access to meaningful financial data that enables better management decisions. XBRL helps the capital markets by leveraging the capabilities of the Internet to facilitate global exchange of financial information. In addition, XBRL can help companies and the accounting profession move toward real-time, online reporting by automating the manual process of re-keying financial information from one software format to another for analysis and/or distribution."

Al Anderson, Senior Vice President, Member and Public Interests, AICPA.

A closer look at XBRL

XBRL International is a collaborative consortium of currently approximately 170 organisations representing virtually all components of the business reporting supply chain that have committed to consensus-based data entry interchange formats for sharing. The consortium members have also committed to incorporate the consortium work into their products and services. Commercial members include: Deutsche Bank, FDIC, Fujitsu, Hitachi, Hyperion, General Electric, IBM, Microsoft, Morgan Stanley, PeopleSoft, PricewaterhouseCoopers, Reuters, SAP and many others.

The **Extensible Business Reporting Language** (XBRL) is a combination of technology and reporting terms. XBRL expresses business-reporting content in XML so that it can be displayed directly to a consumer (human readable) and/or read by other software for further processing. XBRL is available worldwide under a royalty-free license and facilitates the automatic exchange and reliable extraction of business information among various software applications anywhere in the world. XBRL represents an agreement of the consortium members on how XML is used within the business reporting supply chain.

The XBRL consortium is focused on the development of the XBRL Specification, XBRL Taxonomies consisting of hundreds to thousands of tags, and other materials to increase awareness and education and promote adoption throughout the financial information supply chain. The **XBRL Specification** is the use of XML for the purpose of business reporting; it is the technology platform for transporting the information contained within business reports. **XBRL Taxonomies** are the data definitions or reporting terms used within business reports and are developed to address specific requirements. For instance US GAAP is differs from IFRS (the former IAS) and accordingly there are 2 separate taxonomies. Each of them however will be based on the core XBRL specification so that each taxonomy can be recognised and processed using the same software tools.

One key issue therefore is the range of taxonomies required and available. Taxonomies would be needed for each form of GAAP, if industry adaptations are significant there would also be an industry taxonomy, say Banking USGAAP. Taxonomies are also needed for specific processes such as tax filings. Taxonomies currently exist of for a limited range of reporting purposes such as United States GAAP for Commercial & Industrial Companies, International Accounting Standards for Commercial & Industrial Companies and others. These taxonomies are for general reporting purposes and the involvement of other supply chain member companies is needed to expand and refine the taxonomies for commercial and regulatory uses. There are other more specific taxonomies such as the Australian Prudential Regulatory Authority (APRA) reporting for financial services company reporting in accordance with the APRA regulations.

XBRL is flexible and accommodates individual preferences. However XBRL is setting a standard that is one representation of how certain types of information are commonly currently presented. The desire for transparency and comparability and facilitation of this through use of XBRL could lead to XBRL becoming *the* standard for content format. The XBRL tagging system is not about accounting standardisation, it is about building a bridge between the information standard and the preparer, between the preparer and the ultimate users; linking the latter back to the information standard. The bridge will be stronger should all parties collaborate in the building of it. It is in fact a major opportunity for standard setters around the globe to go beyond the written text of their standards and take a role in the way it is translated into a live set of financial statements.

Many will argue that it is not accounting standard setters' business to enter the unknown world of IT standards, but is this argument sufficient and such a position sustainable when even accounting standardisation itself is in great scrutiny? The International Accounting Standard Committee, a member of XBRL since the early days of the initiative, is a vibrant counter-argument to critics and proponents of a "not my business" line of thought.

To quote again Mr. Robert E. Litan in his testimony to the U.S. Senate, referring to XBRL,

"Here, too, I would urge the SEC (and if necessary, urge the Committee to urge the SEC) to encourage this project and do what it can to publicise its importance and encourage companies to participate in the process of developing tags for information that may be industry-specific. The Commission may also want to consider ways in which it could encourage companies to use the tags at the earliest possible date. One possibility: require EDGAR submissions to be in XBRL by a specific date."

In addition to taxonomies based on reports, XBRL also includes XBRL GL, the Journal Taxonomy, which is designed to overcome the inefficiencies of disparate, non-integrated and outsourced accounting and financial systems. XBRL GL is an agreement on how to represent accounting and after-the-fact operation information – anything that is found in a chart of accounts, journal entries or historical transactions, financial and non-financial – and transfer it to and from a data hub or communicate it in a data stream. As with other Internet technologies it is systems independent. This lets adopters of XBRL GL more easily bridge the gap between operational, off-site or outsourced systems and their back office accounting and reporting systems. XBRL GL can be used to tie legacy charts of accounts and accounting detail to a standardised chart of accounts to increase communications within a reporting entity about what needs to be measured and why. It provides a platform to facilitate the consolidation of ledger information from a wide range of reporting entities.

The enhanced ability to consolidate and proactively adjust the ledgers used for management reporting by a wide range of entities means that XBRL will contribute to driving strong demand from within the accounting ranks of companies and government agencies alike. Information represented in XBRL GL can then be expressed in any form of report that is required including XBRL.

The XBRL/XML format also provides software developers with a significantly more flexible development environment in which to manage prospective changes. The use of this highly interoperable format allows developers to rely upon the structure and rules of XBRL. This enables a more flexible software development environment capable of dealing with future regulatory and market changes in a very effective manner.

Finally, with a look towards the future, the ability for users of corporate information to verify a specific document's authenticity anywhere within the business reporting supply chain is critical for capital market operations. XBRL, in combination with XML Signature, provides a solution to this authentication problem and provides a platform to enable investors to trust that the documents they are using for investment decisions are, in fact, those produced by the company and not a third party attempting to manipulate the market price of a specific company stock price. The validation of document authenticity is a foundational attribute for trust in the capital markets and important to investors and regulators alike.

What XBRL is not

In outlining what XBRL is, it is useful to understand what XBRL is not. XBRL is:

- NOT a set of accounting standards. Accounting standards are the domain of the existing Generally Accepted Accounting Principles (GAAP) and regulatory standards bodies which address how, say, revenue is recognised, and to a lesser extent how revenue is presented. XBRL expresses the common output of the application of a particular GAAP, including conventions for cross-referencing within a document, to other documents and to authoritative GAAP literature.
- NOT a detailed universal chart of accounts. Charts of accounts are the domain of management (and in many countries, of the government itself), and it is their responsibility to define appropriate classifications for use in generating appropriate management information. What XBRL can do is facilitate the implementation of such structures through its ability to represent data from disparate software applications in a consistent format that might be used within an organisation's operational structure.
- NOT a GAAP translator. XBRL does not provide transparency of existing GAAP information into lower levels of information that would be necessary for translating from one GAAP to another. The business-reporting document contains the same GAAP information, be it in an XBRL format or a Microsoft® Word or Adobe® PDF format.
- NOT a proprietary technology. XBRL is freely licensed and available to the public. XBRL is XML based and therefore is expected to be widely available in software applications.
- NOT a transaction protocol. XBRL is designed to address issues related to the production and consumption of information contained within business reports and begins at the accounting classification level. XBRL is about business reporting.

XBRL implementation

How quickly will XBRL become a reality? Some companies already offer their reports in XBRL. These early adopters, including Morgan Stanley, Reuters, and Microsoft, have set the tone for more widespread market acceptance of XBRL. XBRL use will increase as software tools and jurisdictional reporting taxonomies are made available. For public corporate reporting in isolation, there are efficiency gains within an existing process. However, the main benefits will come from adaptability to new forms of reporting such as IFRS, Basel and *ValueReporting*® together with the opportunity to track the use of such data by interested stakeholders and thereby ultimately address the specific needs of individual stakeholders.

For a business considering its total reporting needs, and regulators and others with significant data collection requirements, there are additional and significant efficiency benefits that come from joined up systems, reduced error rates and enhanced analysis. These include:

- **Re-usability and speed.** XBRL automates the time consuming, manual, error-prone tasks of translating corporate information from whatever format it is provided in to whatever format a user wishes to employ.
- **Capabilities.** XBRL makes information free from time and place constraints, as stakeholders anywhere in the world need only an Internet connection to gain access to company information.

When, not if

The conditions for widespread implementation are gradually building up, from Sydney to New York, London, and Frankfurt to Singapore. XML use is widespread, most organisations have or are changing core technology to Internet models and the use of XBRL is a small

incremental change on top of these other major building blocks. The question therefore is not 'if?' but 'when?'

The push for XBRL reporting is currently coming from several groups within the supply chain:

- **Market leading companies** who want their stakeholders to have every communication advantage for analysis and assessment
- **Creditors** who seek to gain from the more efficient processing format of XBRL
- **Governments** who seek to gain similar benefits for their regulator processes.
- **Information service providers and analysts** who want better access to already reported financial information
- **Smaller, less well-known public companies** seeking to gain the market's attention. The motivation for emerging companies is twofold: attracting capital from investors and gaining coverage from financial firms which, before now, could not have committed the money or resources to tracking smaller companies

Demand for corporate reporting in XBRL is growing. The early adopters have used IT resources to drive XBRL implementation. The next wave of XBRL enabled tools should present business users with the opportunity to easily tailor the reports they need and make mapping changes using drag and drop style screens and at a stroke, the benefits of XBRL will be clearly visible. The ease with which companies can gather information and place it into the XBRL format is a challenge that is also now being met by software developers. Most major vendors can or will shortly be able to accept or produce XBRL format inputs and outputs. There is no question that it could be extremely easy. In the past, software tools made HTML easy to manage and there is no reason not to expect similar tools for XML-based languages in the future.

A number of regulators are working on projects to use XBRL and these will be live over the next two years. Taxonomies already exist and many more are being worked on. Software tools will be widely available this year. Internet technologies are widespread and many companies have XML projects. The basic XBRL building blocks will shortly be in place to support XBRL based reporting.

“XML is now really entrenched in enterprise applications. Using XML to free up content [offers] a benefit to productivity as well as to creating applications that are more rich and personalised.”

Dana Gardner, research director at Aberdeen Group in Boston.

The competitive landscape imposes its own pressures leading to demand for joined up systems. XML is relevant because it will make business move at a faster pace by enhancing data exchange capabilities between companies in a supply chain. It can also increase the speed of internal and external corporate reporting by linking data from all business units within a company. XML data tags (including XBRL tags) will enable accounting systems to interoperate with all other company-wide information stores and compile the information needed to create each element of internal and external corporate reports, all in a matter of moments. Therefore, the time needed to gather and disseminate company information can keep pace with changes to that information resulting from the course of daily business. Management has the information needed to make timely business decisions and share information with their stakeholders to keep them abreast of company performance.

This is one benefit for managers to consider when re-engineering their reporting infrastructure to enable better business decisions. Other benefits that accrue to the

preparers of corporate reports also impact the relationship of the preparers with other members of the corporate reporting supply chain.

The role of regulators and standards setters

The added value XBRL brings to the supply chain is great enough alone to justify its implementation but, as with any standardisation efforts, the collective benefits of the standard are much wider than the benefits that any individual participant can achieve. The speed and depth of adoption is thus also dependant on the business environment and proper attention from the responsible authorities. A number of regulators are working on projects to use XBRL to gather regulatory information and XBRL is also being recognised by governments as a preferred format. Accordingly the actions of regulators will also lead to growing demand for XBRL in the short term.

The much-publicised crisis of the financial markets is a key driver for XBRL adoption. Let's take the example of trying to get from the Web even a limited set of financial metrics of companies incorporated in different countries, in the same industry, and all reporting to international accounting standards. To achieve this, you need to identify where the information is located, make sure you have the latest, check the reporting currency, check whether it's thousands or millions, take your spreadsheet and start typing... An inefficient and laborious process! Of course, one can blame the analysts for not giving sufficient attention to the tiny notes in the financial statements comparing movements in pension fund costs, but is it really their fault? Should we not consider whether financial markets are leveraging the large amount of financial data companies are already requested to provide today? Clearly they are not.

Talking about information transparency without mentioning format is like trying to deregulate electricity supply without considering distribution rules. Market force is a powerful driver and much can already be achieved by simply letting the market go its way. Market regulations are, however, necessary, either to give direction or provide boundaries in which the market will progress. Electricity deregulation could not be achieved without accompanying measures. Likewise, transparency cannot be achieved if regulators rely solely on market forces and don't set direction.

Advantages for preparers

The benefits of supply chain collaboration must accrue to all participating members of the supply chain. The preparers of information are the starting point for any reporting process – they are also those first to benefit from a more integrated reporting environment. In the case of preparers, the alignment of disparate reporting systems, integration of multiple general ledgers and other accounting applications, and enhanced timeliness of information provide a few of the critical benefits. These combine to provide managers with better information for decisions and therefore better information for reporting to other consumers within the supply chain.

Integrating and streamlining the information supply chain

The capital markets rely upon timely, accurate and understandable business information for the allocation of capital resources. As the assembly line was key to Ford's automation of the manufacturing process and drove the industrial revolution forward; similar integration of the business reporting supply chain is useful to the capital markets and related government regulators.

This business reporting supply chain extends beyond the responsibility of any one individual, or even a single organisation (governmental or commercial). As such, a collaborative effort of the supply chain members is required to make the overall integration more efficient. XBRL is a bar code kind of technology, in that it benefits the entire supply chain; but instead of bar coding physical products, XBRL is bar coding information – all kinds of business information – as it is prepared, distributed, and consumed along the entire business reporting supply chain.

The result of XBRL is that information is more useful to each and every participant in the supply chain. This starts at the subsidiary level and pushes up through the consolidation for management reporting. Further, business report information extends to distributors, aggregators, creditors, analysts, investors, regulators and others who are consuming the reported information. Each step in this process is streamlined, as the information is moved from application to application and across user groups. Further, the efficiency, accuracy and usefulness of the exchange are maximised.

Better information for management

It is critical for management to have the ability to quickly spot problems and opportunities, to know what's going on in the enterprise in time to make a difference. Getting the right information to management in a timely manner is often a difficult problem to solve due to complex and often disparate data stores within an entity making timely and accurate consolidation difficult. Accounting information comes from many sources such as outsourced payroll vendors, subsidiary ledgers, outsourced accounting and bookkeeping systems, other ERP applications, other governmental entity funds and many others. XBRL provides a communication platform between such disparate systems and enables them to function in a more integrated and timely manner. This may be particularly relevant to governmental accountants who are faced with consolidating information from a wide range of disparate information systems.

The financial executive is responsible for the preparation of consolidated business, operational and regulatory reports and sharing these with appropriate stakeholders. XBRL facilitates the consolidation of the disparate financial systems operating within many entities around the world providing managers with more timely and accurate information for decisions. Financial executives will find XBRL valuable in situations such as consolidations for operational reporting; specialised consolidations for regulatory reporting (income taxes, property, environmental, etc.); and other internal gathering of reporting information from disparate internal systems for specialised reporting purposes (e.g. statistical) where the information comes from outside the typical financial consolidation environment. Currently each report produced by an entity may have a separate process to collect the data, aggregate and analyse it and reformat it into the desired format. XBRL improves each individual process but even greater benefits will come from a transformation of the entity's reporting model, with a single process for tagging all relevant data, with the tagged data mapped to the various report formats.

As previously mentioned, getting the right information to management in a timely manner is often a difficult problem to solve. This situation plays to the sweet spot of XBRL, which is to automate what can be automated, and to allow management and stakeholders to be fully engaged in what matters – the issues, the strategies, the opportunities and the decisions that have to be made. XBRL enables more efficient data collection and consolidation to provide higher quality information for management decisions. XBRL provides a more efficient, accurate and complete platform for providing information

for use by others within the supply chain. XBRL makes it significantly easier for the consumer to consume and reuse the information contained within the report.

In summary, as part of a larger reporting process related to the assembly of information for management decision and analysis, the XBRL format facilitates:

- High quality information provided to management for decisions due to the lower cost of data consolidation
- Lower cost of report preparation and distribution
- Lower cost of data consolidation from disparate systems
- Implementation of internal and external reporting models (e.g. a common chart of accounts for reporting)

Responding to regulatory requirements – An example.

XBRL and the IFRS: a win, win, win situation

The European authorities have passed legislation that requires listed European Companies to comply with the International Financial Reporting Standards (IFRS) – the former IAS – by 2005 for their group financial statements. Other territories such as Australia are following the lead.

This is a major challenge considering the size of such implementation projects and their implications for financial communication as well as for internal systems. The challenge is even greater when we consider the gap that exists today between some of the existing European accounting standards and the IFRS. This gap reflects a lack of knowledge of the standards, the need for education and the need to acquire the right “culture” and experience to apply them.

Not surprisingly some groups in Europe have called for “illustrative” financial statements to be released or a better way to represent the standards to facilitate their implementation. Belgium for example has an existing standardised set of financial statements precisely defined, and the accounting “culture” is to some extent about finding the right “box” for a reported item. Providing “illustrative” statements would be just the right thing to do in Belgium to facilitate adoption.

Indeed the IFRS are not about a “one size fits all” type of approach. However, XBRL provides the flexibility required to handle the extensibility of the standard, the benefits of illustrative financial statements, but not at the cost of a rigid “one box” type of approach.

A second profound advantage of XBRL, in terms of assisting companies with IFRS implementation, is its referencing system linking taxonomies and standards together. When embarking into the unknown of an IFRS implementation, companies will always benefit from the guidance provided by the standard. Through XBRL and its ability to create a nexus between reported data and the supporting standards under which it has been compiled, standard setters have the opportunity to be next to the preparer’s desk, virtually holding his hand, an opportunity not to be missed!

Overall XBRL is about information technology, and this is the third key benefit it brings to IFRS implementation: a seamless link between the accountant’s design and the system implementation as further developed below.

Thus, this is a win, win, win situation: a win for companies to ease their implementation projects, a win for the IASB, the regulatory bodies and financial markets with an improved quality of implementation and a win for XBRL with speedier adoption. This is the value proposition for the XBRL/IFRS journey.

As with any other communication tool, another benefit to preparers is a more effective communication platform for exchanges with consumers of reported information and there are profound advantages for consumers of XBRL formatted documents.

Advantages for consumers

The advantages that accrue to consumers of reports in the XBRL format include:

- Decreased time and cost of accessing the report information
- Enhanced ability to analyse report information
- Increased discovery capabilities of reports

Cheaper consumption and efficient, enhanced analysis

For consumers of business reports, the current cost of consuming information is high due largely to the manual nature of this process. Consumers read through reports manually transferring relevant data into their analytical models. This high consumption cost adversely impacts the breadth, frequency and volume of the information used for analysis. XBRL's key advantage for the consumer is that information formatted in XBRL exponentially lowers consumption costs and provides for more efficient analysis.

The manual processing of business reports also leads to errors in the transfer of information between the preparers and consumers. This is represented simply as keypunch errors as humans transfer information from the 'paper' format into the consumer's analysis applications and/or data warehouse. The inaccuracy of information transferred is also observed in the distribution channel today as aggregators and distributors 'summarise' information provided by individual companies into 'normal' classifications. This leads to distortion of information, as what is actually prepared by the financial executive is not what is used in the market for analysis.

Further, the investor, analyst and regulatory consumer of an XBRL formatted report has a level of discovery capabilities into the report that were previously inconceivable. The speed, efficiency and reliability with which a consumer can access any piece of information within the report are all dramatically improved over all other formats currently available. Think about what today's investors don't know about the disclosure on page 45 of a company report due to the opacity of today's electronic paper formats; XBRL provides a format that can be quickly accessed for information of interest and reuse.

What would be different about today's capital market if investors did not have to manually dig through the mountains of company reports? Companies would have a more effective way to communicate with their stakeholders. Investors would have a more efficient way to analyse companies. The overall transparency of the corporate reporting environment would be enhanced. We would have a reporting platform for a more efficient allocation of capital in an environment of greater integrity and trust; no small feat in today's investor confidence bankruptcy environment.

XBRL will facilitate analysis and use of the information included in company reports. It enables the use of significantly enhanced assessment, extraction, and query tools, making analysis faster and easier. Users can collect data from one source or multiple sources, to quickly see basic financial ratios from a single company or from a range of companies for comparison purposes. Users will also be able to request the related disclosures on a specified item in the financial statements and in the Notes to the Financial Statements be assembled in a "compound document" dynamically prepared for them at their request.

This will enable users to do tasks at the “click of a mouse” that are manual and time consuming in today’s world, which is still dominated by paper-based financial reporting.

Specific benefits for regulators

The advantages outlined above for consumers of business reports are also a general benefit to government regulators of the capital markets. However, as consumers of business reports, government regulators of all kinds have additional specific benefits that they can realise from the Internet enablement of their own regulatory processes.

The initial step in migrating regulatory processes onto the Internet comes in the form of the e-filing, wherein regulators begin to consider an electronic format as the input for their regulatory processes. This first step is one that can be currently seen at regulatory bodies around the world. With the advent of XML as an information format, regulators can now attain a broader range of benefits than the transfer of data from the regulated entities. These benefits fall into the following general categories: reduced reporting burden, improved timeliness of data, improved accuracy of data, and enhanced software development environment leading to a more effective overall regulatory environment.

The reduced reporting burden provided by the Internet format of XBRL is a significant benefit for government regulators. The XBRL format exponentially reduces errors associated with data transfers between regulated companies and regulators. Getting it right the first time for regulatory reports ensures that the regulatory analytics and assessments are conducted upon the proper information and not data erroneously transferred from paper based reports to regulatory analytical applications. XBRL also enables the mapping of data directly from the source of regulatory guidance to the data reported by regulated entities.

The XBRL format also greatly enhances the timeliness of data included in regulatory reports for access and analysis by regulatory agencies. The time frame for basic analysis of XBRL formatted reports is measured in seconds rather than hours, days or weeks for paper-based documents. The capability of enhanced timeliness can also lead to event driven reporting where the regulatory assessment is as timely as the company’s report of the event. Enhanced timeliness of reports, and the regulator’s ability to timely analyse them, provides an enhanced regulatory environment.

XBRL also enhances data quality and accuracy through edits and validation of regulatory reports by the company during regulatory report preparation, rather than by the regulatory agency days, weeks or months after filing. Further, the contextual tags included within an XBRL report for regulatory purposes can be used by the regulatory agency for analysis and/or by other relevant regulators within the government.

To achieve these benefits, government regulators, like all other supply chain participants, need to collaborate on the information format agreements governing the supply chain. Governments, more than any other supply chain member, have the ability to dictate the rules to their regulated entities. However, in the midst of the information revolution, the leverage provided by international interoperability far outweighs any single regulatory silo oriented approach to information formats by a single regulator and/or group of government regulators. By using an international information format standard, government entities of all shapes and sizes can leverage the benefits of interoperability which translate into a lower cost for implementation and a broader range of software tools for use by regulated entities and regulators alike.

The volumes within a regulatory process may mean that it is cost effective for a regulator to develop its own standards. However the adoption of XBRL provides additional benefits

because of the functionality already developed within XBRL and the likely adoption of XBRL for related processes by the regulator's customers. Therefore government regulators can achieve the benefits outlined above by using XBRL and participating in its development. Several large governmental regulators are currently members of XBRL International such as the Australian Prudential Regulatory Authority (APRA), Federal Deposit Insurance Corporation, Deutsche Bundesbank, and the US Census Bureau. APRA implemented an XBRL formatted regulatory process for the banking sector in Australia in 2001. The FDIC in the United States and the Inland Revenue in the United Kingdom have announced plans to re-engineer their regulatory process in the near future with XBRL playing a key role. Other regulators in governments all over the world are currently including XBRL within their future regulatory re-engineering plans.

The realisation of future benefits

Every aircraft in the world would be grounded if air traffic control relied on the same type of system that companies use today to report their information. Air traffic controllers must receive vast amounts of highly technical, constantly changing information reported to them quickly in a format they can understand and use immediately, and they must have absolute trust that the information is complete and accurate every time. Imagine the consequences if those controllers could only get their information from an observer on the ground that scribbled a few notes, printed them on an old-fashioned Gutenberg press, and mailed the information to the control tower once a quarter?

Like air traffic controllers, investors and regulators cannot make critical, timely decisions if information is withheld, delayed, buried inside other irrelevant information, or presented as complex raw data. Yet, this is what they must contend with today. Because current reporting formats provide too little too late, those who use corporate information typically turn to second-hand sources, none of them comprehensive or totally objective, some of dubious reliability.

The use of technology has continued to advance the information revolution with the Internet accelerating the pace. The use of XBRL as an interoperable information format supporting the exchange of information between disparate information systems has powerful ramifications for all members of the business reporting supply chain. In order to achieve the benefits that XBRL provides to both the preparers and consumers, supply chain participants must collaborate. Success requires the continued proactive involvement and cooperation between companies, jurisdictional reporting bodies, accounting standard setters, regulators and other governmental entities. At the very least, supply chain participants must keep abreast of consortium activity and understand how to implement XBRL. Your ability to realise the future benefits outlined in this paper depends upon what you do next.

What you might do next

To learn more about XBRL, readers can do the following:

Talk to...

- Contact us – details on the inside front cover
- Talk with software suppliers about their XBRL readiness
- Talk with governmental and NGO members of XBRL about how they value the more useful XBRL format

Visit these websites...

- Visit the XBRL international site at <http://www.xbrl.org/>
- View the demo at <http://www.nasdaq.com/xbrl> and others on the demo pages at <http://www.xbrl.org/demos/demos.htm>
- Visit PricewaterhouseCoopers' XBRL web site at www.pwcglobal.com/xbrl
- Visit the Australian Prudential Regulatory Authority web site and learn about their use of XBRL within their statistics project. <http://www.apra.gov.au/Statistics/XBRL.cfm>
- Visit the Microsoft, MSDW and Reuters Web pages to see the human-readable format of XBRL financial statements:
 - <http://about.reuters.com/results/2001-pr/html/xbrl.asp>
 - <http://www.morganstanley.com/xbrl/>
 - <http://www.microsoft.com/msft/xbrlinfo.htm>

Consider XBRL in your organisation...

- Attend a future XBRL event: a calendar is available at <http://www.xbrl.org/events/events.htm>
- Review information flow within your reporting entities for any point at which custom bridges are created or manual entry is required to assess the opportunities for XBRL
- Become part of the XBRL consortium effort

Notes:

1. For detailed information on XML, see <http://www.xml.org>
2. On its web site, (<http://www.w3.org>), the World Wide Web Consortium (W3C) is described as follows: The World Wide Web Consortium was created in October 1994 to lead the World Wide Web to its full potential by developing common protocols that promote its evolution and ensure its interoperability. W3C has more than 400 Member organisations from around the world and has earned International recognition for its contributions to the growth of the Web. W3C is financed primarily by its members and, to a lesser extent, by public funds. W3C membership is available to all organisations.
3. For information on the movement to combine EDI and XML, see <http://www.ebxml.org> and <http://www.xmledi.com>
4. For information on the activities in the Information Technology Industry's XML consortium, RosettaNet, see <http://www.rosettanet.org>
5. For information on the latest XBRL developments, including members of the working group, see <http://www.xbrl.org>

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