

XBRL for Interactive Data

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XBRL for Interactive Data

Engineering the Information Value Chain

 Springer

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Foreword

“The period of promoting XBRL for its potential is over.
Promises are being realized”

**Olivier Servais, Director of XBRL Activities, International Accounting Standards
Committee (IASC) Foundation**

With the market turmoil of the early 2000's, perhaps we should look back through history and seek lessons from the past. In 1139, during the Catholic Church's second Council of Lateran, Pope Innocent II advised against the use of crossbows or *ballistas* – a type of medieval catapult – because their arrows and darts were launched so far ahead that the soldiers could not see the consequences of their actions. Investment bankers and others who took excessive risks would do well to remember this basic principle of caution. The good news is that today stakeholders are getting closer to the information they need.

XBRL, or “Interactive Data“ plays an important role in this new era of transparency. The period when XBRL was perhaps excessively promoted for its potential benefits – remember the ‘better, faster, cheaper’ mantra? – is over. Promises are already being realized. I believe that most of the requisite conditions for the efficient implementation of XBRL are now in place: political decisions have been made, taxonomies are available and software solutions, including ERPs, are affordable.

The financial crisis of the early 2000's is playing an ambiguous role. Few people doubt XBRL's potential to improve information exchange and therefore assist in the restoration of market confidence by providing transparency. Yet at the same time few, if not forced, are willing to dedicate the time and money to implement it. This applies to all countries and regions as all are affected, though some have been quicker on the uptake than others. I was highly impressed that XBRL as a concept or idea in Japan is no longer discussed because it is already implemented. It is a similar situation in Belgium, where all non-listed and non-financial companies – approximately 280,000 of them – have been filing in XBRL for some time.

In this sense, XBRL is becoming a non-issue. Why? Commitment and endorsement from high level decision-makers, who want to see XBRL embraced in their markets. As well as Japan and Belgium, there are interesting examples of XBRL adoption in Australia, China, France, India, Italy, Poland, Spain and the US.

As the Director for XBRL Activities at the IASC Foundation – whose standard-setting body the International Accounting Standards Board (IASB), is responsible for developing International Financial Reporting Standards (IFRS) – I am closely involved in the development and implementation of XBRL for international financial reporting. The IASC Foundation is promoting XBRL because we believe in the benefits it offers all stakeholders and end-users such as investors and banks. Our commitment is to provide IFRS in XBRL – the IFRS taxonomy – to the

highest quality and at the same time as the IFRS are released. At present, more than 100 countries worldwide are either allowing or mandating IFRS and very few are doing so without also considering XBRL. It is no coincidence that the main expected benefit of Belgium switching to XBRL was to ease the transition to IFRS. The world's financial markets are desperately seeking greater accuracy; in this respect, they have much in common with Pope Innocent II.

An important pre-requisite for success of standards such as XBRL is not only the taxonomies and software tools that I mentioned above, but also knowledge about the standard in the wider community. That is why this book is both timely and valuable. The authors traverse all the key technologies within the XBRL domain. They provide many practical examples that allow the reader to become thoroughly familiar with the design of taxonomies and the production of instance documents within a wide range of settings. So now is the perfect time for the international community to familiarise itself with XBRL and to reap the benefits from it. It is simply time to get to work with XBRL. I wish you a lot of success with this book.

The opinions expressed are those of the author and do not necessarily reflect the views of the IASB or the IASC Foundation.

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Maciej Piechocki holds a PhD in Economics (dr. rer. pol.) with major in Management Information Systems and his doctoral dissertation covered the area of "XBRL Financial Reporting Supply Chain Architecture". He was awarded the 2008 Outstanding Dissertation Award from the Strategic Emerging Technologies Section of the American Accounting Association. Maciej Piechocki holds an MSc in Management and Marketing from the University of Economics in Poznan, Poland where he majored in Investment and Corporate Financial Strategy. He also holds an MSc in Business Administration from the Freiberg University of Technology, Germany with majors in Information Technologies and Information Systems, Accounting and Corporate Governance.

Maciej is the author of the insolvency prediction model commonly used by auditors in Poland using the analysis of financial statements and financial ratios. Maciej is an initiator of Polish XBRL Jurisdiction and the founding member of the XBRL Poland Association.

Formerly, he was the Head of the Competence Centre Information Logistics at the Chair of Information Systems at the Freiberg University of Technology. In the industry related projects of the Competence Centre, he was responsible for topics such as data warehouses, business intelligence, ontologies and XBRL concerning the Information Logistics. Maciej was also an advisor to a number of XBRL projects including central and commercial banks, stock exchanges and IT companies.

The views expressed in this book are those of the author and not those of the IASC Foundation.

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Abbreviations

AGA	Association of Government Accountants
AICPA	American Institute of Certified Public Accountants
ASB	Auditing Standards Board
ASCH	American Standard Code for Information Interchange
BIOML	BIOpolymer Markup Language
CAFR	Comprehensive Annual Financial Report
CDATA	Character Data
CDR	Centralized Data Repository
CEBS	Committee of European Banking Supervisors
CFA	Chartered Financial Analyst
COREP	COmmon REPorting
CPA	Certified Public Accountant
CRD	Capital Reporting Directive
CSS	Cascading Style Sheets
DTS	Discoverable Taxonomy Set
ebXML	Electronic Business eXtensible Markup Language
EDGAR	Electronic Data-Gathering, Analysis, and Retrieval
EDI	Electronic Data Interchange
ELR	Extended Link Role
ERP	Enterprise Resource Planning
FDIC	Federal Deposit Insurance Corporation
FFIEC	Federal Financial Institutions Examination Council
FINREP	FINancial REPorting
FpML	Financial Products Markup Language
FRIS	Financial Reporting Instance Standards
FRS	Federal Reserve System
FRSC	Financial Reporting Supply Chain
FRTA	Financial Reporting Taxonomy Architecture
FRVC	Financial Reporting Value Chain
FSA	Financial Services Authority
GAAP	Generally Accepted Accounting Principles
GLFTA	GL Taxonomy Framework Technical Architecture
GLIS	XBRL GL Instance Standards
HTML	Hypertext Markup Language
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IASCF	International Accounting Standards Committee Foundation
IEEE	Institute of Electrical and Electronics Engineers
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
ISO	International Organization for Standardization

IT	Information Technology
ITMM	IFRS Taxonomy Modules Manager
iXBRL	Inline XBRL
LRR	Link Role Registry
MathML	Mathematical Markup Language
OASIS	Organization for the Advancement of Structured Information Standards
OCC	Office of the Comptroller of the Currency
OECD	Organisation for Economic Co-operation and Development
PDF	Portable Document Format
SQL	Structured Query Language
SRCD	Summary Reporting Contextual Data
SSADM	Structured Systems Analysis and Design Method
SSAE	Standards for Attestation Engagements
SWIFT	Society for Worldwide Interbank Financial Telecommunication
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
US SEC	U.S. Securities and Exchange Commission
VFP	Voluntary Filing Program
W3C	World Wide Web Consortium
WWW	World Wide Web
XBRL	eXtensible Business Reporting Language
XBRL FR	XBRL for Financial Reporting
XBRL GL	XBRL Global Ledger
XBRL VR	XBRL Visual Reporting
XDT	XBRL Language Dimensional Taxonomies
XFRML	eXtensible Financial Reporting Markup Language
XII	XBRL International
XLink	XML Linking Language
XML	eXtensible Markup Language
XP	eXtreme Programming
XPointer	XML Pointer Language
XSD	XML Schema Description
XSL-FO	XSL Formatting Objects
XSLT	eXtensible Stylesheet Language Transformations
XVS	XBRL Versioning Specification

How it all began...

Letter from Charles Hoffman “The Father of XBRL”

More than ten years ago in April 1998 my personal journey toward what was to become XBRL began. To me it is pretty amazing where XBRL is today. I think that everyone should be quite proud of what our little group has been able to achieve in this time. I think XBRL is a wonderful gift to the world. It has taken a lot of people with a lot of different skills in a lot of different areas to pull what we have together. Thank you to each and every one involved in this initiative for your efforts in turning our little dream into a reality.

For me, it was a Wednesday when I took the first step in this journey. Why I remember that it was a Wednesday, I really don't know. But it was on a Wednesday that during a lunch break during a class I was taking I went to the University of Washington Bookstore in Bellevue, Washington in search of a book on XML. I had heard of XML, but I really did not understand what it was. At that time I was worked with the public accounting firm of Knight, Vale and Gregory (now RSM McGladery).

The book was published by the W3C and explained what XML was by providing a collection of articles on how people were making use of XML. I remember one example that described how the chemicals industry had written an XML language and the book described how that all worked, explained the benefits, etc. I noticed there was nothing in the book about the accounting profession or financial reporting.

I knew immediately that XML was “the last piece of the puzzle”. Over the prior 15 years, I had spent much of my time integrating one system that had some data/information to another system which needed that data/information. As a CPA, usually as a controller for smaller companies, I had learned about stuff like relational databases, fixed field formats, comma separated values. I had gotten quite good at using Microsoft Access as the intermediary application, pulling information from one place, testing it to be sure everything was OK, and then pumping that data somewhere else. The reason I used Access was that it supported so many different data formats.

After reading the book I called my friend and colleague Wayne Harding. I got to know Wayne because I read a letter to the editor he had written about something and out of the blue I called him to chat about it. As it turned out, several years later I did a lot of work with Great Plains Software (now Microsoft Business Systems), the company for which Wayne worked.

I was excited and tried to explain to Wayne that there was this new thing XML that was going to revolutionize the world and we needed to use XML for financial reporting. Wayne told me to slow down, and that we were both going to be in Chicago in about a month so why don't we talk about it then. I knew Wayne had a lot of connections at the AICPA.

So we met in Chicago. I handed Wayne a stack of documents an inch thick, which I had photocopied and highlighted for him. Wayne looked through the documents and said that it just so happened that he was the chair of the AICPA High Tech Task Force and that they were having a meeting in Sedona, Arizona sometime in September; why don't I come down and explain what XML was?

Before that September meeting I was doing some experimenting with XML. I built some samples for audit schedules, financial statements, and other things to just dink around and learn how to work with XML. I even built a little prototype that pulled inventory data (for a candy company, a client of KVG) out of a Great Plains Dynamics SQL based accounting system and rendered live inventory information on the Internet. As it turns out, what we learned at Knight, Vale and Gregory about this prototype has dramatically influenced the business of another friend and colleague who took this information, learned more about XML, and uses that base in his business today.

In September, I took my prototypes and a PowerPoint and went to Sedona, Arizona to present my idea to the AICPA High Tech Task Force that was chaired by my friend Wayne Harding. Also members of the task force were Karen Waller (with the AICPA, who many of you from the early days of XBRL know), John Woodburn (The Woodburn Group), Dianne Spencer (Deloitte & Touche LLP), Mike Harnish (Dickinson Wright et al), Chris Reimel (NJ Dept of Labor), and Barbara Vigilante (AICPA).

On the last day of the High Tech Task Force meeting, I gave my presentation. The meeting began at 8:00AM. By 10:00AM the High Tech Task Force was convinced that XML based financial reporting and audit schedules were important to pursue. Karen Waller who was an AICPA staffer said that what we needed to do was to put together a "Product Description" to get funding. We decided that we should build a prototype. We knew that Barry Melancon, president of the AICPA, had authority to approve projects up to \$50,000. So, we decided that our prototype would cost no more than \$49,000 (but really had no idea what we were getting into). Wayne Harding already had a meeting with Barry Melancon in two weeks, he would present to product description and try to get it approved. Two weeks later, Barry approved the project.

Next, I convinced Mark Williams, the CEO of Knight, Vale and Gregory, that I could do the prototype and to agree to accept any cost overruns. I had built a small prototype for an IBM financial statement and I knew what we had to do. I knew we needed someone to help us with some aspects of the project but it was hard to find people with XML expertise. After a few false starts, I was lucky to stumble across Mark Jewett who had started a business that did work with XML, he had recently left Microsoft. Mark Jewett and his company helped to use XSL (the first version of what was to become XSLT) to create the ability to render. We decided that the first financial statement we would create in XML was Great Plains Software, a public company, the company for which Wayne Harding worked.

In early January of 1999, Wayne Harding, Mark Jewett, and I went to New York City to present the XML Prototype to the AICPA. The prototype included

the XML financial statement, the beautifully rendering of the statement in a web browser which looked literally identical to their financial statement section of the Great Plains annual report, and a demo which extracted data from the XML document on a web server in the basement of my home in Tacoma, Washington into an Excel spreadsheet on a laptop at the AICPA. I forget all who was at the meeting, but they were very impressed with what could be done with XML-based financial reporting. I still have a copy of the original XML based financial statement prototype, the style sheet, and the Excel spreadsheet.

Our question: What next?

I flew back to Tacoma and early that next week I met with Mark Williams, the CEO of KVG. I told him that everything went great and that we were within our budget. He told me that was great. Mark said that clearly the CPA firm could not fund taking this any further. I told him that I realized that and gave my two weeks notice, I was going to pursue this. I had no idea how.

I proposed to the AICPA that the next step was to put together a business plan. The AICPA agreed and they agreed to fund the business plan, so now I had a little bit of income. The AICPA assigned the project to Louis Matherne. Wayne Harding said he could help out when he had time, but he had a full time job with Great Plains. I forget if it was Wayne or Louis who asked me if I had heard of this other person who was talking about XML also. He as a CPA who had a small practice in Rochester, New York and his name was Eric Cohen.

The chair of the AICPA became aware of and interested in the XML project. His name was Bob Elliott. I think the chair of the AICPA serves a one year term, Bob was a partner with KPMG.

Over the next several months, I wrote the business plan with the help of Louis Matherne, Wayne Harding and Eric Cohen.

In May of 1999, I presented the business plan to the AICPA. I still have a copy of the business plan. It is interesting to see what we thought then, and how things turned out. The title of the business plan said, "Extensible Financial Reporting Markup Language – XFRML". Bob Elliott, chair of the AICPA, was at the meeting. I had presented the plan focusing on financial reporting. Bob had the foresight to understand that the scope should be not financial reporting, but business reporting in general. So, our focus changed to all of business reporting.

I was given a contract (funded by the AICPA) to create 10 additional prototype XML-based financial statements to continue exploring concept.

Bob Elliott, who worked with KPMG, gets his assistant, Zack Coffin involved with XML-based business reporting project. Zack was the first non-CPA involved with the project. Zack had experience in standards with the entertainment industry.

During the time I was writing the business plan, I became aware that the SEC was modernizing the EDGAR system. They were seeking feedback on their plan to use HTML and PDF. I sent a letter to the SEC suggesting that they consider using XML as an unofficial format and mentioned that the accounting profession was working on creating a standard for XML based financial statements.

In early July or so I called up Tim Bray, author of the XML Specification. I learned that Tim lived in Vancouver, British Columbia, Canada ... just up the street. I asked him what his consulting fees were and asked if I could spend a day with him and discuss XML. He agreed and I spent the day with Tim Bray. Some of the best money I have ever spent.

Sometime in July, I received an email from Tom Howland of PricewaterhouseCoopers. Tom indicated that he read an email send by Charlie Hoffman to the US Securities and Exchange Commission relating to considering the use of XML as a reporting format, rather than considering only HTML and PDF. He wondered if I was that "Charlie Hoffman". I had mentioned that a consortium was being set up to build XML based financial reporting. Tom Howland called me and I explained what the AICPA was doing to create XML-based financial reporting. Tom mentioned this discussion to his boss, Walter Hamscher. Walter mentioned this to his boss, Mike Willis.

Walter invited me to come down to the PWC technology center and spend the day with him. Walter spend the entire day with me, showing me around, talking about what the technology center did and this impressive book they published summarizing trends in technology. At the end of the day, Walter told me that PWC wanted to join the consortium creating this XML standard for business reporting, Walter wanted to know who to make the check out to and for how much.

I told Walter that I would get back to him with that information the next day. I called Louis and told him the story and asked Louis what we should do. Somehow we decided that the fee to join the consortium was \$10,000. I called Walter back, told him that the check should be made out to the AICPA for \$10,000 and that congratulations, PWC was the second member of the consortium.

After Walter told me he was sending the check, I immediately told Zack Coffin that PWC was the first member of the consortium knowing full well that he would be livid. I did this to motivate KPMG to cut the second check. Zack got his check to the AICPA and we now had three members.

One of the people we wanted to join the consortium was Edgar Online. I had heard that FreeEdgar of Bellevue, Washington was being acquired by Edgar Online. Somehow, I got the name Mark Schnitzer. I went up to Bellevue to meet with Mark and he said he would do what he could to get Edgar Online to join the consortium, but his company could not join because it was being acquired.

I finished the 10 prototypes with the help of a Starbucks bistro. Literally. I had been talking to this Starbucks bistro, Mitch Dombrausky, about things I was doing. I had graduated from Pacific Lutheran University and Mitch was a religion major but was taking some time off. He said he wanted to learn programming. To make a long story short, Mitch helped create the XSL (again, still not XSLT) to render the prototypes while I created the prototypes. Mitch eventually quit his job at Starbucks and now works for a little software company in Redmond, Washington called Microsoft. I don't know if Mitch finished his religion degree, but I hope he went back and finished that.