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5<sup>th</sup> University of Kansas International  
Conference on XBRL: **Transparency,  
Assurance, and Analysis**  
**April 28-30, 2011**

**ABSTRACTS**

**of the**

**Papers Being Presented**

10:15 –12:15 **Session II: XBRL Technology** To be or not to be in the Cloud

***To Protect and To Serve: Issues for XBRL in the Cloud***

Eric Cohen, PwC LLP

***Feeding the Information Value Chain: Deriving Analytical Ratios from XBRL filings to the SEC***

Roger Debreceeny, University of Hawaii-Manoa

d'Eri Alessandro, International Accounting Standards Board

Carsten Felden, Technische Universität Bergakademie, Freiberg

Stephanie Farewell, University of Arkansas at Little Rock

Maciej Piechocki, IFRS Foundation

***Revamping the Audit Approach using Accounting Equations: Processing XBRL-tagged Data in an XBRL-tagged Top-cycle***

Philip Elsas, ComputationalAuditing.Com

Paul Klint, Centrum Wiskunde & Informatica (CWI), Dutch National

Research Center for Mathematics and Computer Science

Trevor Stewart, Retired Partner-Deloitte & Touche LLP

Rajendra Srivastava, University of Kansas

Miklos Vasarhelyi, Rutgers University

***Open Source & XBRL: The Arelle Project***

Herm Fischer, Mark V Systems Limited

Diane Mueller, XBRLSpy Research Inc.

## **To Protect and To Serve: Issues for XBRL in the Cloud**

Eric Cohen, PwC LLP

### **ABSTRACT**

You know the famous police department motto, "To Protect and To Serve"; creators and users of - and others that touch - XBRL need to know that they can trust and access XBRL and related information inhabiting "the Cloud" or even within the walls of their own systems. This session will include:

- To Protect: information about current approaches, discussions and developments related to instance document authenticity and integrity issues, including a discussion on how XML security can help stem the tide of auditor identify theft and lay a foundation for auditor expression of opinion (or lack thereof) on filings, and
- To Serve: SQL, XQuery and other means of accessing XBRL information
- How creation, consumption and assurance can benefit from these technologies

# **Feeding the Information Value Chain: Deriving Analytical Ratios from XBRL filings to the SEC**

Roger Debreceeny, University of Hawaii-Manoa  
d'Eri Alessandro, International Accounting Standards Board  
Carsten Felden, Technische Universität Bergakademie, Freiberg  
Stephanie Farewell, University of Arkansas at Little Rock  
Maciej Piechocki, IFRS Foundation

## **ABSTRACT**

A key public policy driver of XBRL adoption in the USA and elsewhere has been to make information on corporate performance and risks readily available to information consumers. The financial statement data filed with a number of regulators and stock exchanges provide the raw material for one of the most important aspects of peer group analysis, which is the derivation of financial statement ratios. This paper investigates the ability of information consumers to derive ratios from filings in XBRL made to the SEC. In the absence of a financial statement ratios canon, we identify more than 63 ratios drawn from the financial statement analysis professional literature. The accounting concepts embedded in these ratios are matched with the US GAAP taxonomy to identify an element that is best semantic equivalent. We develop and test a methodology to identify elements that can be semantic alternatives to the best choice. We then assess the existence of these elements in filings made by the 1,205 commercial and industrial corporations that filed with the SEC by September 2010. We assess the ability of information consumers to calculate 65 key financial statement ratios. For some of these ratios, the availability of these ratios comes at the cost of potential loss of information quality.

## Revamping the Audit Approach using Accounting Equations: Processing XBRL-tagged Data in an XBRL-tagged Top-cycle

Philip Elsas, ComputationalAuditing.Com  
Paul Klint, University of Amsterdam  
Trevor Stewart, Retired Partner-Deloitte & Touche LLP  
Rajendra Srivastava, University of Kansas  
Miklos Vasarhelyi, Rutgers University

### ABSTRACT

Pieter de Kok, who recently took the lead in an audit reform movement in the Netherlands, asks a bold question in the public debate on [www.accountant.nl](http://www.accountant.nl): “What if the mandatory, statutory audit is halted today: will our clients still call us for our added value tomorrow?”

Let’s take this question one step further:

1. What’s the *pull* in the audit market?
2. What’s the *push* from new developments?
3. How to *match* them to create new added value services, with *Return On Investment (ROI)* for both audit mandate provider and audit profession community?

To clearly understand the pull in the audit market it is helpful to mentally reconstruct the original market mechanisms, thus before regulation made audit mandatory. These authentic market mechanisms are actually the *raison d’être* for the audit profession, since regulation by law followed later. Recall that these original market mechanisms actually never disappeared, they were just less visible due to regulation. To avoid confusion: it is not the statutory *status* of the audit, but instead *what* it is that has been made statutory, that is up for renewal. Now, what are these original pull mechanisms? How were *management-ordered* audit and *owner-ordered* audit traditions integrated? Why are accounting equations the weapon of choice to revamp the audit approach? And, to give a clear diagnosis, what are the exact main reasons to revamp the audit approach?

How the Carmichael and Blokdijk (pronounce Blockdike) interpretations of Limperg’s Theory of Rational Confidence guides giving direction to revamping the audit approach. And how to relate this to IFAC’s Financial Reporting Supply Chain initiative, and the NBA/Royal NIVRA’s Sharing Knowledge project initiative.

Where do the continuous accounting equations come from? What is a top-cycle? Where does this come from? How does it connect accounting cycles? What are *Soll* (To Be) and *Ist* (As Is) modalities? How does a 40,000 feet sketch of the revamped audit approach look like? Why and how to extend the audit mandate to include key elements of the nexus micro-macro. Allowing the audit profession to position countervailing control measures for financial institution’s moral hazard. Why US audit innovation investors are eager to internationalize the *method* of the owner-ordered audit, integrated with the management-ordered audit, in a setting that continues allowing management to pick up the audit bill. What is the investment strategy? What is the ROI? Where are sustainable gains in productivity? What are example new added value audit services?

What’s data-based process analytics? What’s process mining? What’s process mathematics? What’s a Domain-Specific Language? What’s the goal of the Jacquard project “Next Generation Auditing: Data-Assurance as a Service” (2010-2015)?

The paper proposes a remediation to address today’s audit challenge, with a first discussion of pro’s and con’s and how to deal with obstacles on the road ahead.

## Open Source & XBRL: The Arelle® Project

Herm Fischer, Mark V Systems Limited  
Diane Mueller, XBRLSpy Research Inc.

### ABSTRACT

Currently, there are a number of proprietary XBRL processors on the market each with varying degrees of conformity to the XBRL 2.1 specification and differing levels of implementation, integration, and support for XBRL extension modules, Filer Manual tests, and test suites. A quick look at <http://edgardashboard.xbrlcloud.com/edgar-index.html> on XBRLCloud, will give insight into usage and results with the wide variety of tools available for creating XBRL filings. Each has a slightly different approach to document creation, varying levels of validation leading to a wide range of errors and warnings, and different transparency in its implementation and degree of conformance. However, this should not be seen as a US centric problem, as the same issues arise in each jurisdiction where XBRL has been adopted. XBRL software developers struggle through the XBRL 2.1 specification, the companion dimensions specification, the Edgar and Global Filer Manuals, and make valiant attempts at implementing conformant processors. It is hard to know which may be more successful than others, because the users don't usually have integrated access to the test suites to check conformance, or the various extension modules such as versioning, rendering and formula. This situation sparks frequent XBRL online and blog discussion of variation in levels of conformity in XBRL instances and tools that consume and validate them.

We believe there is a need to supply software developers with a cohesive, easy-to-use programming model for building XBRL-compliant applications and curb the proliferation of non-conformant XBRL processors. Developers new to XBRL are forced to learn and interpret the entire XBRL 2.1 specification just to build a simple application. Advanced XBRL developers are forced to write tedious plumbing code; and tools authors are limited in what they can do to simplify the experience due to the underlying complexity.

XII itself is dependent on member vendors to implement and test changes to the specification or new modules, constraining XII to vendor member's resource availability and interest levels in specific aspects of the new modules – which are not always in line with the market needs and requirements to drive adoption of XBRL.

3:30 – 5:30 **Session IV: Disclosures, Transparencies, Errors, and Choice of Technology**

*The Effect of XBRL Disclosures on Information Environment in the Market: Early Evidence*

Joung W. Kim, Nova Southeastern University, Davie, FL

Jee-Hae Lim, University of Waterloo, Canada

Won Gyun No, Iowa State University

*Voluntary XBRL Adopters and Firm Characteristics*

Srinivasan (Srin) Ragothaman, The University of South Dakota

*XBRL, Excel or PDF? The Effects of Technology Choice on the Analysis of Financial Information*

Janvrin, Diane J, Iowa State University

Maureen Mascha, Marquette University

Robert Pinsker , Florida Atlantic University

*XBRL: Consequences to Financial Reporting, Data Analysis, Decision Support, and Others*

Miklos Vasarhelyi, Rutgers University

David Chan, Rutgers University

Michael Alles, Rutgers University

# **The Effect of XBRL Disclosures on Information Environment in the Market: Early Evidence**

Joung W. Kim, Nova Southeastern University, Davie, FL  
Jee-Hae Lim, University of Waterloo, Canada  
Won Gyun No, Iowa State University

## **ABSTRACT**

This study examines the effect of XBRL adoption across the financial information environment (event returns volatility, information efficiency, standard deviation of daily stock returns, and analysts forecast errors), particularly after XBRL reporting was mandated, June 15, 2009. Our findings indicate that XBRL disclosures have the potential to decrease information risk and information asymmetry in the market by increasing transparency to capital markets. Results of this study further indicate that such transparency effectively levels the playing field for uninformed investors by enabling them to assess the amount, timing, and uncertainty of future cash flows. In addition, this research shows that XBRL mitigates information risk in the market, especially when there is increased complexity in the information environment. Our results could potentially assist the SEC in their effort to expeditiously assess the benefits of XBRL, especially given a range of concerns such as XBRL implementation costs, incomparability of various taxonomy extensions, and the stability of XBRL standards in relation government requirements.

## **Voluntary XBRL Adopters and Firm Characteristics**

Srinivasan (Srini) Ragothaman, The University of South Dakota

### **ABSTRACT**

Some of the governance weaknesses stem from the information asymmetry between insiders and the investing public. One way to mitigate the information asymmetry problem is to enhance accounting disclosures through XBRL format. In this paper, we analyze financial characteristics of early-adopters of XBRL. We build a multivariate logistic regression model to examine the relationship between firm characteristics and voluntary XBRL adopters. The results indicate that firm size, debt ratio (leverage), plant intensity, PE ratio (growth), and inventory ratio (complexity) are useful in discriminating voluntary “XBRL adopters” from non-adopters. We also build a multiple regression model and use the Governance Score developed by Brown and Caylor (2006) to further investigate the relationship between corporate governance rating and operating performance for voluntary XBRL adopters. Our results indicate that current ratio (liquidity), firm size, and auditor type are associated with corporate governance rating for early adopters of XBRL.

# **XBRL, Excel or PDF? The Effects of Technology Choice on the Analysis of Financial Information**

Janvrin, Diane J, Iowa State University  
Maureen Mascha, Marquette University  
Robert Pinsker, Florida Atlantic University

## **ABSTRACT**

Proponents argue that financial statements created using eXtensible Business Reporting Language (XBRL) will provide more transparent data for users performing financial statement analysis. The more transparent data will simplify the analysis task and allow users to focus more quickly on the financial information they perceive as important. However, U.S. adoption of XBRL-enabled technology has been slow and several standard setters and academics question whether investors will choose to use the XBRL-formatted information the Securities and Exchange Commission (SEC) is now requiring companies to provide. Further, the extant choice literature documents several instances where technology created for a specific purpose was not chosen by the intended users. Therefore, our study examines (1) whether users of financial information (investors) will choose XBRL-enabled technology for financial statement analysis rather than more familiar technologies (i.e., portable document files (PDF) and spreadsheets (Excel)) and (2) *why* they choose the specific technology.

We train participants using all three technologies and then ask them to choose one to complete an investment decision task. We found 58 percent of participants chose to use XBRL-enabled technology, while 42 percent chose Excel. Our analysis suggests that nonprofessional investors chose XBRL-enabled technology because they perceive that it reduces the time required to complete the task (increases task efficiency). Conversely, nonprofessional investors who chose Excel made their choice based on greater experience with Excel relative to XBRL-enabled technology and PDF. Finally, two factors that we hypothesized may explain technology choice, perceived usefulness and perceived ease of use, were not statistically significant. Our findings have implications for technology choice theory development, regulators mandating or considering mandating XBRL-based reporting, and XBRL-enabled technology adoption.

## **XBRL: Consequences to Financial Reporting, Data Analysis, Decision Support, and Others**

Miklos Vasarhelyi, Rutgers University  
David Chan, Rutgers University  
Michael Alles, Rutgers University

### **ABSTRACT**

The objective of the paper is to discuss how XBRL has enhanced the usefulness of financial reporting, data analysis, and decision support. We examine four qualitative characteristics of XBRL usefulness in regards to financial reporting. The four qualitative characteristics that make XBRL tagged financial reporting useful are relevance, faithful representation, comparability and consistency, and understandability. We also identify six future XBRL evolutionary trends affecting financial reporting, data analysis, and decision support. These evolutionary trends include improvement in data control and support for dynamic reporting, standardization of taxonomy through evolution, improved transparency of footnote disclosures through formalization, adoption of XBRL-GL for Internal Reporting, tagging of pre-XBRL data, and focus on data analysis in education.

9:45– 11:15

**Session VI: Assurance on XBRL Documents Process, Benefits, and Consequences**

***Computer-Assisted Functions for Auditing XBRL-Related Documents***

Efrim Boritz, University of Waterloo

Won Gyun No, Iowa State University

***A Relative Cost Framework for Rethinking Assurance of XBRL Filings***

Michael Alles, Rutgers University-Newark

Glen Gray, California State University-Northridge

***XBRL Mandate: Thousands of Filing Errors and So What?***

Hui Du, University of Houston – Clear Lake

Miklos A. Vasarhelyi, Rutgers University

Xiaochuan Zheng, Bryant University

## **Computer-Assisted Functions for Auditing XBRL-Related Documents**

Efrim Boritz, University of Waterloo  
Won Gyun No, Iowa State University

### **ABSTRACT**

The increasing global adoption of XBRL and its potential to replace traditional formats for business reporting raise questions about the quality of XBRL-tagged information. In this paper, we identify a set of issues and audit objectives that auditors might confront if they are asked to provide assurance procedures on the XBRL-related documents. We also address useful computer-assisted audit functions for supporting various audit tasks on XBRL instance documents and extension taxonomies and discuss how the identified audit objectives could be accomplished using these functions.

## A Relative Cost Framework for Rethinking Assurance of XBRL Filings

Michael Alles, Rutgers University-Newark  
Glen Gray, California State University-Northridge

### ABSTRACT

There has been much discussion in the academic literature and in the XBRL community on the need to provide assurance of XBRL filings, especially now that the use of XBRL has been mandated in the United States. Several recent research papers (Srivastava and Kogan, 2010; Boritz and No, 2011; Boritz and No, 2009), as well as the practitioner literature (AICPA 2002; Trites 2005, 2006), have proposed conceptual frameworks for the assurance of XBRL filings, but none of these papers discuss the cost of providing that assurance. In this paper we put forward a framework for rethinking XBRL assurance predicated on two relative cost arguments. First, that in the absence of a mandate for XBRL filings to be assured by an external auditor, managers will tradeoff the cost of obtaining external assurance versus the cost of obtaining it internally. And second, managers will not pay more for external assurance on a XBRL filing than they paid to prepare it, with that preparation cost falling rapidly from an already low level. We call the former the **external relative to internal cost** consideration, and the latter the **external relative to preparation cost** consideration. We predict that in response to these two forces assurance will shift from the XBRL filings themselves to assurance of the preparer, through a SSAE No. 16/SAS No. 70 report. As a result, the cost of XBRL assurance will be converted from a variable cost to a fixed cost that is spread amongst many filers, thus restoring a relative cost balance.

## **XBRL Mandate: Thousands of Filing Errors and So What?**

Hui Du, University of Houston – Clear Lake

Miklos A. Vasarhelyi, Rutgers University

Xiaochuan Zheng, Bryant University

### **ABSTRACT**

Since the mandate by the U.S. Security and Exchange Commission (SEC) to begin the interactive data reporting in June 2009, according to XBRL Cloud, an XBRL product and service provider, more than 4000 filing errors have been identified. We examine the overall changing pattern of the errors to understand whether the vast number of errors may hamper the transition to the interactive data reporting. Using a sample of 4532 filings that contain 4260 errors, we document significant learning curves exhibited by the SEC XBRL filing environment, by the filers, and by the XBRL software vendors. Specifically, we find that the number of errors per filing is significantly decreasing as more quarters pass, when a company files more times, and when a higher version of software is used, suggesting that the SEC, the company filers, and the technology community all learn from their experiences and therefore the future filings are improved. Our findings provide evidence to encourage the regulatory body, the filers, and the XBRL technology supporting community to embrace the new disclosure requirement in financial reporting. The significantly decreased number of errors also helps address the information users' concerns regarding the data quality of XBRL filings.

11:30– 12:30 **Session VII: Assurance on XBRL Documents Process, Benefits, and Consequences (Continued)**

*Determinants of the deficiency of XBRL mandatory filings*

Saeed J. Roohani, Bryant University

Xiaochuan Zheng, Bryant University

*The Future of XBRL: A Conceptual Framework*

Robert Nehmer, Oakland University

*Management Assertions about Financial Statements: Are they Sufficient in the Interactive Data Environment?*

Ken Dalton, The University of Kansas

Rajendra Srivastava, The University of Kansas

## **Determinants of the deficiency of XBRL mandatory filings**

Saeed J. Roohani, Bryant University  
Xiaochuan Zheng, Bryant University

### **ABSTRACT**

The purpose of this paper is to look at the XBRL mandatory filings, use a third party ratings of the quality of XBRL filings (XBRL CLOUD Inc.), and report any progress as well as deficiency. Although this is an empirical study, it is also considered an exploratory study to observe deficiency in the XBRL filings that can be identified with some characteristics of the filer such as operational complexity, prior experience with XBRL filings, etc.

We examine determinants of the deficiency of XBRL mandatory filings for all the SEC filings from July 2009 to December 2010. We find that XBRL deficient filings tend to have higher percentage of extensions; are filed by bigger and more complex firms; and are from earlier years. Finally, we find that firms that have done many XBRL filings are less likely to have major errors; but more likely to have minor errors. The results of this study have several important implications for SEC, XBRL US, auditors and filers.

## **The Future of XBRL: A Conceptual Framework**

Robert Nehmer, Oakland University

### **ABSTRACT**

This paper is about high level modeling of XBRL and some of the problems and opportunities it exposes. Recently, XBRL International, Inc. (XII), proposed six strategic initiatives which will set the course of XBRL development for the next few years. The first of the new initiatives is the Abstract Modeling Task Force. Its output will be a Unified Modeling Language (UML) abstract model of the XBRL 2.1 specification plus the specification on dimensions. This initiative and the other five serve to support the continuing adoption of the XBRL standard. This paper looks at this effort and several other abstract models of accounting from a semantic and abstract modeling viewpoint. The paper reviews developments in modeling accounting in ontologies and the promises of interactive accounting data, especially with respect to opportunities in the area of business intelligence. It proposes a high level developmental schema for XBRL in keeping with the promise of the XML language.

## **Management Assertions about Financial Statements: Are they Sufficient in the Interactive Data Environment?**

Ken Dalton, The University of Kansas  
Rajendra Srivastava, The University of Kansas

### **ABSTRACT**

The process of creating XBRL-formatted financial statements under the SEC's interactive data filing requirements is not trivial. Managers exercise considerable judgment while tagging financial statements and the related footnotes, and they may not realize how seemingly innocuous decisions, such as negating a value for presentation purposes, could have unintended consequences for information consumers. The EDGAR Filer Manual repeatedly warns registrants that failure to follow its syntax and semantic rules for XBRL instances, schemas and linkbases could distort the communication of "assertions as they were intended." Presumably, this reference to management assertions is akin to the financial statement assertions that auditors use to guide their selection of procedures in an integrated audit (as articulated in AICPA Statement on Auditing Standards No. 31 and subsequently adopted in PCAOB Auditing Standard No. 15.), not the assertions *implied by the XBRL documents themselves*.

In anticipation of a future assurance requirement over the XBRL tagging process, Srivastava and Kogan (2010) developed the first conceptual framework of assertions to preemptively address shortcomings in existing guidance (e.g., AICPA Statement of Position 09-1) and promote the efficiency and effectiveness of an assertions-based approach to providing assurance services. However, their analysis focuses on reconciling XBRL-formatted statements with traditional "paper-based" (i.e., ASCII or HTML) statements in the current reporting paradigm and does not consider how assertions will evolve when traditional statements are ultimately phased out, leaving XBRL as the sole reporting format. The current paper takes a fresh look at the implications of "interactive" data and builds a case for the appropriateness of using standalone XBRL assertions to incrementally guide assurance efforts, whether voluntary or mandatory, once the transition to XBRL is stable. Management's responsibility to tag financial statement facts with a standardized taxonomy or a justifiable extension taxonomy, in a manner that is both human-readable (once rendered) *and* reliably interpreted by computers without human intervention, is supposed to reduce ambiguity faced by information consumers and increase transparency and accountability. It paradoxically follows that the atomic, multidimensional nature of XBRL introduces unique risks of material misstatement (above and beyond those found in the paper paradigm), unique sources of information risk for stakeholders and, in turn, unique sources of litigation risk for auditors that could be mitigated through reference to a comprehensive framework of assertions. Our re-conceptualized assertions focus on achieving the mutually exclusive benefits of XBRL technology described above and avoiding its unintended consequences. Example violations of these assertions from the Next-Generation EDGAR system are presented and discussed.