

Developing Standards for Financial Reporting Data

ABSTRACT

This presentation reports the initial study on the factors involved in the development of financial reporting data standards, with a special reference to XBRL practice in the US. The talk will also involve examples of the current data standard development practice and its unexpected results from implementing the financial data standards and lessons learned from the best practices.

The lack of interoperability among systems continues to hinder intra- and inter-organizational data exchange and information sharing. This problem has caused catastrophes such as the 9/11 tragedy and significant economic losses. The development and maintenance of data standards are a costly and involves complex process. Many social and computational factors affect a standard's quality and effectiveness. However, little has been done to understand the development process and influential factors.

While expertise is valuable in standard development, the top-down, expert-based approach produces standards that only represent expert's view of the world and fail to represent the diverse needs of a multitude of standard users, sometimes resulting in creating more exceptions from the user community.

Social tagging systems have had some success in collecting tags from users and harvesting the tags to build useful taxonomies and improve information sharing and retrieval. Data integration through mass collaboration has been explored in recent research. It is intuitive that standard development can benefit from collaborative inputs from users. But little has been done to enable such mass collaboration and exploit collective intelligence of users to develop high quality data standards.

Hence the research aims to identify both social and computational factors that affect the quality of data standards and to develop novel techniques and environment to exploit the combined power of computers and humans to significantly improve the effectiveness of developing data standards for financial reporting purposes.

BIOGRAPHY

Yang W. Lee

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Professor Yang W. Lee is a renowned researcher and leader in data and information quality. She is an Associate Professor of Information, Operations, and Analysis Group in the College of Business Administration at Northeastern University. Lee investigates the role of



differentiated quality of information in information systems, work processes, and structural mechanisms given data-rich, service-critical, and extended organizational contexts. Her current research projects explore quality information products, extended enterprise systems integration, IT-mediated institutional learning, context-reflective problem solving, healthcare information and medical errors. Lee's work includes numerous prestigious journal publications, as well as several books on data quality: *Journey to Data Quality* (MIT Press, 2006), *Data Quality* (Kluwer Academic Publishers, 2000), and *Quality Information and Knowledge* (Prentice Hall, 1999). Her work has been embraced worldwide, having been translated into several different languages.

Dr. Lee received her Ph.D. from MIT. She is currently a visiting associate professor at MIT, and Deputy Director, MIT Information Quality Program while taking a sabbatical leave from Northeastern University. She co-founded the International Conference on Information Quality. She also co-founded Cambridge Research Group, through which she has put her research results into practice, providing consultation and solutions for companies and agencies in the private and public sectors in the US and internationally for over 20 years. She was awarded for her work from many institutions including the US intelligence community. She is the founding and current Co-Editor-in-Chief of *ACM Journal of Data and Information Quality*.

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Hongwei Zhu received the Ph.D. in Technology, Management and Policy from MIT. He is an Assistant Professor of Information Technology at the College of Business and Public Administration, Old Dominion University. Prior to that, he was a Research Scientist at the MIT Information Quality Program. He has also worked in industry as a consultant and a senior software engineer. His research interests include semantic data integration, data mining, data reuse, quality of data standards, information quality management, and information policy. His research has been published in such journals as *Data and Knowledge Engineering*, *Journal of Management Information Systems*, *Communications of the ACM*, and *MIT Sloan Management Review*. He is a member of XBRL US and the XBRL Best Practice Committee.