

EDITORIAL

Financial Accounting Standards Should Not Matter: It's Just a Layer

I. INTRODUCTION

A large portion of the accounting research literature focuses on the nature, market effects, and user interpretations of financial reporting standards. This literature has been of importance in the comprehension and development of modern accounting thought. Some basic tenets of the accounting process have already changed in response to the transformation in information processing technology, while some argue for even more radical transformations in the nature and focus of accounting research. These factors may lead, when properly understood, to substantive changes in accounting research that place a new emphasis on the underlying accounting processes and a reduced emphasis on the manipulations to be performed in the later reporting layer.

II. FROM MANUAL TO AUTOMATED PROCESSES

Accounting is the science of business measurement. Accounting processes capture economic (business) events (transactions and now also environmental issues) and deliver them to stakeholders (internal and external) to facilitate management and investment. A wide literature on accounting measurement evolved (Mock 1976; Mock and Collins 1979; Mock and Grove 1979; Ijiri 1975, 1979) but is now rather aged. The traditional Pacioli-attributed accounting process (Pacioli 1514) was progressively formalized into the manual business process represented in Figure 1.

This process selectively captures business events and records them onto paper records. Values are extracted and posted to journals that are selectively summarized and further filtered into financial reports. Many adjustments as well as interpretations modify the final result. In general, this process has simply been repeated in the automation of the manual accounting process. Most standards have been developed around the manual accounting process.

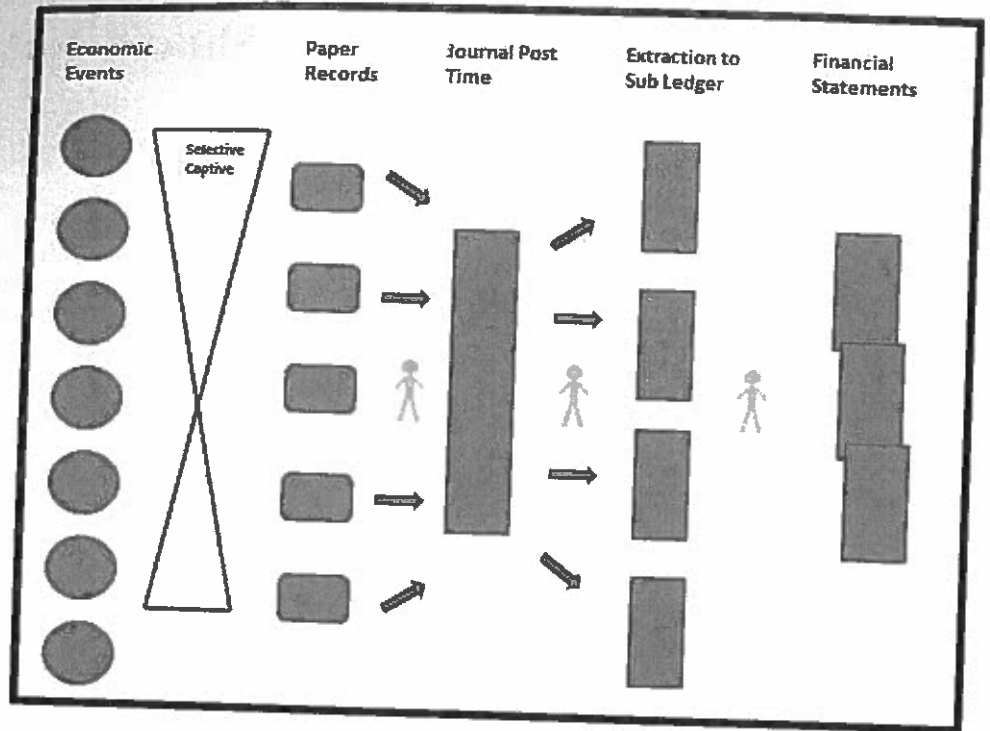
The IT developments of recent years have fundamentally changed the accounting measurement possibilities by expanding the range of capture of economic events, the locus of economic activity captured, storage and retrieval processes, and the decision support abilities (Romero et al. forthcoming) as described in Figure 2.

The view in Figure 2, in a summary manner, displays the area of business activities (L3) that is currently covered by accounting standards and the expanded frame of measurements that current ERPs facilitate. An entire new generation of measurement possibilities has arisen, and the tradeoffs that determined much of the accounting standards/theories have become obsolete. Vasarhelyi and Alles (2005) propose a technologically based delivery structure aimed at taking advantage of more recent technological events (Figure 3). This infrastructure changes the view and basic axioms that

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FIGURE 1
Summary Manual Accounting Process



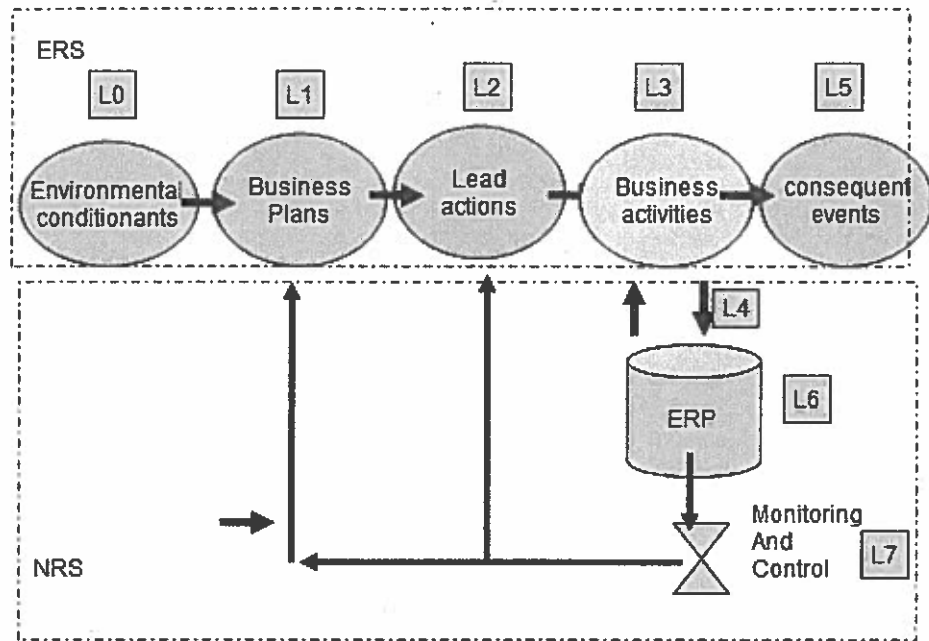
have guided the practicality of the accounting paradigm by changing some of its basic assumptions, allowing for new capabilities, and questioning the desirability of many current accounting principles. Among these capabilities we find continuous (more frequent) reporting (Gal 2008), continuous monitoring (Littley and Costello 2009), and continuous assurance (Brown et al. 2007), which are being progressively incorporated in business but somewhat neglected in the traditional academic accounting literature.

We next review the articles encompassed in this issue of *JIS* and then discuss the need for an alternate consideration of accounting standards and their role in the economic process. As discussed in Figure 3, the stakeholder “style sheets” create a versatile and a flexible delivery layer where “on demand” accounting reports of many types can be created. Their economics, capabilities, limitations, and influence on the accounting process will be discussed later.

III. CONTENT OF THIS ISSUE

This issue introduces a special section aimed at publishing innovative research separated from the traditional review process. Prof. Faye Borthick (2012) has agreed to guide this section. Furthermore, in line with the objectives laid out with this editorship, the issue includes two articles in the “from practice section” (edited by J. Don Warren), aimed at helping narrow the ever-widening gap between practice and academia.

FIGURE 2
Business Activity Measurement, ERPs, and Monitoring and Control

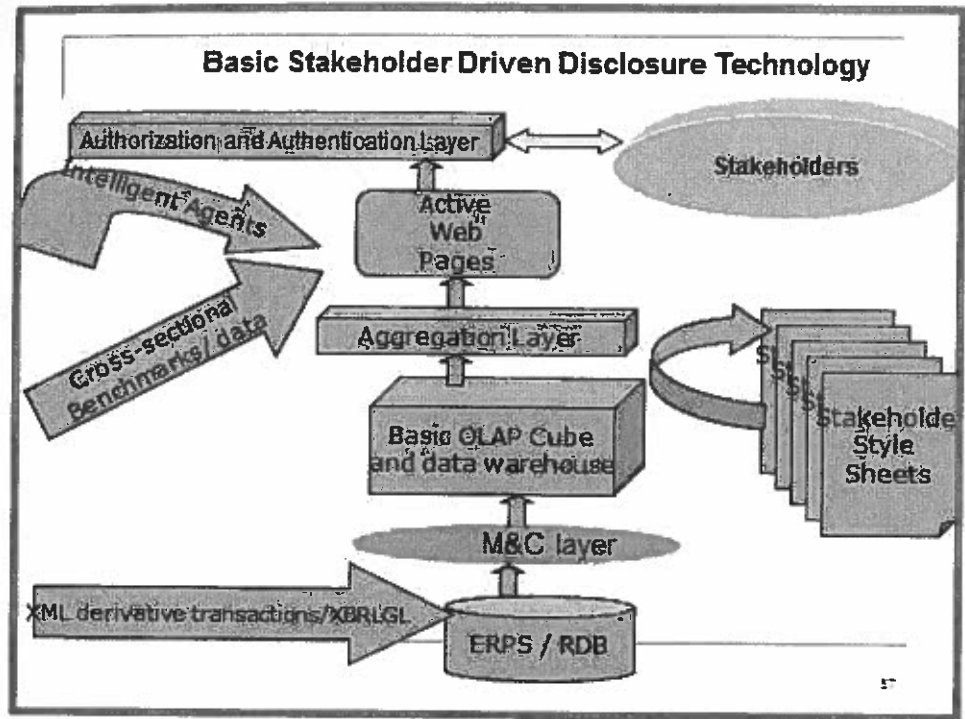


Source: Romero et al. (2013).

The lead article by Alali and Yeh (“Cloud Computing: Overview and Risk Analysis”) provides an overview of cloud computing: evolution, benefits, and challenges. Then it examines the risk characteristics identified in accounting and auditing literature by comparing a hand-collected sample of cloud computing companies with a matched sample of non-cloud computing companies. The study uses a comprehensive set of factors from accounting and auditing literature to describe client business risk, audit risk, and auditor-related risk. Unsurprisingly, the findings show that large companies in the historically high-risk information technology industries provide cloud computing. More interestingly, the results show that cloud computing companies are more leveraged, more likely to have a material weakness, and have longer audit tenure. Cloud computing companies are also more likely to restate their financial statement after providing cloud technologies. Some of the risk variables used in the study are not statistically significant in capturing the risks of cloud providers (e.g., security, privacy, availability, confidentiality). The study contributes to the literature in IT outsourcing in general and in cloud computing in specific. The study also responds to the recent call for insightful research in cloud computing.

Perols and Murthy (“Information Fusion in Continuous Assurance”) extend continuous assurance research by proposing a novel continuous assurance architecture grounded in information fusion research. Existing continuous assurance architectures focus primarily on methods of monitoring (assuring) clients’ systems to detect anomalous activities and have not addressed the question of how to process the detected anomalies. Consequently, actual implementations of these systems typically detect a large number of anomalies, with the resulting information overload leading to suboptimal decision making due to human information processing limitations. The

FIGURE 3
Electronic Reporting Infrastructure



Source: Vasarhelyi and Alles (2005).

proposed architecture addresses these issues by performing anomaly detection, aggregation, and evaluation. Within the proposed architecture, artifacts developed in prior continuous assurance, ontology, and artificial intelligence research are used to perform the detection, aggregation, and evaluation information fusion tasks. The architecture contributes to the academic continuous assurance literature, and has implications for practitioners involved in the development of more robust and useful continuous assurance systems.

Also in the digital accounting domain, Gonzalez, Sharma, and Galletta ("Factors Influencing the Planned Adoption of Continuous Monitoring Technology") deal with the subject area of continuous monitoring. Continuous monitoring (CM) is a mature concept that academics and practitioners have been promoting for many years. To date the technology has been adopted by a small minority of organizations. In order to investigate this issue, the authors explore the differences in perceptions between non-adopters with organizational plans for future adoption and non-adopters that lack such organizational plans by surveying 395 non-adopting firms. By analyzing their survey results through the Unified Theory of Acceptance and Use of Technology (UTAUT) and Partial Least Squares (PLS) method, they find that the key difference between non-adopters with plans to adopt and no-plan non-adopters is that for non-adopters with a plan, performance expectancy is a significant factor, while for no-plan non-adopters it is not. Another result is that effort expectancy is not a significant factor for either group, suggesting lack of positive effort-related perceptions among

current non-adopters. Finally, positive perceptions of facilitating conditions and social influence are significant predictors for both groups.

Smith, Baxter, Boss, and Hunton (“The Dark Side of Online Knowledge Sharing”) examine a set of issues relative to confidentiality. Given the growing trend of electronic networks of practice and the growing propensity of individuals to rely on the Internet for problem solving, they examine whether programmers in a hypothetical situation would be likely to disclose confidential information through an online forum in an attempt to solve a programming problem. They hypothesize and find in a survey of 187 programmers that online forum commitment and trust lead to greater online forum participation, which in turn predicts a higher likelihood of confidential information disclosure. They also find that programmers with greater awareness of security policies exhibit a lower likelihood of deciding to risk disclosing confidential information. The study contributes to extant literature by raising and exploring the potentially negative, dark side of knowledge sharing through electronic networks.

Huerta, Salter, Lewis, and Yeow (“Motivating Employees to Share Their Failures in Knowledge Management Systems: Anonymity and Culture”) investigate the effect of the type of information to be disclosed and the possibility of sharing the information anonymously on the intention to share information through a knowledge management system. Data for the experiment were collected in two individualist (U.K. and U.S.) and two collectivist (Chile and Mexico) countries to evaluate the influence of culture on information sharing patterns. The study finds that although anonymity has no influence on the intention to share successes, the intention to share failures increases when the information is shared anonymously. Further, participants from collectivist (versus individualist) cultures are more likely to share failures. However, the influence of anonymity and culture is limited. Failures are still shared at lower levels than successes, even in anonymous conditions and in collectivist cultures.

Bauer, Dehning, and Stratopoulos (“The Financial Performance of Global Information and Communication Technology Companies”) examine the cross-sectional financial performance among firms from the global information and communication technology (ICT) sector over the period 1998–2007. Using a pooled linear regression, the results show that U.S.-based ICT companies are on average underperforming the rest of the world after controlling for firm-specific variables known to affect firm financial performance. The results also show that characteristics of the firm’s host country explain a statistically significant portion of the variation in firm performance, incremental to firm-level characteristics. More specifically, firms located in countries with attractive tax environments and high government subsidies outperform their competitors in countries with less attractive tax environments and subsidies. Firms in financial markets that provide ICT firms with relatively favorable cost of capital underperform those in markets with a cost of capital less conducive to business development, which may suggest the cost of capital attracts new market competition that reduces overall profit. Countries with the best-performing ICT firms are those with the highest industry focus, where a few industries dominate rather than an even distribution of firms across a broad range of industries. The findings have important implications for policy makers, business strategists, and investors.

Our recently introduced “innovations” section encompasses Borthick’s (“Designing Continuous Auditing for a Highly Automated Procure-to-Pay Process”) highly creative proposed methodology to provide real-time assurance, where auditors must rely on continuous auditing. Although the need for continuous auditing is readily apparent, not many auditors have experience in implementing or relying on it.

The purpose of the paper is to illustrate how Chan and Vasarhelyi’s (2011) stages of continuous auditing might be instantiated in a highly automated procure-to-pay process using the Krishnan et al. (2005) notation for representing controls in business process diagrams. In stage 1, existing processes and controls are examined to identify the monitoring and testing that is suitable

for continuous auditing and confirms sufficient data access. In stage 2, metrics for evaluating transaction data are defined. In stage 3, rule-based analytics are developed as benchmarks for determining internal control violations. In stage 4, an audit by exception approach is described for determining the level of material errors, omissions, and other anomalies.

The "From Practice Section" of the journal encompasses two articles—one discussing the impact on investors of new digital information and the other focusing on COSO.

Sutton, Arnold, Bedard, and Phillips ("Enhancing and Structuring the MD&A to Aid Investors When Using Interactive Data") look at the user impact of electronic supplied data. In 2008, the SEC issued a mandate requiring the use of interactive tagged data (i.e., eXtensible Business Reporting Language, or XBRL) for all public companies' filings of their annual financial statements. However, the SEC put the mandates in place only for the financial statements and accompanying notes. The SEC specifically excluded the use of interactive tagged data for most narrative aspects of annual reports, including Management's Discussion and Analysis (MD&A), deeming current taxonomies for interactive data tagging inadequate. The study leverages upon the efforts of the Enhanced Business Reporting Consortium (EBRC) to develop a more robust taxonomy for the MD&A. The EBRC effort consists of two parts: (1) expanding the scope of qualitative disclosures, and (2) integrating all of the interactive data tags used by companies during the voluntary disclosure period pre-dating the SEC mandate into a comprehensive set of tags for existing MD&A disclosures. Of particular interest in this research is the first aspect of the EBRC effort—an analysis of professional and nonprofessional investors' perspectives on the value of proposed qualitative disclosures and areas in which such investors would desire additional disclosures. They conducted nine focus groups with professional and nonprofessional investors to elicit their information preferences, applying procedures consistent with the "information requirements definition" phase of systems design. Results show that participants are supportive of the EBRC's proposed 31 categories of qualitative disclosures, but also identify 15 additional categories as useful. The authors augment the focus groups with a survey of 286 investors to assess the relative value of the combined 46 categories. All 46 items appear to be desirable across investor participants. The results have implications for on-going efforts to expand taxonomies for qualitative data disclosure and for standard setters considering extensions to MD&A reporting requirements.

Janvrin, Payne, Byrnes, Schneider, and Curtis ("The Updated COSO Internal Control-Integrated Framework: Recommendations and Opportunities for Future Research") address the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) recently issued exposure draft updating its 1992 Internal Control-Integrated Framework. They review the updated framework and discuss the comments the Environmental Scanning Committee of the American Accounting Association's Information Systems section offered COSO regarding how to improve the Framework. In addition, they identify research opportunities for accounting information system scholars related to the new Framework.

The above articles together represent a concern with new technologies, guidelines for new technologies, and with the adoption of new technologies. The ensuing section will continue the discussion on the relevance of accounting standards in the new technological environment.

IV. FINANCIAL ACCOUNTING STANDARDS: AIS AS A CORE RESEARCH DISCIPLINE

Standards, by and large, have been developed with the aim of disclosing comparable information across companies, while at the same time trying to remain economically feasible and preventing the disclosure of competitively sensitive information. When the Securities Act of 1933/34 was issued requiring companies to disclose income statements, businesses reacted strongly, arguing that this would impair competition. By essence, properly informational disclosures increase

competition and make markets more efficient. The same is not true for oblique, misleading, poorly conceived, non-transparent disclosures. Furthermore, information can always be aggregated (Shannon and Weaver 1949; Shannon 2001) but cannot be disaggregated. From atomistic information you can derive multiple views of the data to satisfy multiple (stakeholder) decision needs, while mostly this is not possible with aggregate information.

Traditional accounting methods relied heavily on manual capture and processing of information. Any reprocessing, new reporting structure, or reinterpretation was prohibitively expensive. This has dramatically changed, but standards have not, allowing heavy opacity in reporting data. Items such as the value of traded financial instruments, inventory, or property plant and equipment can be: specifically identified, valued in real time, and re-valued at different bases (e.g., replacement cost, exit value). The traditional format and content of financial measurements have only subsisted in their common form due to regulatory constraints. Internal corporate measurements are ERP based, much wider in scope (including a large number of non-financial measures), much more frequent (some accounts in real time) with thousands of pre-set reports, most of which are seldom used but readily available. The prized skill among accountants is not precision and persistence, but understanding of information availability and the ability to interpret this information for management. Once a report is created (and most come standard with ERP systems), the incremental cost of its production is close to zero. These reports are typically tabular in format and drawn directly from large transaction stores or intermediately through some form of OLAP (Online Analytic Processing) software as described in Figure 3. OLAP creates multidimensional data cubes that pre-process expected data queries. Many versions of these cubes can be made available with a different level of information (updating) frequency for different recording, reporting, statutory, and decision purposes for the multiple stakeholders of business.

The social dynamics of information usage and provisioning have changed substantially. With ERPs, now the incremental cost of information provisioning is negligible, but the sort of overwhelming societal motivators (such as the great depression) that act to force a rebalancing of information provisioning are not currently present, making inertia prevail. Again, the information asymmetry between corporate management and stakeholders has assumed disproportionate levels, and the lack of comprehension of available technologies obscures this phenomenon.

The social benefits of transparent disclosure have been widely documented, in particular in relation of efficient allocation of capital. Although the gross malfasances have been the motivating force for legislative change, some more technological arguments/developments (e.g., XBRL) have also created change. AIS research must be the basis for these arguments as it is one of the few constituencies that can understand the issues in this highly specialized technological society.

The ensuing subsections argue that substantive societal resources are being misguided into a standard-setting frame that is obsolete and is becoming progressively unable to provide the needed comparability and the desired accountability.

Principles versus Rules a Non-Matter

Krahel (2012) and Vasarhelyi and Krahel (2011) examine standard setting and argue that standards are *de facto* formalized, regardless of the extensive literature discussion (Schipper 2003; Nelson 2003) on principles versus rules that emerged in the fraudulent reporting crisis of 2002–2003. The argument in simple terms states that *de facto* all major rules that affect volumes of information are eventually negotiated with the standard setters and impounded into software, allowing for no “principle-based disclosure.” The work argues for the formalization of accounting standards, with the standard setter issuing rules with a “pseudocode-like” formulation.

Such an approach could greatly simplify the growing demands for less obtuse, more encompassing accounting standards and the need for newer types of more frequent accounting

reports (Gal 2008). However, as the current standards are anachronistic and do not serve their original objectives particularly well, we may be pushed to ask: (1) are standards necessary at all, and (2) are they really that important?

On the first issue: in a complex society with public markets and a large set of social obligations, voluntary disclosure is neither sufficient nor satisfactory. Public company financial disclosure in comparable terms is necessary, and one of the major current problems is exactly the lack of detail, multitude of alternatives, and aggregate nature of these disclosures.

On the second issue: technology has changed the nature of the dialogue, and standards are needed that: (1) are agile in their creation, (2) are very different from the current crop, (3) do not force one type of report on all audiences, (4) create disclosures that may or may not be limited in their distribution to varying audiences, (5) provide for transactional reporting in some form, (6) require firms to disclose a wider set of non-financial information (Lev 2001; Vasarhelyi and Alles 2008), (7) are timely at least to the level of daily reporting, and (8) result in processes, not just numbers, being audited. Yes, standards are important—as long as the products that result from the standards are provided in a timely fashion and are full of quality informational content.

Research questions here abound:

1. Can truly principle-based standards exist in an ERP-driven business world?
2. What are the characteristics of standards written for the information age?
3. How timely must reports be to accomplish our social goals?
4. Are static reports needed at all?
5. What is the proper structure and content of reports that measure temporal levels (e.g., the balance sheet) and flows (e.g., income statement) in this new paradigm?
6. How do you report on continuing process performance, not directly on point-in-time results?
7. How do you best create reports for futurity as investors ultimately want?

The electronic reporting model described in Figure 1 provides a basic architecture for separating the report layer from corporate systems, thus allowing for a variety of comparable reports, for different audiences, and for some discretion on the structuring of information. Although it is not very compatible with the current structure of standard setting, it is probably a more feasible model of public reporting than the untenable current one. This new architecture would provide a basic “report allowable” set of data that would be made available for all constituencies (stakeholders), with some further data to be restricted to certain stakeholders (e.g., state regulators or insurance companies). Furthermore, a set of frequently updated style-sheets would be promulgated by regulators to maintain comparability most likely at the industry-specific level. Regulators would then have two basic concerns: (1) the baseline of data availability, and (2) the comparability structures analogous to today’s standards. Regulators or disclosers would manage the authorization and authentication layer.

Many research questions are raised in this domain including:

8. Does the proposed electronic reporting architecture fulfill the needs of the new information era?
9. What other architectures for organizational disclosure may be appropriate?
10. Are these alternatives more desirable?
11. Would exogenous information alone be sufficient/adequate?
12. What sorts of non-financial information should be provided?
13. How should these layers be defined?
14. What should be the data captured in each layer?

15. Can census techniques (Gal 2008) be applied to protect against unwanted identification of certain types of data?

A Process of Change to Avoid Irrelevancy

Disclosure at a substantially more disaggregate level (with transactions as atoms) requires a paradigm shift in accounting philosophy, yet in line with the discussion in this paper it must be said that standards as we now know them are becoming progressively inadequate. Companies do not use them often to make decisions: they force one model onto diverse users with varying needs; they promote consolidated results in a way that obfuscates more meaningful sectorial results; and the information often arrives quite some time after it was needed for decision making.

Research is needed to guide this process change.

16. Should the current process be adapted, a parallel process developed, or is there another way to reach the desired objectives?
17. Should financial (and tax) incentives be applied, a penalty system for non-disclosed relevant events created, or some other approaches be adopted?

The New Tenets of the Nature of Accounting

Double entry, LIFO/FIFO, one type of disclosure for all stakeholders, depreciation, and many other tenets of traditional reporting have been functionally obsolesced in addition to the other issues already discussed in this editorial. New tenets, which for now can be viewed as research questions, must be sought after for the whole accounting literature, and the AIS field should be put to services in this quest.

18. Is double entry still relevant in this day and age? Can its original purposes be satisfied better in another way? What other model could be proposed?
19. Does balancing the books matter as much as we make it out to matter, or can informational integrity be reached better in other ways?
20. How can real-time valuations and information get embedded in reporting for items such as inventory, PP&E, and financial instruments?
21. Can different stakeholders be satisfied with different reports? What does this imply?
22. What are the economics of a new disclosure regime?
23. Can process relationships be modeled in analytic terms?
24. What are the implications of "predictive audit" (Kuenkaikaw and Vasarhelyi 2012) in the reliability of close to real-time disclosures?
25. Are Sarbanes-Oxley Section 409 requirements being satisfied with current SEC rules?
26. What would happen if common (comparable) standards were abolished?
27. What if only transactional disclosure standards existed and the rest (i.e., all aggregation and presentation choices) were left to the free market?
28. What if companies (and individuals) were *ex post* penalized for a lack of pertinent information disclosures in certain relevant events?

V. PATHS FOR AIS RESEARCH

The current issue encompasses: one article on organizational effects and new cloud technology (Alali and Yeh 2012); three articles in the emerging continuous audit/continuous monitoring (CA/CM) paradigms (Perols and Murthy 2012; Gonzalez et al. 2012; Borthick 2012); two articles on user reaction to electronic disclosure (Smith et al. 2012; Sutton et al. 2012); one article on behavioral factors in technological systems (Huerta et al. 2012); one article looking at statutory guidance relative

to internal controls (Janvrin et al. 2012); one article on technology company performance (Bauer et al. 2012); and this current editorial, which looks at standards and their relevance (Vasarhelyi 2012). These articles taken together present a portfolio that is representative of extant AIS research and certainly addresses some of the paradigm changes discussed in this editorial.

The above questions and many others yet to be raised may act as a guide, helping to push research into a useful and socio-beneficial framework, wherein AIS itself plays a critical role.

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