Real-time Reporting and Assurance: Has their Time Come?

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The Sarbanes-Oxley Act made it mandatory for companies to report on a 'rapid and current basis' paving way to the concept of real-time reporting. The emergence of technologies like XBRL is further revolutionizing the frequency and nature of financial reporting by the corporates. However, in order to be effective, real-time reporting needs to be accompanied with real-time assurance. However, it is the demand in the market, which will determine the need and timeliness of the real-time reports.

In our article *"A Primer on Continuous Assurance Post-Enron"* published in the October 2003 issue of the *Accounting World* (ICFAI Press) we discussed the emergence of Continuous Assurance (CA): Technology-enabled auditing which produces audit results simultaneously with, or a short period of time after, the occurrence of relevant events. We argued that this will lead to the standard audit being supplemented, if not replaced, by a timelier, closer to the event semi-supervisory function, where independent assurors will work with both third party stakeholders and firms to provide new forms of assurance products.

The real driver of CA, however, is not the technology, but is the demand for real-time reporting, which will bring with it the need for more frequent assurance of those reports. That is why perhaps the most momentous provision of the Sarbanes-Oxley Act (Section 409) is the most important change in the reporting and accounting sector in the US since the 1930s.

Thus far, the only use that the US Securities and Exchange Commission (SEC) has made of Section 409 has been to mandate faster reporting on several of its forms. This was in response to the Enron scandal in which it emerged that certain insider stock sales (such as performed by Ken Lay of Enron fame) could legally be disclosed nearly a year after the trades, and special noteworthy events were at the discretion of management for disclosure. But moving up the filing deadline for 10-Q's from 45 dates from the end of the quarter to 35 is a far cry from the disclosure on a "rapid and current basis" as specified in Section 409.

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Sec. 409. Real-time Issuer Disclosures

"(*l*) Real Time Issuer Disclosures—Each issuer reporting under Section 13(a) or 15(d) shall disclose to the public on a rapid and current basis such additional information concerning material changes in the financial condition or operations of the issuer, in plain English, which may include trend and qualitative information and graphic presentations, as the Commission determines, by rule, is necessary or useful for the protection of investors and in the public interest."

By contrast, we interpret Section 409 as the first official recognition of the changes in financial reporting. Dramatic progress in business technology and in the speed at which modern financial markets operate, together makes the 19th century model of annual and quarterly financial reporting obsolete. Over time, Section 409 will lead to the adoption of reporting at times dictated by the needs of users of financial information and not by the constraints of the calendar. However, as in the current model, those more frequent and timely reports will lack much of their power if users are also not assured as to their accuracy and dependability. Thus, the impact of Section 409 is magnified, affecting not just reporting as the Act states, but also bringing fundamental changes in the assurance industry.

Interestingly, while quarterly financial statements are only required to be reviewed by an outside auditor, as opposed to being attested to, survey evidence shows that over 50% of financial analysts actually believe that 10Qs are in fact audited. Mistaken though is the belief that it is an indication that reporting is seen as synonymous with assurance. As more "Section 409" reporting emerges, the market demanding those reports will also insist that assurance be provided before those reports are relied on for decision-making.

In this paper, we examine the technological drivers of real-time reporting, the essential need for accompanying real-time assurance and the barriers towards change in the reporting and assurance environments. Change is coming in the wake of Section 409, but what precise form it will take is still very much up for debate, and its evolution will be shaped by discussions such as this paper.

Technological Facilitators of Real-time Reporting

The mandate for real-time reporting in Section 409 has particular resonance as it comes on the heels of the technology that greatly increases its scope and power and makes such reporting cost-efficient. The Internet created the potential for users to communicate at low cost with no regard for distance or location. The World Wide Web (WWW) revolutionized the Internet by establishing a universal standard and giving the ability to easily publish large amounts of information within an accessible and compelling graphical user interface. The first generation of WWW tools relied heavily on Hypertext Markup Language (HTML) to create document images. However, HTML only describes the presentation format of information and not its content. This clearly makes it harder, if not impossible, to extract data intelligently from a Web page, or to compare information across databases.

Extensible Markup Language (XML) represents the second generation of WWW tools and allows the Internet to reach a new and unprecedented level of functionality. In its essence, XML adds information on content to data tags, allowing intelligent agents to distinguish one piece of information from another on a Web page, data bank or any other XML-enabled document. XML is a meta-language, which means that sub-languages have to be created to describe the particular needs of a user group. The point of XML is that unlike its predecessors, it is easy to use and is indeed designed to allow sub-languages to be readily created. In short, XML provides an alphabet and a basic set of grammar rules, from which a specific set of vocabularies can be easily derived to suit the particular purposes of users. XML derivative languages, the next generation of computer languages for putting information on, and moving it through, the Internet expand the scope of computer system interoperability and bring forward a scenario of data being ubiquitously transmitted with substantially self-contained information.

An Audit opinion with futurity: We have examined the reliability and financial reports of ABC Corporation and have been engaged on a continuous assurance engagement for the fiscal year of 20XX. We will monitor the organization's operations and strategic accomplishments using a wide set of analytics as described in http://www.ca.com/analytics and other analytics we deem appropriate and will report on an audit by exception basis when more than xx% variance is found in operational and strategic standards or when we deem it appropriate. This exception report will be issued to all customers registered (paying) at http://www.ca.com/analytics/customers.

We have been engaged on a continuous assurance engagement for the fiscal year of 20XX for the purpose of covenant monitoring. We will monitor the organization's covenants as described in our agreement with bank XYZ using a specified set of covenant figures and wide set of analytics as described in http://www.ca.com/analytics and other analytics we deem appropriate and will report on an audit by exception basis when more covenants are violated by more than xx% for a day or when we deem it appropriate. This exception report will be issued to bank XYZ immediately when the variance day is completed and to all customers registered (paying) at http://www.ca.com/analytics/customers.

There are innumerable groups at present developing such XML extension languages. Extensible Business Reporting Language (XBRL), the work of a consortium (more details at www.xbrl.org) originating from an AICPA initiative, has set itself the task of creating a language to describe business reporting information. XBRL is designed to make it easier to prepare, publish, exchange, acquire and analyze accounting and business-related information. It makes it easier to transfer financial reporting information between software applications, thus greatly multiplying the usefulness of that information. XBRL eliminates the need to re-key needed data presented in un-standardized, context-free, and thus difficult-to-use, formats such as HTML documents or downloadable Excel or Adobe Acrobat files. Keying in the data from these formats is labor-intensive and creates a substantial risk of both interpretation and transcription errors. Bob Elliott, former chairman of the AICPA and a retired senior partner at KPMG, argues that XBRL will reduce information impedance among organizations, by making information easier to transmit between producers and users (Elliot and Jacobson, 2002).

The adoption of XBRL as the de facto language of financial reporting for the information economy has been greatly enhanced by the decision of Microsoft to build in XBRL into its ubiquitous Excel spreadsheet program in its Office 2003 program suite. And it became one of the first companies to release its own financial statements in a fully functional XBRL format. Clearly this technology is only at the beginning stage of its impact the reporting environment, and its full power be made use of only when its use is more widespread probably in ways that we cannot fully anticipate.

This process will be facilitated by the growth in related XML sublanguages. The most directly relevant is XBRL-GL, which extends the role of XBRL from financial reporting, output of the reporting process, to the general ledger entries that are its inputs. Direct links to transaction enables a wide variety of specialized and customized accounting queries to be answered in real-time. These could include financial statements published on the Web that are complete up to the last recorded corporate transaction, contract and commitment in process, even prior to their realization in traditional accounting. These fulfill the Section 409 requirements much better than preliminary steps taken by the SEC thus far, which are much more along the lines of taking processes as given rather than rethinking and reengineering them.

Eventually, the needs of the modern information marketplace will see the use of this provision as the lever to finally bring real-time reporting and disclosure. The assumptions is that corporations

with real-time monitoring and control systems will have lesser latency (delay) in their processes and consequently gain competitive advantage over the other players in their industry. Consequently, internal reporting processes regardless of how Section 409 is officially interpreted will progressively be real-time. Therefore, the incremental cost of using real-time controls for external reporting will be small, especially when all accounting systems are XBRL enabled.

Adding Assurance to Real-time Reports

Ultimately, when real-time reporting emerges, it has to be accompanied by matching forms of assurance. Currently, only the annual financial income statement is audited because at the time of the original security's legislation in 1933, it was not cost-efficient to audit more frequently. The importance of the Sarbanes-Oxley Act is that it is predicated upon the recognition that changes in the information technology that underlies the modern firm (indeed, it is more accurate to say that the modern firm is defined by its IT system, especially its Enterprise Resource Planning (ERP) system, such as SAP™) makes possible both reporting and assurance on a much more real-time basis. Continuous assurance is rapidly emerging, both as a concept and a working set of software and audit methodologies, as we argued in our recent ICFAI paper (and not incidentally, this software can use XBRL/GL to draw data into the audit module).

While assurance on demand is likely to arise in response to particular transactions, the most obvious need for assurance is for the new types of real-time reporting that is anticipated in Section 409. While some such reports may be released without assurance, the firm or the report recipient, or both, may be interested in also paying for assurance in order to reduce risk premiums and facilitate transactions. Furthermore, the current requirements of Section # 404 of Sarbanes Oxley will eventually be interpreted as needing assertions and assurances of a continuous monitoring of corporate online controls. Consequently meta-controls at each process (process assurance) will be used to improve the quality of the data being transmitted from process to process. These considerations bring measurement (continuous reporting) and assurance (continuous audit) to a symbiotic relationship of complementarities.

The power of CA is that it allows assertions of the following sort to be envisaged: The example in the insert envisages an environment in which audit firms, making use continuous audit modules embedded in the firm's ERP systems, are able to offer assurance customized to the needs of users. The CA system is capable of a greatly expanded set of analytic procedures and, unlike with the current written audit opinion, the details of the audit will be sold to users depending on what they want to see and what it is worth to them to have that information.[1] Clearly real-time reports accompanied by this level of assurance would be potential of great use to market participants. But making that potential a reality requires asking the question of what in particular will drive the demand for real-time reporting and assurance.

Demand for Real-time Reporting and Assurance

Although accounting research has identified the benefits of broader disclosure, such as the reduction in the cost of capital, additional higher frequency public reporting does have serious problems. These problems are not limited to the inevitable additional costs of reporting, which may be trivial in certain cases, but include such serious managerial issues as possible legal liability and competitive disadvantages due to increased disclosure. It is also understandable that managers are not eager to disclose more than required, since it will reduce their information asymmetry advantages, create narrow domain accountability and decrease their managerial discretion. Additionally,

[1] For more details on the emerging CA and real-time reporting environment see: *"Principles of Analytic Monitoring for Continuous Assurance"* by Miklos Vasarhelyi, Michael Alles and Alex Kogan, forthcoming in the *Journal of Emerging Technologies in Accounting.*

voluntary disclosure, once started, can be very difficult to stop since such termination will likely be considered a negative signal.[2]

It is notable that although the Jenkins Committee recommended a separate filing of the fourth quarter 10-Qs, this recommendation has not been implemented (although the information in the fourth quarter 10-Qs can be derived from the annual report and from the first three 10-Q filings). While most companies conduct monthly closings, there is no evidence of monthly financial statements being made publicly available (however, earning's warnings have become very common). Moreover, anecdotal evidence seems to suggest that although the audit teams can gain access to the monthly statements, they do not use them in conducting their annual audit, despite the known research findings that the accuracy of analytical procedures improves if applied to higher frequency data.

One reason for the lack at present of much reporting and assurance more frequent than the mandated statements is that there may already exist alternatives to using real-time assured disclosure as a way of reducing the transaction costs associated with exchange. Trust built through previous experience, the threat of litigation, warranties, reputation or self-interest may well obviate the need for further reporting, assured or otherwise. Moving away from the arena of financial reporting, an example of self-interest obviating the need for real-time assurance even with real-time disclosure is the case of Supply Chain Management (SCM). In this setting accuracy in information flows across suppliers and buyers in the value chain is a necessity for such flows to be useful in the first place, and therefore further assurance is redundant. If a company were not willing to be truthful in its disclosures, it would simply decline to join in this long-term relationship. These types of close relationships, ever increasing in frequency in the real-time economy, increase the difficulty of external reporting and the difficulty of identification of independent or closely-related operations (as, for example, in the hundreds of Special Purpose Entities created by Enron).

There clearly is a presumption among proponents of a new reporting and assurance environment that a significant amount of unmet demand currently exists for timely information. To take the next step towards real-time reporting and CA from this starting point, though, a further assumption has to be made that the reason that these products are not provided now is that their cost is too high – presumably because of the very absence of the kind of embedded real-time information systems that will underlie real-time reporting and CA – rather than because there is no economic need for it. Another reason could be pure corporate inertia and risk aversion to new forms of reporting. Whether these assumptions are descriptively valid is an empirical issue. To some extent, demand may be latent; that is, in the absence of the possibility of real-time reporting and assurance, users have yet to determine how valuable it will be.

How Real is "Real Time"?

Even assuming that demand for real-time reporting and assurance will emerge, either for existing transactions or because of innovations in business, in what sense will it be continuous? For example, even if real-time assurance can be provided, will there really be a need for assuring information outside the company with such frequency?

To take the most important subject of reporting and assurance today – financial statements – will users such as analysts and potential investors want real-time statements? Can anyone outside

[2] A recent SEC ruling that may have a major impact on information flows concerning a publicly-traded company is the so-called "Fair Disclosure" (FD) regulation, which requires that there be no selective disclosure of value relevant information. If this regulation were interpreted as originally envisaged, it would suggest that the only form of reporting, and hence, of assurance, is that based on public reporting—which would necessary imply that reimbursement would be, as is the case now, made by the assuree. However, the SEC has recently amended the interpretation of regulation FD to allow firms to continue to make selective disclosures to non-investing stakeholders. See http://www.sec.gov/rules/final/33-7881.htm.

the company absorb the quantity of information that real-time systems can provide, and even if they could, would it make sense for them to essentially "second guess" the decisions of managers on a daily basis when they lack the context within which firm managers make decisions? Is the role of accounting as an aggregator and distiller of transactions into meaningful financial statements compromised by continuous reporting? Such frequent reporting will either require a shift in emphasis from income to cash flows, or the automation and real-time execution of allocations, adjustments and allowances.[3]

On the other hand, it is clear however that the advent of ERPs and the very large number of reports available for multiple management purposes has tilted the balance of disclosure arguments. The cost of incremental reporting is minimal as it is the underlying data gathering methods and controls that are the costly items, and firms with ERPs have already invested in those for internal operational purposes. Furthermore, the intrinsic nature of corporate reporting brings in a plethora of special reports for special stakeholders (banks, insurance companies, states, OSHA, etc.) that view the business from many angles. Therefore, it is reasonable to expect new reporting structures, whereby adjustments and allowances (which are automatic and not too meaningful in the real-time reporting context) are not disclosed and emphasis is on discrete (informational) events that provide insight into the conduct of business, its prospects and the integrity of its reporting.[4]

In an environment with Balanced Scorecards and SCM, there is an increasing need for company managers to have access to real-time data. Whether those outside the company perceive a similar need is less obvious, for presumably the timing of reporting (and assurance of those reports) must match the time frame of the external parties' decision-making processes. It may be that, except in the case of the largest and most frequently traded companies, analysts and investors make periodic portfolio reviews rather than real-time decisions. The validity of this statement should be studied empirically.

It seems more likely that what users will find valuable is assurance and reporting on demand (ad hoc or planned), as they contemplate some transaction, be it an investment, a supply contract or a job offer. This may be the true source of value for real-time transaction recording and continuous monitoring capabilities – it makes possible the cost-effective and timely production of specialized reports as needed. In the absence of the technology of CA and real-time reporting, such as XBRL and ERP, providing a report on, or assurance for, a non-mandated transaction has to be handled as a special case project, which makes it prohibitively expensive. But with the company's transactions being routinely monitored in real-time, much of the work needed to do the report and the assurance has already taken place and can be completed using automated templates and with minimal manual intervention.

Conclusion

Section 409 of the Sarbanes-Oxley Act simultaneously leads the reporting and assurance environments towards a new concept of timeliness and follows in the wake of dramatic changes in technology that makes real-time reporting and assurance cost-effective and technically feasible. But the development of this new world of real-time reporting and corresponding assurance is not only a function of the supply of the necessary technology, nor even of legislative mandates. Ultimately, it is demand in the marketplace that will determine which types of real-times reports make sense and how timely they will have to be. ♦

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[3] On the other hand, continuous assurance and reporting need not be over a complete set of financial statements. It may be over a subset of data that is considered to be a good predictor of wider performance (days inventory, days sales, purchase commitments, sales backlog, website hits). Also, the very ubiquity of the data that real-time systems provide may create information overload, and increase the demand for specialized and tailored reports with assurance attached.

[4] For example, the recalculation of depreciation from minute to minute taking into consideration the time passed in the year is close to meaningless.