

Continuous Auditing – Future of Internal Audit



Continuous auditing (CA) is defined as “a methodology for issuing audit reports simultaneously with, or a short period of time after, the occurrence of the relevant events” (CICA/AICPA 1999). CA methodology can utilise the IT capability to capture transactional and process data at the source and in the disaggregated and unfiltered form to achieve more efficient, effective and timely audits. An important subset of continuous auditing is the continuous monitoring of business process controls (CMBPC), a task made particularly significant by the passage of Section 404 of the Sarbanes/Oxley Act that requires both managers and auditors to verify controls over the firm’s financial reporting processes. The managers’ responsibilities are clearly going to be largely based on the work undertaken by the firm’s internal audit department. Continuous auditing is not a tool, but rather a process that brings together fundamental practices that all auditors follow, including planning, risk assessments, control assessments and use of technology to perform much of the audit work. Read on to know more...

Providing assurance in the modern business environment requires a thorough understanding of the ongoing changes in the way businesses organise their activities. A *business process (BP)* is “a set of logically related tasks performed to achieve a defined business outcome.” While businesses always faced the task of measuring and monitoring their activities, paper-based information technology (in the form of accounting journals and ledgers) had to rely on pre-filtered and aggregated measures which were typically recorded after a significant time lag. Modern *information technology (IT)* utilises converging computer and networking tools to capture BP information at its source and in the unfiltered and disaggregated form, which makes it possible to measure and monitor business processes at the unprecedented level of detail on the real-time basis.

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CA. Deepjee Singhal and CA Manish Pipalia

(The authors are members of the ICAI. They can be reached at dasinghal@yahoo.com or manish.pipalia@gmail.com)

with, or a short period of time after, the occurrence of the relevant events” (CICA/AICPA 1999). Kogan *et al* (1999) discussed the problem of finding a trade-off in the CA implementation between control-oriented and data-oriented CA procedures. There are numerous enterprise environments where process controls are either not automated or their settings are not readily accessible. In such environments, which rely on loosely-coupled legacy data processing systems, automated audit procedures of CA have to be mostly data-oriented (i.e., automated tests of details and analytical procedures), while control testing will involve significant “manual” work.

The tremendous scale and scope of implementations of *enterprise resource planning* (ERP) systems since the early nineties has resulted in many companies approaching the state in which their most important BPs are highly automated and fully integrated. This environment of highly automated and tightly-coupled BPs (implemented in integrated enterprise systems) enables the deployment of CA procedures based on continuous monitoring of BP control settings.

It is argued that CA would be built on an existing ERP system, implying that it is companies that have already reached full functionality with such systems that would be the first to turn to implementing a CA system as an overlay on their ERP infrastructure. Further, building on the experience with the implementation of ERP systems, as well as the evolutionary path of technology in general, they argued that CA would predictably follow the path of first automating existing manual audit procedures. Once a comfort level with that is reached, the implementers would seek to unleash the true productivity benefits of CA by reengineering audit procedures to facilitate continuous auditing, rather than simply taking those procedures as given and making them automatic.

The other efficient way would be to use tools which could be integrated with your ERP systems and/or other application systems. These could be directly connected to the ERP systems/application systems which organisations use or even connected to their disaster recovery servers hosting ERP/application systems.

Organisations are producing more data than ever before, creating an environment where users of financial information require assurance that the data contained in any report is accurate, complete, and relevant to their needs. As data proliferates, management functions are becoming more dependent upon executive information systems, balanced scorecards and dash-board level decision tools. Therefore, monitoring outputs and auditing controls surrounding the systems used to

create those outputs is an important organisational priority. Traditional audits conducted in annual (or less frequent) cycles cannot provide the level of assurance management needs in these areas, so the potential for continuous auditing to provide more effective monitoring of the control environment and the resultant output more than justifies the cost and effort.

Under the COSO Guidance on Monitoring Internal Control Systems, 2009 - periodical, one-time and *ad hoc* review of controls is not effective, as controls can fail, deteriorate or become irrelevant during the intermittent period resulting into fraud, abuse, wastage and non-compliance. Continuous auditing allows the user to monitor the functioning of the controls during the intermittent periods referred to as blind-spots.

Many are looking at continuous auditing as a software application or tool that can help internal auditors meet this challenge, while surviving the critical professional staffing shortage that is prevalent today. Continuous auditing is not a tool, but rather a process that brings together fundamental practices that all auditors follow, including planning, risk assessments, control assessments and use of technology to perform much of the audit work. It should bridge the gap between audit reports submitted under traditional assurance services and continuing evidence that the issues identified (for those critical controls) have been rectified.

In years to come, experts predict, many companies will use information technology to become a “real-time enterprise” – an organisation that is able to react instantaneously to changes in its entire business. And as firms wire themselves up and connect to their business partners, they make the economy more and more real-time, slowly but surely creating not much a ‘new’ but a ‘now’ economy.” – *The Economist*.

If your audit function is struggling with a decision on how to best implement continuous auditing to benefit your organisation, consider audits currently in progress or recently completed, and align the scope and objectives of future audits with management's strategic, operational, financial, compliance and competitive analysis levels. By making use of this information and incorporating it into the control and risk assessments that require more frequent monitoring, internal auditors can easily move into continuous auditing - without reinventing your staff or charter, while ensuring that the most critical controls receive attention at a frequency reflected by your risk assessment.

Continuous Auditing

The *Global Technology Audit Guide (GTAG) 3*:

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Continuous Auditing: Implications for Assurance, Monitoring and Risk Assessment released by the Institute of Internal Auditors defines the term Continuous Auditing as “Continuous auditing is any method used by auditors to perform audit-related activities on a more continuous or continual basis. It is the continuum of activities ranging from continuous controls assessment to continuous risk assessment – all activities on the control-risk continuum. Technology plays a key role in automating the identification of exceptions and/or anomalies, analysis of patterns within digits of key numeric fields, analysis of trends, detailed transaction analysis against cut-offs and thresholds, testing of controls and the comparison of the process or system over time and/or other similar entities.”

In 1999, the Canadian Institute of Chartered Accountants (CICA) defined continuous auditing as follows:

A methodology that enables independent auditors to provide written assurance on a subject matter using a series of auditors’ reports issued simultaneously with, or a short period of time after, the occurrence of events underlies the subject matter...

This definition is broad and covers both internal and external audit. By focusing on the basic requirement that audit reports (opinions for external auditors and findings and conclusions for internal auditors) be supported by evidential matter about the subject matter, it becomes clear that continuous or continuing procedures must be performed if reports are to be issued with or shortly after the audit period ends. Even when the report is only needed annually, a continuous audit approach can help identify and correct errors before the period ends, which results in a stronger control environment.

Difference in Continuous Auditing and Continuous Monitoring

“Continuous Monitoring uses control automation to reduce fraud and improve financial governance, typically resulting in a substantial return on investment. It improves the reliability of the controls,

and it improves the management oversight, policy enforcement and operational efficiency for critical financial processes, often producing hard-dollar savings.” – Gartner CCM Magic Quadrant 2010.

“Automated control monitoring...can enhance the effectiveness, efficiency and timeliness of monitoring specific controls.” - 2009 COSO Guidance on Monitoring Internal Control Systems.

Internal auditors have played an important role in working with management to evaluate these systems. In many cases, audit routines (including the data analysis tools used) designed by internal audit have been passed over to the applicable business unit so that management can begin to monitor the areas themselves without having to invest in more costly continuous monitoring applications. Auditors should be aware that when this happens, their independence could be affected in subsequent periods if the routines are simply placed in service or if they continue to be involved in the disposition of matters. A solution to this problem would be to share tools and knowledge gained with the IT and business unit functions. Empowering them to perform self-audits using data analysis techniques moves audit processes into control activities. Everyone wins, but the auditor should be careful to remain independent of this activity once it is transferred.

Benefits of Continuous Auditing

- Improves risk and control assurance, usually in the same or less time than previous approaches.
- Reduces costs, including internal audit costs and costs associated with unaddressed control deficiencies.
- Increases the level of risk mitigation for business risks.
- Achieves a more robust, more effective auditing process.
- Expands internal audit coverage with minimal (or no) incremental cost.
- Shortens audit cycle time.
- Identifies control issues in real time.

Implementing Continuous Auditing

After completing a self-assessment and determining the internal audit function's readiness to move towards continuous auditing, the following five steps will lead to successful implementation:

- (i) Assess risks and controls
(What to test and why)

Evaluate each area on the basis of the management's tone and commitment to monitoring its controls,

whether continuously or periodically. If the area represents a high risk and controls are not being monitored continuously, you have identified a gap that would be a good candidate for continuous auditing. You should document the audit objectives and reasoning for selection as a continuous audit technique. If management has implemented effective monitoring, but their system produces many “false positives” or provides indications that exceptions are not being cleared on a timely basis, you might offer consulting services to help management further analyse the alerts generated by the monitoring system.

(ii) Determine data available and arrange for transfer to an independent platform

(Whether the tests can be data driven)

Ideally, the systems have already been documented and data has been obtained during prior audits where data analysis was used in the audit. IT departments frequently resist requests for data because they interrupt the workflow processes. Communicating to them the benefits of establishing automatic transfers to reduce future periodic requests should help you get past this potential roadblock. For example, an automatic extract of all journal entries that are not system-generated could be transferred to an audit data warehouse on a daily basis. An independent platform can be a server or high capacity workstation.

(iii) Develop audit program steps and test routines using scripts or assistance (initially) from IT, taking into consideration the frequency for running automated tests

(How the tests will achieve the audit objectives)

For continuous auditing in an area where data analysis has already been used, a script can very easily be developed from the history file of past audits. For new areas, the tests can be recorded as they are performed within the software. In the journal entry example above, the routine to develop might include extraction of large value entries and creation of a population of all entries over a given time period, with trend analysis and time series analysis being performed on the monthly or quarterly data. In order to provide timely reports to management, determine how and when audit results will be communicated. If possible, build alerts into the reporting process.

(iv) Apply a continuous improvement process to the tests

(How the results can be most effective)

For each test, you should analyse anomalies, and

adjust parameters and criteria to eliminate false positive results. This will be an iterative process, and is the primary reason the data analysis tools are more effective than out-of-the-box solutions. For example, a continuous auditing process initially used by a large energy company's internal audit department that was passed on to accounts payable, became more and more sophisticated as the users learned from their system what conditions most often resulted in duplicate payments.

(v) Practice continuous planning

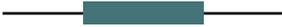
(How to build on successes)

Monitor the change processes within internal auditing to be sure that continuous auditing activities stay on track and the maximum benefits are obtained. Use successes in marketing internal auditing services to other areas. This and previous steps can be accomplished within the context of conducting this year's audit plan. As each planned audit is completed, it should be assessed for inclusion in your continuous auditing activities. Your internal auditors will benefit by learning more about each system or process they review, and their use of technology will continue to improve.

Continuous Auditing in Practice – Few Examples

Many approaches to continuous auditing involve using audit specific data analysis tools such as IDEA Software to audit databases. Responses to a recent informal interview of internal auditors regarding the use of continuous auditing in their organisations resulted in the following examples already in operation:

- Continuous auditing can aid in the streamlining of audit efforts. For example, focusing on revenues and expenses depends on a key driver. Data from operations and finance are then combined to come up with ratios. These ratios are a) reviewed from month to month and b) cross-checked against price catalogues. Identified anomalies result in inquiries to the appropriate functions in operations and/or detailed tests.
- Monitoring of purchasing card usage provides early detection of errors and improper purchases. For example, the internal auditor receives transaction


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data from the bank every month, using data analysis techniques to identify potential misuse. When misuse is identified, the auditor can demonstrate to management through the data analysis that the risk of misuse is higher than expected.

- Human Resources data anomalies and payroll trends, patterns, relationships in hours and rupees can be monitored. Out of balance conditions between subsidiary ledgers and general ledger control account balances, along with the monitoring of key master file fields against company standards allow the monitoring of changes in business units included in financial statement consolidation.
- Continuous auditing can involve obtaining data outputs from critical processes several times per year, resulting in 'traffic light' overviews, substantiated with key operational and financial data, limited review work and interviews.

Conclusion

Today, management and internal audit find themselves working on the same problem but on opposite sides of the fence. If management controls and monitoring processes do not stop errors and fraud, then the auditing routines are a must. Going forward, management will be evaluated on sustainability of compliance and competitiveness. Internal audit will be evaluated based on the ability to tailor its activities to the areas of highest risk and opportunities to add the most value.

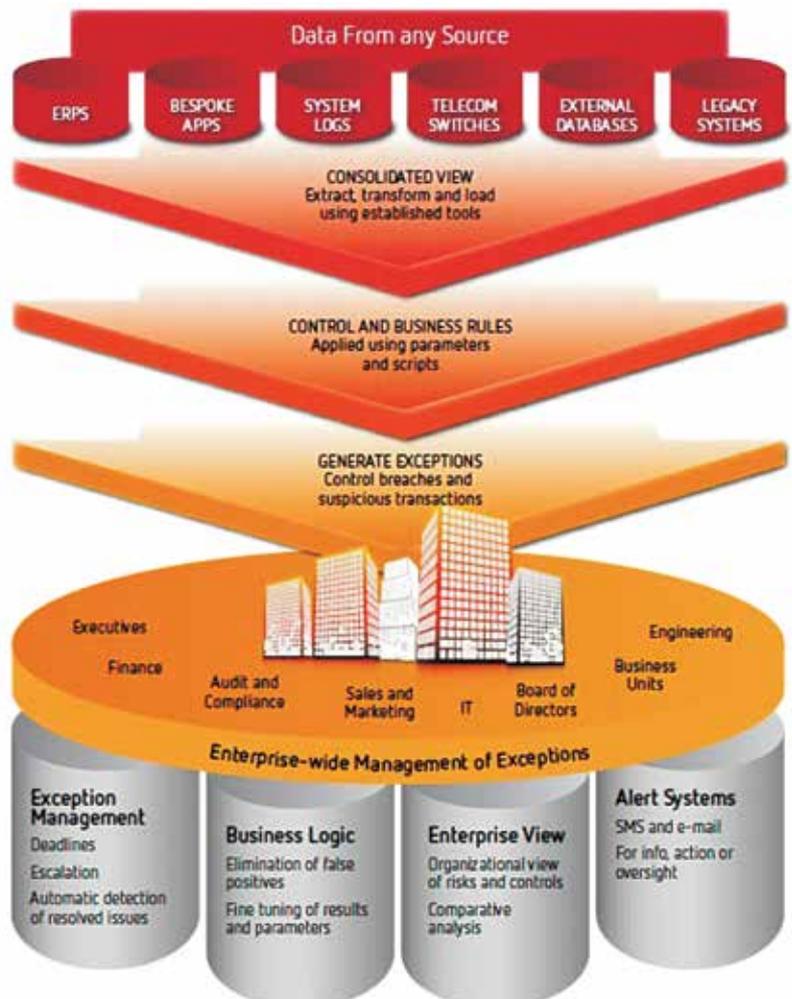
As new ways of looking at the data from information systems are developed and perfected, the processes will be transferred to that function's leadership.

Continuous auditing will eventually lead to continuous reporting. In the Information Age, this is essential as investors and creditors also demand timely financial information for their decision making. Some companies have gone so far as to embed the analysis directly into the production system. In real-time mode, alerts are immediately generated to notify internal auditing and management that a transaction with certain characteristics has entered the production environment.

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CAEs can achieve and maintain their status as strategic leaders amid the grind of management roll-call meetings, budget and planning activities, SOX and other regulatory compliance deadlines, and staffing and resource issues by implementing continuous auditing as the best path to enterprise wide risk management implementation.

Appendix : Example of a Continuous Monitoring Tool with Big Data



Data Analytics and Continuous Control Monitoring Solution