

## How to Chart Your Course with Audit Analytics

By John Verver, ACL Services Ltd.

*“At a high level, the Audit Analytic Capability Model provides internal audit with a means of assessing the current level of use of audit analytics and identifying the desired level of use, together with a basic understanding of some of the issues to address. This model can be used as a roadmap for internal audit when communicating benefits and plans for the multiple levels of audit analytics.”*

### A JOURNEY

During recent years, the audit profession has heard much about the importance of data analysis to the audit process, including the move to more continuous auditing and risk monitoring techniques. In 2010, “the use of automated tools or techniques” by internal audit functions qualified as a top-five strategic priority, according to The Institute of Internal Auditors (The IIA).<sup>1</sup>

While auditors increasingly understand the objectives and benefits of comprehensive and more advanced use of analysis technologies, the challenge faced by many audit organizations is how to actually get there. In reality, almost every audit department is in a somewhat different stage of using data analysis as they travel, at varying paces, towards the goal of continuous auditing and transactional monitoring that supports an organization’s risk management processes.

The good news is that the journey of audit analytics is not just about challenges, it is also about the many practical benefits that can be harnessed at each stage of progression.

The ACL Audit Analytic Capability Model shown below highlights the key stages of this journey. This article explores the characteristics of each stage and what is required to be in place in order to successfully get to the next level.

<sup>1</sup> See “Internal Auditing in 2010: Shifting Priorities for a Changing Environment” in The IIA library: [www.theiia.org](http://www.theiia.org).

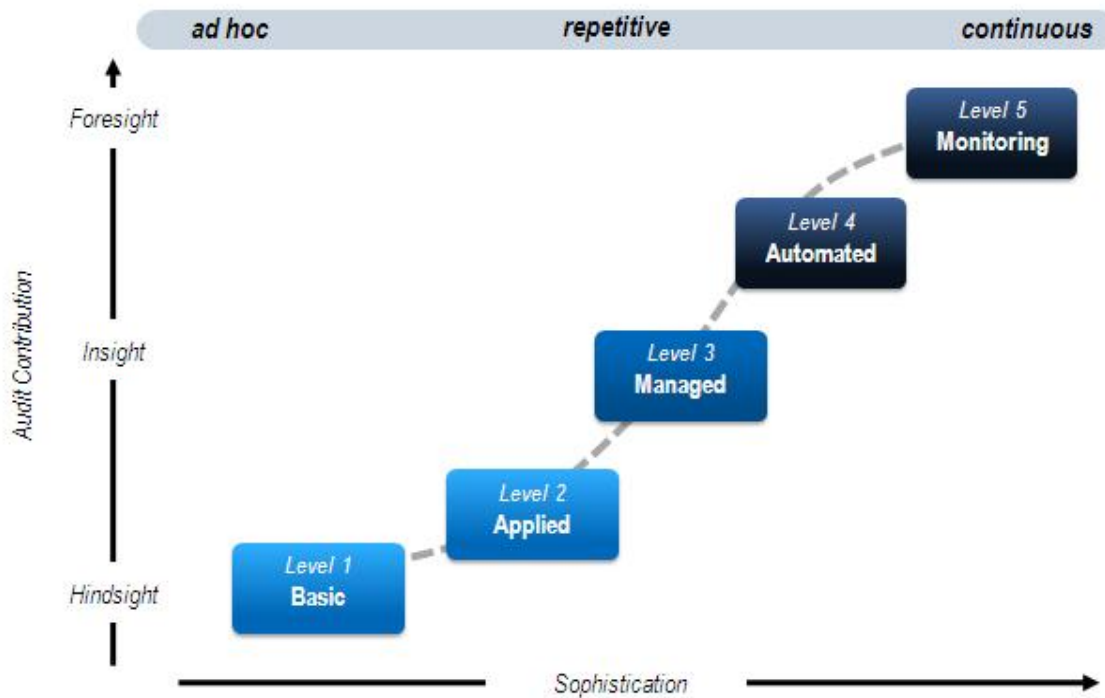


FIGURE 1. THE AUDIT ANALYTIC CAPABILITY MODEL

## HINDSIGHT, INSIGHT AND FORESIGHT

As The IIA President Richard Chambers and other experts have noted, leading internal audit functions are transforming as they advance from providing their organizations with “hindsight” – the traditional audit view – to delivering greater “insight” into current activities and “foresight” trends and leading indicators that warn us of increasing risks and shape strategic planning and decision-making.

This fundamental shift parallels the widespread embrace of formal and informal enterprise risk management (ERM) approaches. In fact, chief audit executives (CAEs) who strengthen their company’s “risk intelligence” are increasingly viewed by company leadership as strategic “game changers,” according to a research report produced by Korn/Ferry International and The IIA.<sup>2</sup>

To ascend to the role of a “game-changer,” CAEs and their departments need to produce the sort of foresight that internal audit analytical tools and processes deliver. In many ways, these three levels of audit value, from hindsight through to foresight, correspond to the various stages of the Audit Analytic Capability Model.

<sup>2</sup> See “Licensed to Lead: Seven Personal Attributes that Maximize the Impact of the Most Successful Chief Audit Executives” in The IIA library: [www.theiia.org](http://www.theiia.org).

## **BASIC LEVEL – 1**

Most auditors are aware of how audit-specific analytic technology allows query and analysis of large amounts of data to support an audit objective. This often starts with producing statistical overviews and classifications or summarizations of data in order to identify anomalies and better understand the transactions and balances within a specific area. Obvious problems, such as duplicate payments, are easily identified through specific audit-focused analyses. This level of use of audit analytics tends to be ad hoc and relatively unplanned, performed by an auditor who has received some initial training.

The benefits at the Basic Level include the increased assurance obtained from looking at 100% populations of data, identifying indicators of fraud and errors, and the speed and efficiency compared to traditional manual processes.

## **APPLIED LEVEL – 2**

The second level, the Applied Level, builds upon the first, but is actually very distinct. At this level, analytics are far more comprehensive and fully integrated into the audit process where they begin to transform how audit is performed. When audit planning and the design of an audit program take analytics into account, they create an “analytic-enabled audit program” in which, wherever beneficial and practical, an audit step or objective is achieved with the help of a specific analytic test. A full suite of repeatable tests is built in order to support an entire audit area.

At this level, people and process issues begin to be increasingly important. Audit management needs to give direction and support these changes. Typically, a specialist is assigned the role of dealing with data access issues and designing and developing analytic procedures. Procedures are put in place to confirm the quality and validity of audit analytics that are performed.

Usage typically evolves within this level. After starting with “low hanging fruit,” companies use analytics more over time as additional tests are added to support more audit objectives. Consideration is given to every new audit on how analytics can best be applied.

A typical example of increased audit efficiency is when initial audit analysis and assessment can be performed remotely. For example, in the case of a payroll audit for a business with many locations, an analysis can be performed centrally of all payroll transactions across the enterprise. This analysis may look for unusual pay rates, amounts of overtime and bonuses. If one area proves to have a high instance of anomalies and all other regions adhere to a norm, it is likely that audit procedures can be applied to the one location, substantially reducing travel and audit costs.

This level is probably the most typical one for audit organizations; though within this level it is likely that some organizations are far more advanced than others.

## **MANAGED LEVEL – 3**

The previous level (2) typically involves the development of many analytic tests using many different data sets – some probably very large and involving confidential data – as well as many different sets of results. It is likely that many people were involved in this process and that all of this information was spread across various computers with varying amounts of repeated efforts. It is not hard to understand that there are a number of challenges, and risks of potential inefficiencies, difficulties in performing management review, and limited security in such a decentralized environment. There could also be large and complex analyses being performed on laptops or LANs that tie up computers for hours while processing is being performed.

The objective at Level 3 is to manage the audit analytic content and processes in an efficient and well-controlled way; it is to achieve team-based data analysis in which data and processing is centralized, secure, controlled and efficient.

At the Managed Level, there are a number of people, process and technology issues to consider. For example, access to the central repository needs to be well managed – taking account of security and control issues. An administrator is typically appointed. Changes to tests and analytics should be subjected to quality assurance procedures.

This level further improves the efficiency and quality of the audit analytics process. One of the key benefits of this level is that of making the whole process more sustainable to reduce the risks of relying on specialists who may leave, taking critical knowledge with them. Analytic procedures at this level are well documented and centralized in a way that makes management's review easier and more efficient.

The Managed Level is also a crucial building block in getting to the next two levels.

#### **AUTOMATED LEVEL – 4**

Once a comprehensive suite of tests is developed and well managed, internal audit is ready to move ahead with increasing automation and running of analytics on a regularly recurring schedule.

Now much is in place from a technology perspective to begin continuous auditing. To be effective, continuous auditing itself involves some fundamental changes in audit processes. A traditional cyclical audit has a clearly defined time frame – a beginning and an end in which an audit report is produced. A continuous audit is different in that the processes for running tests, reviewing and reporting on results are ongoing. Roles and responsibilities for performing continuous auditing are going to be different than for a traditional cyclic approach.

Instead of performing a few audits in a given timeframe, internal audit can now audit several areas concurrently while focusing on specific areas of risk. Efforts are focused where needed and routine audit work is reduced.

Because of the degree of automation now involved – everything from data access to processing and distribution of results – it becomes more practical to involve a broader set of non-technical auditors into the analytic process to either run pre-built tests or use the automatically generated results. The benefits can be significant – starting with the ability to get insight into audit and control issues as they arise. This allows more timely response and resolution of control weaknesses and specific instances of fraud, error and compliance failures.

It also means that with a high degree of automation, the audit team is more efficient. Auditors can review the results of continuous automated procedures for multiple audit areas and only respond when necessary. This allows many routine areas of the audit to be heavily automated and resources freed up to focus on other areas of risk and concern.

#### **CONTINUOUS MONITORING LEVEL – 5**

With all of the building blocks in place at level 4, the next step is a logical one. If audit is regularly producing reports on control problems and potential instances of error, fraud or compliance failures, it usually makes sense to involve business process owners more directly; they must also immediately notify the appropriate individuals of exceptions as they occur so that an appropriate response can be made.

At this level, the results of widespread testing can be accumulated and reported in order to show trends of risk areas and changing risks where, for example, a certain exception starts to form a pattern.

Internal audit is often in the best position to demonstrate to business process management the practical value of audit analytics to detect control problems and improve operational performance. By supporting the implementation of continuous monitoring, the benefits of audit analytic techniques become obvious to management and can be implemented within the business. It is not unusual to hear a business process owner comment that they were looking for some form of exception reporting system that provides greater insight into operational performance and were surprised when audit could provide such capabilities. Continuous monitoring can also become an important component within an organization's risk management processes, helping to provide business with a clearer picture of risks, issues and trends.

In general, the view of the internal audit profession is that responsibility for continuous monitoring should be passed over to business process management so that audit can independently assess the impact of continuous monitoring activities. Under this approach, the desired outcome can be a combination of continuous auditing performed by audit and continuous monitoring performed by management – which together provide continuous assurance over the transactional integrity and the effectiveness of controls.

## CONCLUSION

This article provides a broad overview of the Audit Analytic Capability Model. There are many additional details that should be considered in order to optimize benefits at every level. These include specific risks and challenges as well as typical people, process and technology issues to address.

At a high level, the Audit Analytic Capability Model provides internal audit with a means of assessing the current level of use of audit analytics and identifying the desired level of use, together with a basic understanding of some of the issues to address. This model can be used as a roadmap for internal audit when communicating benefits and plans for the multiple levels of audit analytics.

Overall, the model supports audit in making the business more aware of the benefits of auditing techniques as well as helping audit become more aware of what is happening within the business. The result is an increase in the value that audit contributes to the business or organization of which they are a part.

## Article Contact

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