Using CAATTs in Preliminary Analytical Review to Enhance the Auditor's Risk Assessment

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MAY ٢٠٠٨ - Risk-assessment standards are requiring businesses to adjust their audit approach to a risk-based methodology. This can be a daunting challenge for auditors who have become accustomed to traditional substantive audit approaches for small businesses. Developing a basis for making a risk assessment becomes paramount to performing a high-quality risk-based financial statement audit. The risk-assessment standards require that auditors perform risk- assessment procedures during planning, such as a preliminary analytical review and obtaining an understanding of the entity and its internal controls. Computer-assisted audit techniques and tools (CAATT) can play a role in enhancing the effectiveness and efficiency of risk-assessment procedures. The key to effectively and efficiently leveraging software applications when assessing risk is to use the software to improve the quality of the audit evidence that forms the basis of the auditor's judgments about the financial statement risk.

Using Business Analytics Software

Traditional CAATTs have largely been the realm of data-extraction software that allows an auditor to efficiently manages large sets of data and effectively stratify it for testing. These CAATTs are primarily used in performing substantive tests, performing tests of details, and responding to specific risks. Business analytics software, however, can play a significant role in the audit engagement when it is used to assist the auditor in performing the preliminary analytical reviews in the risk-assessment process. Comprehensive analytics can provide one of the best sources of audit evidence to support an auditor's risk assessment. Ultimately, the result of the risk-assessment process will drive the overall audit approach, so effective risk-assessment procedures are the foundation for a high-quality financial statement audit. Effective analytics will not only help identify audit areas that present higher risks, they can also be the basis for assessing certain audit assertions as lower risk.

The availability of business analytics software tools has grown over the past several years. ProfitCents, iLumen, and ProSystem fx Profit Driver are examples of business analytics software tools. The features, pricing, and support for these different applications can vary widely. "Tools for Financial Analysis: Boost Your Consulting Practice to a Higher Level," by James Estes, Richard S. Savich and Maya Ivanova, in the November ٢٠٠٧ *Journal of Accountancy*, included a survey of business analytics tools and is a good starting point for potential buyers.

Comprehensive analytics typically include developing expectations from multiple sources to help identify unusual or unexpected relationships. These expectations may include period-on-period variance analysis, regression analysis, ratio analysis, industry comparisons, as well as budget-to-actual and other predictive tests. A good analytics software tool should make it easy for an auditor to develop these expectations by automating the calculations and comparisons so that the auditor can focus on evaluating the relationships. These analytics are used for identifying both inherent and control risks in the engagement. For example, if a company's actual sales are significantly greater than the calculated trend and its gross margin percentage

exceeds the typical industry range, then an auditor would likely identify these as flags for an inherent revenue- recognition risk, such as a bill-and-hold scheme, and as a risk of ineffective internal controls over cutoff procedures.

Most of the analytical review techniques that auditors can apply during the planning stage are simple when compared to the more-complex procedures performed when using data extraction and analysis software. With data-extraction software, the objective of the analysis is to parse volumes of data to identify records that meet specific criteria, such as stratification of accounts-receivable aging balances, and transactions meeting certain authorization thresholds. When applying CAATTs to preliminary analytics, however, we are looking for relationships that can be expressed as a simple ratio or a quantifiable trend. These relationships, although expressed in simple terms, can still be quite complex, depending upon how pervasive the relationship is within the financial statements or in relation to other key metrics.

Following are examples of the types of preliminary analytical review procedures that auditors can apply using business analytics software:

- A comparison on a common-size basis of a company's asset mix to that of its industry peers to identify heightened risks, such as inventory obsolescence and uncollectible accounts.
- A comparison of common-size financial statements from one period to the next and from one company to industry peers, in order to identify trends in the debt-to-equity structure that may indicate an eroding capital base or a heightened risk of insolvency.
- A period-on-period trend analysis applied to various expense lines to identify patterns, such as special events held on a biannual basis or surges in sales at the quarter- or year-end.
- A regression analysis to project the current-year expected values for financial account balances, based on historical trends that can be compared to the actual balances.

The last point above merits further discussion, because a regression analysis can be a powerful tool in understanding what factors drive a business. The goal of this type of procedure is to perform a one-year forecast on the financial statements using a sales growth–driven model. This allows the financial statements to be prepared pro forma based on actual sales growth trends. Sales growth tends to be one of the most pervasive drivers in most companies' financial statements, so this approach can highlight various relationships that may not be present in the financial statements but should be. This is similar in some respects to the concept of a "virtual" year-end close. The projection is used to estimate what the balances would be under the trend assumptions, and creates a baseline for making comparisons and judgments of the business's actual performance.

Business analytics software provides a tool that can automate the type of procedure described above. It is initially used to develop an auditor's expectations. Software can greatly enhance this process by removing much of the subjectivity and bias that can be introduced when performing a financial analysis. It can also take the complexity out of the statistical calculations used in performing a trend analysis. Auditors can save time on engagements by using software to automate the calculation of historical

trends, using statistical methods such as regression analysis. Historical trend analysis provides an objective baseline for identifying which financial statement line items warrant further investigation. Analytic software can then be used to supplement the trend analysis with comparisons to industry data from online databases to further support the preliminary analytical review. Finally, budget expectations or other calculated predictive tests, such as interest expense from an amortization schedule, can be factored in and compared to the trend analysis and industry data. All of these analytics can be brought together in one worksheet (see the Exhibit), providing an auditor with a comprehensive analysis, resulting in a higher level of confidence when relying on preliminary analytical review to support the risk assessment.

Limitations to Analytics

The simplicity of many analytical review procedures is both the greatest strength and the greatest weakness of such approaches. The underlying assumptions in many of these procedures lend themselves to some degree of generality, so at some point subjectivity and professional judgment must enter into the analysis. The quality of any analysis will be directly affected by the initial inputs. For many small businesses, if significant audit adjustments are needed to adjust year-end financial statements, then many relationships developed during preliminary analysis may have little bearing except to reemphasize the necessity to adjust those balances.

Auditors must also be wary of the inherent limitations of making comparisons to industry data. By their nature, most industry data are subject to issues of timeliness, comparability (relevance to a specific company), and a high degree of estimation (depending upon which accounting methods, useful lives, and so forth, are selected by industry peers). Even considering these limitations, industry data provide a context in which an auditor can gauge a company's financial performance. It is to be expected that any company will have variances from industry trends. The value of the comparison is in identifying those variances and understanding their underlying causes.

Business analytics software can also go beyond the numbers, assisting an auditor in obtaining a deeper understanding of a company and its environment. For financial statement analysis to be effective, an auditor must be able to interpret multiple financial statement relationships simultaneously. This can be challenging and time-consuming, and, in many cases, it results in a financial analysis that consists only of prior-year and current-year comparisons. Business analytics software aids the auditor by providing multivariate financial analysis that can help an auditor identify relationships between changes in financial ratios and multiple line items in the financial statements. This can assist an auditor in seeing how changes in liquidity, profitability, sales growth, and debt levels affect other aspects of the financial statements. Once armed with this knowledge, an auditor can better identify associated risks. A multivariate analysis generated by business analytics software can also pinpoint areas where an auditor must make further inquiries of management in order to gain an understanding of the underlying transactions that resulted in the variance or relationship. This ensures that the auditors are not only asking the *required* questions but also asking the right questions. Based on this analysis, an auditor can also better gauge management's responses and possibly corroborate those responses.

It is widely believed that the new risk-based approach will raise the cost of audit engagements due to an increased emphasis on internal controls and the associated testing of those controls. For that reason, it is important that auditors identify areas where they can leverage software tools to assist in performing audit procedures to enhance the efficiency and effectiveness of the audit. Effectiveness can come from more-comprehensive analytics and multivariate financial analysis. Efficiency is gained by automating the calculations and comparisons that go into financial statement analysis. When used properly, business analytics software tools can meet all of these requirements.

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