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Fear Not the Software

Fraud-fighting with Data Analysis Tools

LOOKING FOR THE LARGEST FISH

Many companies, after completing a risk assessment, want to immediately catch every fish – big or small. However, just as it's impossible for a batter to hit five baseballs pitched at the same time, a company with a limited fraud detection budget won't be able to correct every problem at the same time. You need to determine not just the likelihood of the frauds but their significance as you make your priority list. You can do this qualitatively but because we need to "follow the money," the quantitative data analysis usually is most beneficial.

PRIORITIZING WITH THE QUALITATIVE APPROACH

Before we discuss the meat of this column – detecting the most significant areas for fraud review – let's step back and ask some questions about the organization, or even more specifically, key departments:

- *Who has the most spending authority within the company?* More authority leads to higher spending and, therefore, more opportunity for fraud.
- *Which departments provide the most revenue to the*

company? The larger the revenue base, the larger the risk that fraudulent sales could be posted and not detected.

- *Has the organization recently been part of a merger or acquisition?* Obviously, such events increase the size of the organization. But they also result in stretching of employees (I'm thinking, specifically, of IT people, among others) who can become quite unhappy.

- *Has the organization experienced rapid growth, increasing business demands, and exposure?*

Transaction volume can rise at these times and processes become even more complex, which can be fertile ground for an undetected fraudster.

- *Has your organization recently had a system conversion?* With new technologies or system implementations, the priority becomes simply ensuring the transactions are processed, with little time left for verifying their accuracy.

Answering these questions can identify departments that, generally, have the largest amounts of company processing because the answers reveal more about spending than revenue and companies tend to be more focused on detecting misappropriation schemes that impact their cash flow.

PRIORITIZING WITH THE QUANTITATIVE APPROACH

After the qualitative assessment, identify a few departments for review but validate and expand this assessment based on a dive into the company databases. The main areas of focus will be revenue, cost of goods sold, and sales & general administrative, and so you should obtain these

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data files (for the last two or three years):

- *General ledger trial balance* – General ledger file providing the summary balance for every general ledger account
- *Accounts payable invoice header* – Accounts payable invoices with one invoice listed per row in the data
- *Accounts payable invoice detail distribution* – Working from the invoice header file above, this file provides the general ledger account distribution for every invoice so each row in this data file is a portion of the invoice amount allocated to a general ledger account.
- *Payroll register header* – Compile a list of all employee payments with one employee payment in each row of the table. Preferably, a department code is provided for each employee.
- *Sales history invoice header* – Sales invoices with one invoice listed per row in the data.

After obtaining these data files, filter and summarize to home in on those departments and the employees (as the data allows) with the most unusual trends. You can complete this analysis in Microsoft Excel (Excel 2007 might be best because it allows for a little more than one million rows of data) through the use of the AutoFilter option and Pivot Tables. For a further explanation of creating basic Pivot Tables, see my column in the Jan./Feb. 2007 issue: www.ACFE.com/fraud/view.asp?ArticleID=642.

Perform the following analysis to prioritize specific opportunities:

- You can align the company's trial balance expense categories to external benchmarks for the industry and review any unusually high trends more closely. Visit www.bizstats.com for a free tool for industry benchmarking trial balance data. Also, visit www.bizminer.com and www.profitcents.com, among others, for paid subscription services.
- Compare material spending categories, based on a summary by general ledger account, to the list of fraud categories in the ACFE's Fraud Classification System and other savings opportunities identified at www.findmillions.net. My Web site lists contingency fee recovery firms that perform retrospective and prospective savings analysis; they collect shared fees for any realized savings.
- Find any increasing trends over time that could be in a general ledger account or a vendor, which could, for example, warrant a vendor audit to ensure contractual and other pricing compliance.
- Create a scatter graph of volume to values for general ledger accounts or vendor balances. For more information on creating a scatter graph, see my May/June 2005 column at www.ACFE.com/fraud/view.asp?ArticleID=435. A

scatter graph will allow you to quickly see, for example, vendors with high values and low volumes, which might signal high-dollar fraudulent payments that were made to quickly bleed cash out of the organization.

- Summarize vendor history by general ledger account and vendor, which will quickly identify any sole-source vendors that might be the best candidates to competitively bid. It might also detect general ledger accounts that are serviced by too many vendors and therefore could use a centralization of spending to improve purchasing power in a given expense area.
- Perform simple duplicate payment tests based on the invoice header file by invoice number and vendor. A simple test using a Microsoft Access query might yield recoveries or spot an opportunity for a recovery firm to perform a more detailed analysis. It might also highlight a vendor scheme to purposely send a repetitive duplicate invoice to a company.

So while a qualitative approach can lead to savings opportunities, it's best to enhance that approach with quantitative analysis. Through some simple data analysis of company spending, revenue, and other general ledger accounts balances – most of which can be performed in Microsoft Excel – opportunities can be identified for fraud detection and other bottom-line savings. 🔍

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