Data analysis gives tools to detect fraud

The use of technology in business has resulted in increasingly large quantities of data and electronically stored information. A few questions often presented to business leaders include:

• What data should be stored?
• How should data be stored?
• How should we protect the data and what should we do in the event of a breach?
• What does our stored data tell us?

While the answers to many of these are specific to each organization's needs, the use of data is extremely effective in protecting your organization from fraud and identifying areas of waste and/or abuse with little training and expense.

Analyzing your company's records for specific data patterns can identify red flags that, with a simple review, could end up saving your organization from catastrophe, and even identify ways you can save money.

Five Excel data analytic tools to start using now are:

Duplicate transactions

Evaluating company data for duplicate transactions is a simple data pattern to detect. Look for

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separate, individual entries with the same identifying information. Common fields containing duplicate information include: invoice numbers, check numbers and dollar amounts. Upon identification of duplicate information, look closer at the details.

The details will reveal the intent of the duplicate information. Through this analysis, duplicate payroll of employees, duplicate expense reimbursement, or even duplicate payments to vendors can be identified.

Employees vs. vendors

Comparisons of data including: addresses, direct deposits, employee social security numbers, and vendor federal employer identification numbers (FEINs) are the most common fields to examine in this simple test. By comparing identifying information of employees to vendors, fraudulent payments to employees through non-existent vendors, and ghost employees can be identified.

Even amounts

Identifying even dollar amounts in the company's financial records can narrow down vast amounts of data to allow additional review of higher fraud risk transactions. While some invoices and vendor services are typically billed in even dollar amounts, fraudulent schemes often involve the use of even dollar amounts.

One high-risk area includes expense reimbursement. Expense reimbursement payments can be rounded up to a whole dollar amount, not match accompanying receipts, or can be entirely fraudulent. After identifying the normal transactions, focus on the details and reasons around those in the unusual category.

Ratio analysis

The use of ratios within various data sets and comparing the results to a similar data set is another helpful fraud detection technique.

Three commonly employed ratios are:
• the ratio of the highest value to the lowest value (maximum/minimum)
• the ratio of the highest value to the next highest (maximum/second highest)
• the ratio of the current year to the previous year

By looking at the highest and lowest amounts paid for a specific product, a company can determine if overpayment is being made, which could be a symptom of kickbacks or a vendor not honoring a contract.

Similarly, a large ratio between the highest and second highest payments made to a vendor is worth investigating to ensure overpayment is not occurring.

Ratios are also helpful in private practices where several professionals are charging for the same services. Large ratios for the same service could indicate overcharging and skimming the overage from the payment received.

Trend analysis

Simply looking for anomalies in trends across departments, years and even by employees can reveal unusual activity worth further investigation.

Trend analysis can also be used in reviewing vendor contracts where extreme changes may reveal contracting kickbacks with employees.

Proactive fraud detection requires moving from annual external audits exclusively toward continuous monitoring.

These techniques help maximize internal controls with current organizational resources to prevent fraud, waste and abuse. If these techniques aren't currently in use or available, investing in data analysis as a fraud detection tool will allow you to detect fraud more quickly and even identify areas where your company can be more efficient with its resources.

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