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USING DIGITAL ANALYSIS TO DETECT FRAUD

Review of the DATAS® Statistical Analysis Tool

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Digits (more commonly known as numbers) have played a key role in business and have contributed as much to our well being as has the wheel, fire, and agriculture. Although starting from a simple place in society, numbers have grown more and more difficult to assess as company databases have been growing exponentially in the 20th and now the 21st century. Such growth has made fraud that much harder to identify without sophisticated analytical tools.

This review discusses one such analytical tool, entitled Digital Analysis®, or more aptly named, Digital Analysis Tests and Statistics (DATAS®). This new audit technology, as used by two Big Five Firms and numerous Fortune 500 companies, helps auditors to be more effective and efficient by presenting various high level analysis along with the ability to "drill down" deeper as needed. With such a comprehensive tool, fraud is a usual target for the analysis.

DATAS® is based on the theory that there are expected frequencies or occurrences of digits in a list of numbers. This theory, otherwise known as Benford's Law, was based on the work completed by Frank Benford, a General Electric Research Laboratories physicist who conducted extensive studies on digit frequencies in tabulated data. Since his death, numerous studies and papers (over 150) have been written supporting and lending credibility to this theory, proving it to be the one true theory of numbers.

But why should forensic accountants care? Forensic accountants can use this mathematical principle to perform powerful analytics. It works by assigning an expected frequency to each number in a population, and then highlighting for review any numbers that fall outside of these expected frequencies. Since it is easily understood, the information can be readily presented to management. Auditors should also concern themselves with this analysis as it provides not only evidence of fraud but also indications of process inefficiencies and errors.

In short, DATAS® identifies process inefficiencies, errors, and fraud by searching for abnormal:

- Digit and number patterns
- Round number occurrences
- Duplications of numbers

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