

5 WAYS TO FIGHT FRAUD USING DATA ANALYTICS



AUDIMATION
Putting Analytics to Work

It's estimated that a third of all employees commit some degree of employee theft. Most organizations stand to lose 5% of their annual revenue to employee fraud, sending some companies into bankruptcy.

While inside tips remain the top source for identifying fraud, data analytics has proven highly effective in identifying and preventing fraud schemes for these key reasons:

- **Bring in data from different sources to cross-match data**
- **Analyze 100% of transactions rather than a sample to catch more infractions**
- **Apply analytic intelligence to identify irregularities within massive amounts of data**
- **Break character fields down into categories and identify records with missing information**

CaseWare IDEA® is the undisputed leader in data analytics. Easy to use, powerful and always a step ahead of other solutions, IDEA is built to help you sift through hundreds of millions of records to identify fraud, prevent losses and reduce risks. Here is a sampling of some mainstream fraud schemes and ways data analytics can be used to identify them.





#1 Ghost Employee

Ghost employee schemes occur when an employee sets up a false employee ID or adds someone to payroll who either doesn't exist or doesn't work for the company. Fraudulent checks are often sent to a friend or family member or to a P.O. Box.

the fix:

Duplicate Key Detection & Field Statistics

Applying the extraction function, user-defined criteria can isolate paychecks that did not have taxes withheld or analyze addresses to help uncover ghost employee schemes. Payroll errors may be found by cross matching a list of existing employees with payroll records. This task is simplified by using data analytics to join fields from separate databases to test for matching or non-matching data across files.

Use Duplicate Key Detection to identify employees with the same last name, address, phone number, Social Security number, bank account used for direct deposit, etc. Or use IDEA's Character Field Statistics to break character fields into categories to identify records with blank character and/or numeric fields where information may be missing that a legitimate employee would have such as voluntary deductions for insurance, taxes, 401k, etc.

#2 Vendor Schemes

Vendor schemes occur when an employee establishes a fraudulent vendor in the system and submits fraudulent invoices for payment. The master vendor data may contain indicators of the fraud; here are some ways data analytics can help identify suspicious vendors.

the fix:

Duplicate Key Detection

Identify vendors with the same information as another vendor, or as an employee such as:

- Address
- Phone number
- Tax ID/Social Security number
- Bank account information
- Vendor account

Using the Sort feature, look for vendors identified only as an acronym, abbreviated names, or generic looking names that appear invalid.



Organizations that do business with a high volume of vendors are often susceptible to risk and potential fraud if records are not managed properly. In a disorganized system, fraudsters can easily change information of dormant vendors, and let the checks roll in. Vendor master files need to be regularly reviewed to proactively prevent fraud.

Sam Carr

CPA, CIA, CISA, CCEP,
Managing Partner, Carrtegra, LLC



Joining Tables with IDEA

Combine two databases into a single database. Each data file must contain at least one common field (referred to as match key fields). The match key fields (max of 8) does not need to have the same name or length but must be of identical field type. You can use the data manipulation feature to change field types.

#3 Conflict of Interest

A fraudulent case that made headlines was a county clerk who hired his son's girlfriend as a well-paid executive assistant, who also lived with the family. Auditors can easily manipulate data to identify special issues and conflicts of interest by cross-matching customer, vendor and employee data.

the fix:

Cross-Matching Data

Auditors can identify special issues and conflicts of interest by cross matching customer data to employee data. One approach is to distill address data to just numbers to avoid variances in punctuation and spelling and return a higher portion of true positives. Cross-matching is an effective way to scrub the address field information and eliminate as many variations as possible.

#4 False Invoices

A top executive stole \$1.6 million over a three-year period, by generating false invoices from real vendors that were approved. The payments were sent to addresses and lockboxes controlled by the executive.

the fix:

Duplicate Detection

One way to uncover this fraud would be to find invoices with more than one purchase order authorization, or to identify multiple invoices with the same item description. IDEA can be used to extract vendors with duplicate invoice numbers or identify multiple invoices at or just under approval cut-off levels. Also check for invoice payments issued on non-business days such as weekends or holidays.





#5 Splitting Contracts

When internal controls include limits on spending, some try to sidestep them by splitting costs or contracts into separate transactions. For example, an agency decided to award a \$52,000 project to a business group, but then found that the deal required state approval. The group skirted the state directive on spending by issuing 13 weekly payments of \$4,000 each.

the fix:

Duplicate Key Detection

Duplicate Key Detection can be used to find records with or without duplicates in one field or up to eight fields. The Duplicate Key Detection feature in IDEA can be used to search for duplicate invoice numbers, and test for matching debits and credits.

A close-up photograph of a single metal needle stuck into a large, messy haystack. The background is a soft-focus landscape of a field under a sunset sky with warm orange and yellow light. The needle is positioned diagonally, pointing towards the top right.

There are more than 5 ways to commit fraud.
Finding them without the right tools can feel
like looking for a needle in a haystack.

IDEA can help you find them.

Finding Fuzzy Duplicates is a Snap with IDEA

The Advanced Fuzzy Duplicate task in IDEA helps you identify multiple similar records within one, two or three selected character fields, then output databases including or excluding fuzzy matches with varying degrees of similarity. This task makes it easy to detect data entry errors, multiple data conventions for recording information and fraud. You can even fine-tune your data groups based on case sensitivity.

Explore IDEA's Built-In Fraud-Fighting Capabilities

In reviewing purchases and payments, summarization and stratification are two commonly used IDEA applications that can be used to find duplicate payments or missing invoices, check supplier validity and perform account analyses.

Discover uses built-in analytic intelligence and IDEA's pre-written algorithms to automatically populate a visual dashboard to identify specific data types and perform analytics to search for trends, outliers and anomalies. Dashboards can be modified, saved and shared with others through the convenient IDEA Library. Discover allows you to identify key fields within a database and extract the key field statistical information you need. You can also identify outlier distribution and flag areas of interests in a database on numeric and date fields.

Summarization accumulates the values of numeric fields for each unique key, such as supplier name, part number, location ID, or approver ID. Summarizing an accounts payable database by account number (the key) and totaling invoice amounts produces a database of outstanding liabilities by supplier. Note: You may select up to 8 fields to summarize in IDEA.

Keyword & Numeric Searches

Perfect for Narrowing the Scope

Find text or number sequences in fields of a database.

Enter the text (or number) you are looking for to search for matches within the specified fields or one or multiple databases. Use keywords, wildcards, and proximity searches.

Results can be displayed in a window for quick review, or output into a separate file.

Stratification can be performed by number, character or date to total the number and value of records within each range to identify and review activities just under a threshold, just before or after a closing period, etc. Look for transactions posted on weekends, or before or after normal work hours.

IDEA is highly effective in identifying duplicate items within a database, or gaps in dates, numeric or alphanumeric sequences. In addition, simple equations can be written to extract payments with missing invoice numbers or approval IDs.

The Search function can also be used to identify unauthorized vendors and search the general ledger for round numbers or numbers higher than a specified amount.

Money laundering can be detected by extracting records to search for large values or round amounts, or by summarizing all account transactions and looking for frequent movement of funds. You can use IDEA to search the general ledger for specific terms, dollar amounts or dates.

The search function provides a simple way to find text within the fields of a database without using an equation to specify the criteria.

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We wanted to build a roadmap for regular audits to automate the process of acquiring, testing and reporting on a greater amount of the data that's available to us. With IDEA, we were able move from ad-hoc analysis to a repeatable workflow and test our entire data population to identify high-risk transactions to test during fieldwork.

Senior Lead Auditor
Global Chemical Company

An 80-Year-Old Observation – Still Relevant Today

There are also tried and true theories, such as **Benford's Law**, that are highly effective in finding inconsistent data and anomalies. The Law states that digits and digit sequences in a dataset follow a predictable pattern. Applying Benford's Law to digital analysis can identify possible errors, potential fraud and other irregularities. Data analysis counts digit

occurrences of values in the database and compares the totals to the predicted result according to Benford's Law to help identify fictitious invoices. It may also help expose circumvention of approval policies such as large number of transactions just below approval thresholds, which may indicate invoice splitting.

Whether human error occurs, such as paying the same invoice twice, or fraud is present as cited in the examples above, IDEA can help uncover fraud and prevent losses. And more importantly, keep your organization out of the headlines.

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One of the key elements of fraud is concealment of the evidence. Our ability to aggressively and completely analyze the data we recover from suspect hard drives using IDEA has made the search for evidence much easier and more cost effective.

– **Philip Levi**, CFE, FCA, CPA/CFF, CA-IFA
Partner, Levi & Sinclair, LLP



Audimation is Your Partner in Fighting Fraud

When you purchase IDEA, you gain the expertise of Audimation Services. For more than 25 years, we've helped our clients use technology to identify fraud within massive amounts of data, build repeatable

processes to prevent fraud and identify cost-saving opportunities. We understand learning new software can be challenging, which is why we guarantee to walk you through any challenge you may encounter.

**Let's Get Started.
Schedule a Live Demo Today!**



Putting Data Analytics to Work

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