

## What Artificial Intelligence Can — and Can't — Do to Help Fraud and Corruption Investigators Tackle Big Data

By [Snežana Gebauer](#) and [Ken Yormark](#)

For investigators, artificial intelligence is providing new opportunities to uncover fraud and corruption and to drive efficiency and accuracy as they analyze the cascade of data in the context of an investigation.

Using A.I. tools, investigators are spotting suspicious digital activity, anomalies in accounting entries and transactions, and uncovering relationships among potential parties to a fraud that they may not have been able to discern in the past. And they're doing so without the outlay of manpower or time that might have been required to conduct similar investigations just a few years ago.

That said, the robots aren't taking over just yet. Artificial intelligence is based on learned behavior, as opposed to instinctive behavior which is unique to humans and an essential trait in investigations, and it requires intervention — preferably by an experienced investigator — to ensure that the right data is collected, and the right questions are answered.

Artificial intelligence, by definition, simulates human thought processes. But it requires training from humans to acquire the right information and to learn the rules provided by humans for using the information. A.I. then uses human-created rules to reason through issues and reach conclusions. In other words, humans are essential to helping artificial intelligence focus and funnel information to accomplish its goals.

The better the information that's fed into an artificial intelligence program, the better the decisions it makes. Subject matter experts can steer A.I. tools to meet the goals of a particular investigation, help it winnow out false positives, define the scope of inquiries, and add relevant information to the system as it becomes pertinent.

A.I. is particularly adept at helping investigators organize and analyze unstructured data, which, as the name suggests, is data that does not reside in a structured environment (such as a database). In businesses, the vast majority of data is unstructured, and includes material such as e-mail and text messages, multimedia files, presentations, and word processing documents.

By combining human instinct with the efficiency and accuracy offered by A.I. tools, investigators can analyze, interpret and unearth relationships in enormous data sets, and quickly and effectively uncover fraud and wrongdoing or help prevent corruption.

The same holds true in forensic accounting. A.I. can help forensic accountants quickly and efficiently determine what constitutes normal financial behavior for a company. By building a norm and conducting data analysis, forensic accountants can use artificial intelligence to quickly spot anomalies and identify hidden relationships. As the forensic effort deepens, A.I. can be adjusted by investigators to pinpoint how accounting entries are being used to cover up weaknesses in a business, improper revenue recognition or deferring liabilities for example.

Again, human instinct helps adjust the A.I. to recognize patterns and improve the quality of the results. As it receives more information about the data investigators are seeking, machine learning — a subset of artificial intelligence — points to documents, transactions and conversation threads that investigators may want to review. Using those suggestions, investigators and their clients can make better-informed decisions about where to focus their investigative efforts.

## Big Data, Big Challenges

Artificial intelligence's key advantage in investigations is its ability to predict behavior based upon pattern recognition. And it can enhance efficiency and accuracy, provided it has the proper human input.

A.I. also helps investigators cope with the explosion of data that's occurred because of rapid advances in technology. Twenty years ago, a corporate investigation involved plenty of shoe leather and very little (if any) digital research. If investigators wanted data, they had to go to a physical location to review paper files and conduct face-to-face interviews.

Now, with the advent of smart phones, the proliferation of email, texting, social media, the creation of the Internet of Things, among other factors, the volume of data has exploded. As the volume of data has increased, the way companies manage it has multiplied as well. A company may have several systems in place to handle word processing documents, email or financial transactions. While finding information in each of those systems can be critical to an investigation, getting them to speak to each other can be a Herculean task. Artificial intelligence can normalize the data among those systems, identifying patterns of behavior and easing the investigator's task.

### What A.I. Does for Investigators

Recently, K2 Intelligence used artificial intelligence to help a client comb through an enormous cache of emails as part of an investigation. First, investigators used A.I. tools to help with the basics: They helped organize the information into manageable data sets, clearing irrelevant messages and focusing only on conversations among particular parties. A.I. then analyzed the material to help investigators track relationships between people, places and subjects using the email system — noting data points like the frequency of messages, word counts, and the timing of communications.

Throughout the process, the investigators were providing input to help the A.I. tools refine their outputs. The tools produced information and uncovered relationships that would have been missed if the review was conducted by two independent data analysts. A.I. then forwarded critically important documents to investigators for their review. This information may have taken longer to discover and cost far more to uncover without A.I. tools. While A.I. can't replace human instinct, it can improve the speed and effectiveness of an investigation.

## About the Authors

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