

BDO KNOWS FRAUD ANALYTICS: A CASE STUDY

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The so-called "Five V's" of Big Data—volume, variety, velocity, value and veracity—continue to plague key business functions and processes across organizations. A fraud investigation is no exception. The sheer amount and diversity of potential evidence can create a forensic nightmare.

Oftentimes getting to the Who, What, When, Where and How requires finding the proverbial needle in a haystack. Identifying an anomaly or a pattern requires synthesizing terabytes of data and making connections across disparate data sets that could seem overwhelming and almost impossible. But with help from data analytics and visualization techniques, a savvy forensic team of investigators can cut through the clutter to uncover the scheme.

The situation

A franchisor of a pizza chain suspected some of his franchisees were deleting transactions from the point of sale systems in order to decrease revenue and royalty payments, while increasing their individual profits. The franchisor's suspicions were based on the fact that certain franchisees were reporting lower-than-expected revenues when compared to those of similar high-volume franchisees; however, he didn't have the necessary data to substantiate his suspicion or determine the full cost of the fraud. Thus, he needed to conduct an investigation without alerting the perpetrators or jeopardizing relationships with franchise owners who were appropriately recording revenues.

BDO's tailored approach

BDO was brought in to perform a sales analysis and investigate the scope of the potential fraud without interrupting “business as usual.” Keeping in mind the need for discretion, BDO conducted the entire project remotely without the franchise owners’ knowledge, abiding by all ethical and legal standards.

To expedite the investigation and minimize costs, BDO narrowed the scope of the analysis to the franchisees exhibiting potential red flags, as well as representative "control" stores running the same POS system for comparative purposes. The team extracted data from the pre-determined franchisees' POS systems after closing, then developed a sophisticated algorithm that identified missing order numbers and quantified the missing revenue from the unreported sales. Leveraging the power of data analytics and visualization techniques, they analyzed patterns to confirm which franchisees were deleting orders, as well as how frequently and for how long they had been doing so.

The results

Tapping into BDO's extensive fraud analytics and investigative resources, the BDO team facilitated an effective and expedient investigation that leveraged the right technologies and techniques. The smart application of fraud analytics and data visualization ultimately proved to be essential in navigating the complexity of the franchisees’ dispersed data systems and quickly quantifying the fraud's scope.

After completing the investigation, BDO determined the total number of missing sales transactions—which exceeded 100,000—and calculated the value of the missing orders. In addition, the team discovered how the culpable franchisees were committing the fraud—an unauthorized back door had been coded into the POS system, enabling the franchisees to access the system and delete orders. As a result of this analysis, the franchisor was able to recover over \$1 million in unpaid royalties and address the vulnerability in the POS system to prevent additional fraudulent behavior in the future.