



Big data's day in court

Litigation, especially class actions against large corporations, can be streamlined by using forensic CPAs who can both extract and analyze big data

BY GREG REGAN AND TATYANA SHTYRKOVA

The trend in data produced and collected today is more, not less. Think of all the data resulting from an ordinary physician visit: blood pressure, weight, health changes, new prescriptions, and the list goes on. All this information is digitized in some form and available for use and analysis. As day-to-day business operations and personal activities increasingly produce and collect data, the demand for understanding big data becomes more and more relevant to disputes and litigation.

One recent example of this exploding trend is the proliferation of wearable fitness trackers. Of note, the U.S. and EU privacy laws differ on how data from these devices can be used and/or shared. Similarly, the “Internet of Things” is creating a wealth of information around both business and personal habits that has the potential – once applicable precedent is set – to provide another rich source of data for review in the context of disputes.

In the legal world, the production of financial and operational data, to a large extent, is already digital. The financial data, due to its size, often arrives in a confusing multitude of large “.xlsx” files or in native files with unfamiliar formats. These often-unstructured files require monetary and human effort to extract, normalize and analyze. In the end, this big data analysis can become the key to a forensic accountant’s expert report – for use in settlement or as a trial exhibit.

The CPA as big-data expert

The route to this final destination is where data processing and analysis costs can add up. Newer technologies support more and more data mining. CPAs armed with big data know-how and the specific requirements of the matter are well-suited to serve these types of engagements. Further, this combination of skills allows for greater cost containment as it reduces, if not eliminates, the need for a variety of different professionals.

The traditional approach to data analysis – outsourcing the job of big data extraction and culling, and then forwarding the “clean” data to the forensic CPA for review – is no longer always the best course of action. Costs, in the form of in-house IT departments, special cloud software, contracted IT, and data specialists, tend to mount quickly when litigators rely on multiple companies for each process before handing the data over to the forensic CPA.

Forensic CPAs already possess the accounting and finance expertise that litigators seek from an expert in court, however they often lack the ability to work with a large volume of data. Once data begins to outgrow the confinements of Microsoft Excel, CPAs with working knowledge of Microsoft Access and SQL offer competitive and cost advantages. These forensic CPAs combine their accounting knowledge with the ability to work with and analyze big data.

Further, the multi-partied process often obscures interrelationships within the data, robbing the forensic CPA of the ability to translate the data using their unique knowledge and present information in the light of the case facts. Forensic experts with big data capabilities are also able to validate the data, ensuring it meets any evidentiary challenges that might arise.

Case studies using big data

A recent example of the use of big data knowledge is illustrated by a favorable class-action settlement obtained by plaintiffs’ attorneys in a health care-related case. The settlement was reached just days after the forensic CPAs answered attorneys’ request for an adjusted financial exhibit with three different financial outcomes instead of just one. The original model calculated changes on profit or loss on various financial statement lines from changes in volume of medical procedures by the healthcare department.

The analysis included data for multiple price levels based on the insurance and payment abilities of the patients. It also



included variable and allocated fixed costs of the medical facility and staff. All of this data was presented across multiple time periods. Since the CPAs involved were both forensic and financial experts, they built-in the capability to adjust their model from the very beginning. The result is that the model update took hours instead of days.

In a class action case alleging inflated fees charged by a major financial institution, the volume of data included different fees on checking, savings and credit card accounts held by individuals and businesses. The analysis also included a detailed rundown of the financial institution's operating costs used in setting the fees, with all of this data spanning the several years of the class period.

The defendant's expert report took nearly three years to complete with the expert repeatedly visiting and consulting with the financial institution's data team. The plaintiff's expert leveraged existing knowledge of the financial industry and data analysis expertise to produce a report within one month's time. The report also compared both methodologies and thereby found its way into the judge's opinion.

In another recent case, against a national retailer, plaintiffs needed to show that their expert had the technical abilities and a reliable method for calculating damages – not only within the state where initial purchases were made, but across the entire nation's sales by the retailer over the class period. The analysis involved multiple price levels per day (e.g., sales at greater discounts before noon or special prices offered only during the Thanksgiving "Black Friday" period or on Christmas Day). The volume of sales and pricing data was great, yet the forensic CPA's damages model included the technical capability to scale the information from a few transactions by named plaintiffs across the entire national sales results. The case is currently pending.

Summary

Based on data analysis skills, forensic CPAs can empower attorneys by providing more dynamic damage models to be used during the trial. These models can translate existing data into simplified demonstratives. By working with the forensic CPA to organize the damage scenarios, the graphs and charts used by attorneys can be linked directly to the underlying data and adjusted in nearly live

timing to address the case circumstances and questions from the court.

Your expert's analysis and testimony can "make or break" your case. The number of class action cases and settlements hinging on a CPA's ability to handle big data has grown, and this trend will continue as the litigation landscape presents new challenges and opportunities in mining that big data.



Regan



Shtyrkova

The authors are forensic CPAs with in-depth knowledge of big data. Greg Regan is the partner-in-charge of the Forensic and Financial Consulting Services Group at Hemming Morse, San Francisco. Tatyana Shtyrkova is a manager in this group. They can be reached at regang@hemming.com or shtyrkovat@hemming.com.

