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## Understanding “Big Data”

How-to book provides techniques to sift through vast amounts of customer information

By John Ginovsky

The terms “Big Data” and “analytics” have achieved platinum buzzword status. And like most such terms early in their lifecycle, people know of them but don’t really grasp them, other than the fact that they are important. Yet the technological potential behind them is advancing relentlessly, making it imperative for banking leaders to find ways to make them work.

Alan Fish, a principal consultant in FICO’s Professional Services group, just published a book described as a how-to guide for improving business processes by automating business knowledge. Such knowledge goes beyond what is derived from simple data input and includes so-called “artificial knowledge” that’s extracted from data using analytics.

ABA Banking Journal Tech Topics talked with Fish about his book, Knowledge Automation: How to Implement Decision Management in Business Processes.

Tech Topics: Please define what you mean by automated decisions and decision requirements analysis.

Alan Fish: I’ll start with automated decisions. In particular, operational decision making as made by banks, for example, in deciding who to target for a promotion, whether to allow a customer to buy a product, how much to price it, at what degree of credit risk posed by a customer, whether there’s any evidence of fraud—all those sorts of things which are found operationally in the millions, day after day, are amenable to automation using techniques of decision management, business rules, and analytic modeling. What I’m talking about is the process of taking

business knowledge in formalized business rules or analytic models, encapsulating all that knowledge into software elements called decisions services, and which can then be culled from business process management software as a way of automating the decision-making processes.

The decision requirement analysis [DRA] is a technique for defining exactly what decision making needs to be carried out. [It's been] a somewhat bottom-up approach in the past based on the idea that you engage with a customer, you get them to try to express to you all their business rules in the form of constraints which govern their business, and then you try to collect them into decision services. It's a very difficult and unstructured way to proceed. DRA as I propose is a top-down approach that starts by defining the business process, then defines the points which even-out the decision services, and then gets down to the decisions which are necessary to be carried out at each of those points.

Tech Topics: In a theoretical sense banks kind of do this already, but with all the massive amounts of data that's becoming available, it seems that if they don't adopt some sort of automation they could get overwhelmed. Is that a fair thing to say?

Fish: That's very true. The other thing is, this all depends on modeling, creating mathematical models based on the data that is available. In the past that was a fairly constrained activity because you only had so much data to work from. Now, the more data you accumulate about a customer, the more difficult it is to know which aspects of that are worth putting into a model. The number of models you could build increases exponentially depending on the amount of data you've got. That's what this approach provides. It allows you to decompose the need in the business process for the results of the models. It lets you see what function the models fulfill within your decision making. It's a much more directed approach.

Tech Topics: In other words, while Big Data and analytics might be almost meaningless buzzwords, the use of modeling can be the tool to actually make use of them.

Fish: Oh yes. By modeling I mean analyzing the data to produce a mathematical expression which can project results from a case of data. So if you have a large database containing all your previous clients' records and you have a set of cases for people you lend money to and you can see which ones eventually defaulted on the loans, then you can apply statistical techniques to predict which cases in the future will default on a loan... That's something that represents a piece of business knowledge which has been manufactured from your data. It's just as valid, more valid in most cases, than an experienced risk manager's gut feeling about a customer.

Tech Topics: From a humanistic point of view, is that gut feeling still a valid part of this whole process, or is all this going to be automated?

Fish: I don't know. When it comes to actually assessing individuals in terms of their risk and affordability and things like that, then automated decisions are provably much more accurate and reliable than human judgment. The trouble is, though, the data needs to be seen in context. So there's usually a gray area around most automated decisions where they are referred to a human reviewer for decisions. That's particularly true with credit and fraud decisions.

Tech Topics: Applications? Is this approach suited to particular types of lending, such as retail, commercial, or mortgages?

Fish: It tends to be more useful where you've got large numbers of small products being sold, simply because there's an investment in automating the process. You get a return on each time you make a decision. The higher the volume, the better. It's used a lot in marketing, pricing, risk assessment, and originations of cards, loans, mortgages, retail.

Tech Topics: How scalable is this? Is it applicable to banks of all sizes?

Fish: Absolutely. I've worked on projects with very large banks and small lending companies. They have exactly the same problems. I suppose the larger banks can afford the investment better. But it's a benefit to any institution.

Tech Topics: A CIO goes to a board of directors and tries to explain why they need to invest in this kind of system. How is the case made?

Fish: Essentially what they'll be ensuring is that all of the operational decisions made by the company will be better than their competitors who do not have this technology. They will be pricing more accurately, they'll be making better credit decisions, and so on. All those are small advantages, even small amounts for each customer. But they add up to a very substantial benefit; it's a technology that has found its time, I think. A technology that has met the demand.

[Click here for more information about this book](#)

### About the Author

John Ginovsky is contributing editor of ABA Banking Journal and editor of the publication's TechTopics e-newsletter.

For more than two decades he has written about the commercial banking industry. In particular, he's specialized in the technological side of banking and how it relates to the actual business of banking. He previously was senior editor for Community Banker magazine (which merged with ABA Banking Journal) and was a staff writer for ABA's Bankers News. You can email him at [jginovsky@sbpub.com](mailto:jginovsky@sbpub.com)

[This article was posted on May 8, 2012, on the website of ABA Banking Journal, [www.ababj.com](http://www.ababj.com).]