



'Seeing' the future

Predictive analytics software and services can help you make informed decisions

By Anne Phillips

In late February 2012, I signed myself up for a morning educational session presented by SAS Canada on predictive analytics. I had been hearing those words and did not really understand what they meant, or involved, or even how they would relate to public procurement. So, when the opportunity arose to learn about it, I leapt at the chance. That morning I found out that I was not alone in my lack of understanding; I found myself in a rather full conference room and sitting at a table with three gentlemen whose comments let me know that we were all in the same 'boat'. The language of predictive analytics that they had been hearing seemed quite opaque, and they were not sure if there was an application that suited their organization and work challenges.

SAS did a good job peeling away the veil of opacity. The presenters were quite varied in their backgrounds and experience, and all used concrete examples of predictive analytics at work making a significant difference. However, I think the best example, one that resonated initially with the audience, was referencing predictive analytics to the movie *Moneyball*... which if you haven't seen it, I would recommend as value for money in entertainment; plus, it is a real life example of predictive analytics at work and making an astounding change possible. It also illustrates the social and environmental changes that the organization, but

particularly the people in the workplace, need to commit to and undergo to achieve success.

Essentially, predictive analytics makes use of the vast amounts of data – which organizations have been developing, and collecting, and storing – to help make informed decisions about what will likely happen in the future. In *Moneyball*, the pressure exerted by a very small payroll on the development of the Oakland A's baseball team's potential to become a championship team, forced the coaching staff to begin to think dramatically outside 'the box.' When an opportunity appeared that held the possibility to change the way they did business and choose players designed to make a winning team, the general manager takes a leap of faith and goes all in, risking his reputation and credibility, staking it on reading the stats in a new way.

For governments at all levels, there is no lack of reputable data. It has been collected and verified and stored and used, but perhaps not used to its full capacity. Part of the reason for that is that data is not well-shared between governments, or even within governments. Interestingly, one speaker, Carl Hammersberg touched on these silos of information and to paraphrase said, for government to speak to government is not a privacy issue. To me this means that when data is provided to the government through one of its agencies or a department, that data is available to other arms of the same government. I am not sure if all the legal people would agree with me on that idea, but as a citizen I provide my personal data to government in more than one place, and wish that I did not have to do it so often; it is time consuming and each time this is done the potential for errors to be created and saved is increased. Plus, I think it would help resolve some business issues where businesses deal with multiple government departments and other governments.

For government, using predictive analytics means accessing appropriate data from solid data sources, putting it together and then choosing the right metrics (questions) to apply to the data to obtain a result that you can then use to make a more accurate, evidence-based decision. Sometimes a department will have a person who is the embodiment of predictive analytics – they are able to absorb large amounts of data and find within it the nuggets or anomalies of information that relate to each other in ways not generally assumed, but when put together provide what some might call an 'inspiration' for the viewer that can lead to positive change. As keynote speaker, Linda Dionne, General Manager SAS Canada, said you "need to understand the present before making decisions about the future." Predictive analytics formalizes that 'inspirational' ability.

Dionne provided examples of SAS predictive analytics software and services making a difference for Alberta healthcare and the Ontario Ministry of Government Services. Ontario wanted to implement activity-based costing and performance management, to examine vendor choices and optimize resources, and

reduce costs. It is important to know the full cost of services, not just the labour costs, when trying to optimize service while cutting budgets. Simply cutting staff can lead to rather unexpected and costly results without improving efficiency. I remember hearing that, years ago, when the public service was cut – the cuts being based on just a number – it was the clerks that disappeared, leaving well-compensated directors and managerial staff doing their own filing. Not exactly what they were being paid for, but it is necessary work that still had to be done.

Ontario discovered that aligning its IT with its business was key to activity-based costing, and that by setting common goals and criteria, working together and exploring technology solutions, it could improve its forecasting ability and move forward with confidence in its decisions.

Another presenter, Ruth Martin, demonstrated how the Public Service Commission had modernized its approach to data by creating a common system that was easy to use and secure. Her presentation outlined the impediments to change she encountered – mostly ‘people’ issues. In ascending order they are: 5) pride of ownership – people wanted to protect the data they were custodians of; 4) discomfort with change and sharing stewardship of the data with others; 3) doubt in the level of service and centralization; 2) distrust of automation; and, most common, 1) inertia where they were “for the change” but “just not now.” Overcoming these areas of resistance and helping staff become onside takes commitment, and proof that the change will work. The new system, Ingenium, is now online and working well.

Yet another presenter, Carl Hammersberg, outlined how, with the SAS Fraud Framework and utilizing predictive analytics, data sources from various government departments were combined and queried with the result that the Washington Labor and Industries organization was better able to predict where fraud might be occurring, and whether it was an isolated case or a network. The organization was thus able to assign its limited number of auditors to cases where the results would be value-adding to the government in discovering real fraud, rather than a serious annoyance to a law-abiding business person.

The final presenter of the day, Gary Cokins, moved further into the value of analytics-based information to speak about enterprise performance management saying it is “about strategy and better decisions.” In his view, executives must lead by developing and articulating policy, and he feels strongly that risk management staff needs to work more “in sync” with the executives. He says that government credibility is eroded by poor implementation of the programs and services based on the policy. Modelling tools are extremely useful tools for those who think when using the tool.

Interestingly for me, he also articulated the difference between KPIs and PIs. KPIs are strategic and should be outlined by the executives. They must have a target outcome, be derived from strategy and integrated with the budget (and he thinks a rolling financial forecast would be more useful today than the traditional budget process because it includes demand-side pressures) and the resource planner. He says it helps to look at outcomes as the result of outputs, e.g., the number of healthy patients as a result of tests or surgery. For success, managers and employees **must** buy into these. PIs are operational tools and can have targets or not. Cokins did not minimize the impact of passive or even active resistance to change. When asked what he thought was needed to offset resistance he outlined three things: D – discomfort with the current state; V – a vision of things being better; and F – the first practical steps. In his view, the main driver is D; it is the imperative to change.

So at the end of that day, I left with the feeling that this tool, predictive analytics, may well be of use for procurement organizations, and certainly a tool that you might be asked to search out and evaluate for your clients. ❧

Anne Phillips is the editor of *Summit: Canada’s magazine on public sector purchasing*.

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