Exploiting Big Data in Finance Processes

BIG DATA is all the rage, with every company jumping on the bandwagon to claim they have a 'solution' for big data. Every survey or report we read seems to bang on about the enormous quantity and exponential growth of the data the world is generating. Data is flooding ever more powerful servers and storage devices from websites, search engines, social networks, photo sites, Youtube, smartphone apps, voice, documents, loyalty cards, cloud based software services, internet-aware devices (refrigerators and cars for example) and more sophisticated enterprise business systems. We are told that this year stored data in the world will reach 1.2 zettabytes (that's quite a lot apparently!). It will be 8 zettabytes by 2015. Executives are telling researchers and survey firms that big data and business analytics are the most important technology innovations they need to grasp. So, yes, it is pretty important!

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Challenges in Big Data

Perhaps unsurprisingly, big data is suffering from the very hype it generated. For each much quoted success story, mostly focussing on consumer behaviour, there are many reports of companies not achieving the anticipated value from investments in expensive and complicated database and business intelligence systems designed to address the 'big data problem'. We are told that technology spending on big data will hit $34 billion this year alone.

The hype over big data and the investments in the new generation of super-fast Hadoop style architectures and NoSQL database technologies have somewhat obscured the key question...
'What is the problem, or set of problems, we want to solve?' This is very reminiscent of the firstdata analytics wave around 'Data Warehousing' and 'Business Intelligence'. Big companies threw a lot of money at a tech experiment to aggregate data for potentially all-powerful business analyses. Sadly, by focussing on technology first, this approach languished in the 'trough of disillusionment' for many years.
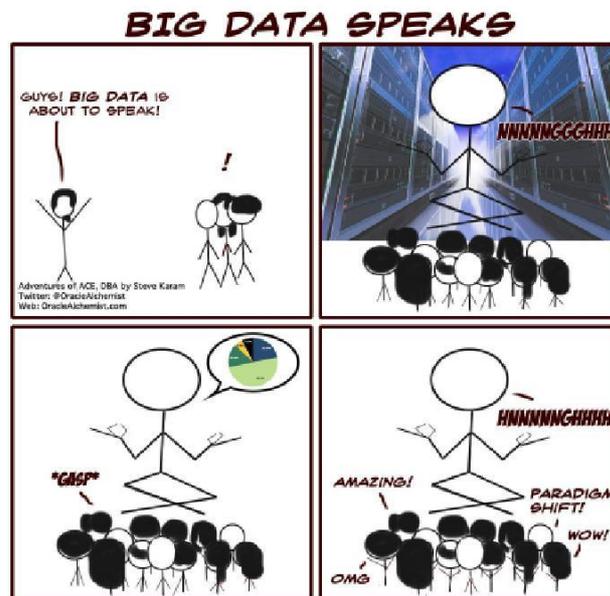
The good news is that the 'high priests' of big data are not suggesting a reprise of the notorious 'data warehouse' (although some of the storage and database vendors would like them to be a little quieter on that front). The *variety*, *velocity* and *volume* characteristics of big data are summarisedin the '3-Vs' of Gartner's Doug Laney. Interestingly, although used to define current 'Big Data' wave, the '3-Vs' dates back to 2001, which I suppose just goes to show the data tsunami has been building up for quite a while. Compared to the 'old world', practitioners and data scientists describe a very different technical approach to the new 'big data'.

The focus is on analysing incoming streams of data rather than hoarding everything in the hope it can be exploited later. The trick, if I can call it that, of making Big Data useful is in filtering what is important to solve the problem at hand. The better we define the problem, the better we can filter the data and the more manageable, usable, valuable and decision-enabling the resultant analysis is.

The industry is still struggling with this issue. Shawn Rogers of Enterprise Management Associates recently tweeted his tongue in cheek 'eight Vs' of Big Data ("*Vast, Volumes of Vigorously,Verified, Vexingly Variable Verbose yet Valuable Visualized high Velocity Data*"), highlighting someof the very real frustrations that practitioners are experiencing in the big data world!

Who 'owns' the big data problem in the organisation? Whilst there are clearly some technology issues at play, this is a business refinement strategy. I see many examples where the issue is given to an IT team who focus on the enabling technologies. Perhaps it matters less about who 'owns' big data and more about who should worry about it . . . Every business process owner should be exploiting data for better decision making, targeting, prioritisation and improvement. If you don't have business process owners, then certainly consider it seriously, and in the meantime talk to the functional leaders.

CFO and Big Data

Whilst it is important to consider the data analytics opportunities for consumer buying behaviour, the CFO on the road to World Class Finance should consider that it is not the size of your data that matters, rather it is what you do with it and even more importantly, your focus on the **'odd-shaped'** data. By **'odd-shaped data'** I refer to data that describes unusual and unexpected events that occur within what we believe to be standard processes. 'Odd-Shaped' data is the unusual stuff, the knotty realities described in a data trail that paints the picture of where processes and activities don't go according to plan. This is the data that helps us understand what is really going on and how to simplify an standardise; to reduce cost and improve effectiveness and quality.

There is much discussion on the challenge of managing and processing the enormous volume of 'big data'. As mentioned earlier, the key is intelligent filtering of the data that is relevant to address the problem at hand.

So how does data, big and/or odd-shaped, help us on the journey to World Class Finance where we operate at high levels of effectiveness with a total cost of finance approaching 0.5% of revenue?

The data for world class benchmarking is available today. We can use this to work out how close to the best practice we can get with our specific business, markets and products. We can establish at a high level what the processes and organisation need to look like. The key question that remains is 'How do we get there from here?'. This is where the 'shape' of the data comes in. We can get plenty of aggregate data to measure KPIs and other performance measures for benchmarking purposes. The critical application of data analytics is in identifying the realities of the current AS-IS processes. Whilst the aggregate data for KPI calculations is the summary of all the things 'that went right' expressed as a ratio or percentage, the data that helps us drive change is the smaller but much more informative filter of data that does NOT conform to best practice or even expected current practice.

The Role of Big (Odd-Shaped) Data in the Finance Function

Identifying 'what is going wrong' at a detailed level, in any organisation of scale, is only possible when using automated data analytics, either as software or a service. Transactional data in corporate ERP and financial systems is the closest proxy we have for the real activities that take place in our business. The closest, that is, assuming you can't sit and observe every process iteration across the business physically or by implanting a processor in every employee. It is not perfect, but it works. It allows us to build hypotheses on root causes, test the hypotheses and drive improvement actions that have rapid impact and tighten up our processes along the journey to best practice. This data on 'what goes wrong' at transactional level is the 'odd-shaped data' we need. It is the lifeblood of continuous improvement.

"Well, I think we found the source of your cash flow problems, Mr. Wallis!"

The 'Odd-Shaped data', a much reduced set filtered from the 'Big Data' streams, tells us where we are leaking cash due to changes to payment terms, pricing and discounting and where we are wasting effort in redundant multi-touch activities or time-sapping sequences of events. It is important not to assume anything in these analytics. We have a tendency to believe the process we designed, documented, developed policies for, embedded controls in, educated and supported through online and other mechanisms actually works that way. The reality is that there are many routes through our processes.

Attempts at simplification and standardisations have only gone so far as we know that different work groups in different regions or business units have their own ways of making the process, and supporting systems, work in the real business.

Monitoring for, identifying and analysing business exceptions helps finance management and process owners understand the real business process in all its variants. By analysing root causes, which can be behavioural (perhaps driven by performance indicators), practical (to make the process work) or educational (lack of knowledge), we can rapidly drive improvements where it matters most, to reduce cost, waste and effort as well as mitigate broader downstream risk.

Companies have been slow to bring analytics based decision making to their processes, especially in the finance function. CFO magazine published an interesting article that reviewed PwC's fifth Digital IQ survey of business leaders. The article interviews the survey author who shares some interesting conclusions including:

"Finance data is some of the most rigorously tracked and captured data in a business. Why not use that data to learn about the way the company spends its money?"

"Many companies are missing an opportunity to delve into the well-organized and meticulously reported company data generated by the finance department, a trove of information that could lead to more focused operational decision making"

"There is a big opportunity that I don't see a lot of companies taking advantage of - to combine the momentum around information analytics with the finance department".

About the Author

"The primary focus of data analytics has so far been on customer-facing Big Data projects that center on marketing and innovation, but there is much insight to be gleaned from exploring existing financial data. It's an opportunity for finance and IT to look together at business processes, such as accounts receivable, employee compensation, or how a company uses third parties, and find out if any of those areas could be improved upon."

"So much investment is put into making sure financials are the best they can be, but most companies right now are probably more focused on sexier, market-facing customer data." They might be getting a bigger bang for the buck if they put more of those bucks into interpreting the value of financial data.

Every day our people are helping organisations find the business exceptions that hold back efficiency and effectiveness, that leak cash and effort like water from a sieve. We know now that business processes are optimised by analysing the 'odd-shaped data'.

Dan French is CEO of Consider Solutions, a firm that provides business solutions and consulting services to help organisations on the journey to World Class Finance. The firm applies management advisory and technology capabilities focused on finance process optimisation, risk management and reducing the cost of compliance, control and assurance. Consider Solutions' methodologies deliver rapid, cost-effective results whilst providing the flexibility required by business management.

Dan has run the firm for 12 years and has a background of 25 years in general management, performance improvement, process change and technology. Dan advises organisations in Europe, US and Asia on strategies for continuous monitoring and exception analytics. Dan claims to live in London despite his travel schedule. He can occasionally be observed playing blues guitar or sampling fine red wines, but rarely at the same time for reasons of practicality rather than preference.

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