

Data Analytics Insights

Monetising Big Data

Building Competitive Advantage with Advanced Customer Data Analytics

By Carn Iverson
Tharollo Consulting

Advanced analytics: informing the strategies that build competitive advantage

Senior executives are taking increased responsibility for analysing Big Data in ways that produce actionable insights into the customer base. Their involvement marks a shift from a traditional focus on reporting what happened in the past, to forecasting what needs to happen in the future. The motivation to do this is simple: to boost revenue and profitability.

Different forms of analysis: what was, what is and what will be

There are three types of analytics that can be applied to business data: descriptive; predictive; and prescriptive. The most commonly-used analytics are referred to as descriptive because they describe past performance and its underlying causes. The majority of management reporting is still based on this form of historical analysis.

Using rule-based analytics and processing algorithms, predictive analytics forecasts what is likely to happen in the future based on knowledge of past events. External data - such as macro-economic events like fluctuations in interest rates or commodity prices - may also be factored into this analysis. The objective is to predict the probability of specified event-drivers or the causes that result in certain effects.

Prescriptive analytics goes a step further by suggesting or prescribing actions that should - or should not - be taken to leverage the forecasts produced by predictive analysis. By doing so it can highlight the implications of a prescribed activity in a variety of scenarios derived from a step-by-step analysis of cause, effect, action and outcome.

In terms of Big Data, prescriptive analytics is particularly powerful simply because it can be applied to enormous data sets such as one comprising all the extensive data on each individual within a Telco's multi-million customer base.

In essence, the larger the data set, the more reliable the prescriptive analysis becomes.

Moving from hindsight to insight - and on to foresight

Combined with advances in data processing, advanced data analytics has unleashed the latent knowledge that exists within vast data sets. In comparison to just five years ago, it is now cost effective to interrogate massive amounts of data very quickly and in a variety of ways in order to inform strategic decision-making. This can be summarised as the Four V's of Big Data: Volume, Velocity, Variety and Value.

Before the advent of Big Data analytics, it was neither technically or economically feasible to manipulate, say, an entire 10 million-strong customer database. This meant that organisations were restricted in the amount of data they could analyse. Consequently, comparatively small samples from the entire base had to be used. Further constraints were imposed by processing speeds and the extent to which even small sets of sample-data could be manipulated. In other words, only a limited amount of fact-based insight could be teased out from all the available data.

In the past, organisations certainly possessed the data but consuming it was like eating tomato soup with a fork.

Advanced analytics illuminates *all* the realities within entire data sets. It identifies profitable customers as well as those that are loss-making. It highlights the most profitable products, services and processes - and precisely who is buying them. It enlightens decisions regarding core functions such as product development and bundling, targeted-marketing activities, and investment in infrastructure. In short, it enables finance professionals to consistently provide their colleagues with actionable business intelligence.

CFOs and senior executives are increasingly taking charge of Big Data analytics

In an August 2013 [commentary](#) on their survey of 850 C-Suite executives at global companies, McKinsey says that, “CEOs and other senior executives are increasingly engaged as their companies step up efforts to build digital enterprises.” That engagement covers five digital-enterprise trends: big data and advanced analytics; digital engagement of customers; digital engagement of employees and external partners; automation; and digital innovation.

Of the CFOs surveyed, 70% said they were supportive of initiatives that advance digital capabilities. Over a quarter of these supporters are directly engaged with these initiatives and 13% sponsor them.

In terms of analysing big data, McKinsey reports that the main priorities are increasing revenue and improving process quality. That’s followed by an increasing use of analytics to improve decision making, R&D processes, and budgeting and forecasting.

This opinion is endorsed by the ACCA (Association of Chartered Certified Accountants) and the IMA (Institute of Management Accountants). A summary of their joint report from October 2013, [Digital Darwinism: thriving in the face of technology change](#), states that the ‘top priorities for the next decade are to apply extraction tools for mining business intelligence, data modelling and analysis, and knowledge management: all are vital for exploiting big data.’

To exploit the opportunities created by Big Data, the report suggests that the top three skills needed by finance professionals are: knowledge of data extraction tools in the mining of business intelligence; use of tools that support data modelling and analysis; and knowledge management skills.

The Report also highlights that in order to apply these skills, new skills also need to be acquired in the disciplines of change and project management. It may be stating the obvious, but successful Big Data projects - those that are completed on time, on budget and meet their specified objectives - need to be managed in the most efficient and effective manner.

That there is an acute skills shortage in all these areas - data extraction and modelling, data analysis and project management and change management - is a major barrier to initiating Big Data projects.

In terms of the shortage of statistical and analytical skills, another McKinsey big data [commentary](#) from November 2013 says that, “The hunt for such talent is taking place in what has become the world’s hottest market for advanced skills. Retaining these valued employees and then getting them to connect with business leaders to make a real difference is a true top-management task”. McKinsey also say that, “The new environment also requires management skills to engage growing numbers of deep statistical experts who create the predictive or optimization models that will underwrite growth”.

Whilst it may be an inconvenient truth, this skills shortage is particularly acute in [South Africa](#). The local scarcity of skilled and experienced Project Managers (PMs) and Business Analysts (BAs) merely serves to reinforce the barriers. Organisations might be lucky to employ analytical and statistical modelling experts, but do they possess similar talent amongst their BAs in order to accurately define business requirements? And are their PMs sufficiently capable of managing a Big Data project that may span many operating divisions across the enterprise?

In particular, BAs will have to add an understanding of statistical analysis to their portfolio of skills. Most importantly, they need to know what insights have to be extracted from Big Data and how best to present those insights in a way that will influence the efficiency and effectiveness of decision-making processes.

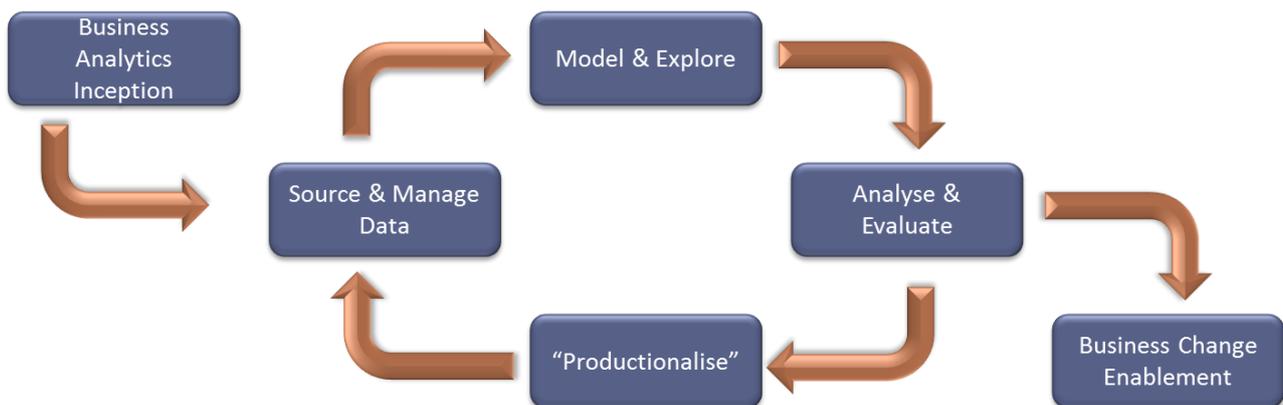
Structuring a Big Data Analysis project

The requisite project management skills will also be essential in order to implement a big data analysis project. It needs to be governed in a structured manner that applies a selection of solution engineering disciplines.

Such an approach should combine best-practice methodologies with pragmatic experience in the areas of project and risk management, business and data analysis, business architecture, and requirements engineering.

As illustrated by the graphic below, the implementation methodology must reduce risk through a series of phases that are time-boxed as well as cost-boxed. It should deliver rapid, actionable outcomes through accelerated achievement of business benefits.

It must also ensure that milestones are always met within pre-defined timescales and budgets.



As the McKinsey commentary points out:

“Success requires getting a diverse group of managers to coalesce around change - encouraging alignment across a wide phalanx of IT, business-lines, analytics, and training experts. The possibility of failure is high when companies don’t commit leadership.”

In an [article](#) on its online information resource for CFOs, Oracle says, ‘the United States alone faces a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts to analyze big data and make decisions based on their findings’.

In another [article](#) from Oracle, big data expert and MIT Sloan Professor, Andrew McAfee, says he believes that, “CFOs and finance organizations are natural owners of big data projects, because CFOs have the most insight into the business and collecting, synthesizing and interpreting data is second nature to the finance function”. This clearly implies that more CFOs need to initiate and govern their organisation’s Big Data projects.

The fact that deep analysis of Big Data provides reality-based, mathematically-accurate insights into the customer base should certainly appeal to senior finance professionals - as opposed to a reliance on mere samples of data or gut-feel and assumptions. Indeed, the nature of these insights suggests that more executives – across the board - should commit to ensuring that the insights are acted upon.

However, Oracle’s own findings of the status quo are at variance with the Professor’s vision of where the responsibility lies for capitalising on Big Data. When surveyed by Oracle on this subject, only 2% of CFOs agreed that they should own Big Data projects. The overwhelming majority - 77% - would prefer to be involved by providing guidance to the business on the problems that it can solve.

The need for change: adapting to Big Data’s leadership demands

Continuing the Darwinian reference from the ACCA/IMA survey report, it’s perhaps worth noting what the evolutionary theorist said about the imperative of change:

“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one most adaptable to change”.

The need for CFOs - and other C-Titles - to increasingly embrace Big Data is a common thread amongst many of the subject’s commentators. In an [interview](#) with Forbes magazine, Carlos Passi of IBM said, “For CFOs, big data is an opportunity to glean deeper insights into the internal and external forces that influence the performance of their companies. By capitalizing on big data using business analytics tools, the role of the CFO is moving beyond optimizing the finance function to transforming the enterprise”.

Passi went on to say that, “Finance teams must be able to use analytics to predict business outcomes and influence business leaders to deliver optimum results.”

“CFOs will also become more effective advocates for change by building and communicating business cases based on big data findings”.

In many ways this is the paramount benefit of Big Data analysis: it provides accurate knowledge to guide today’s executive decisions on how best to increase revenue and profitability.

But, by itself, the accurate knowledge that can be distilled from Big Data is not enough. If it is to empower tangible results, the discoveries made by its analysis need to be acted upon. And that in turn means establishing project teams that can - and will - deliver the necessary actions.

The way forward: look for fast, incremental results from Big Data Analysis

To stress the importance of CFOs' involvement in Big Data projects, Professor McAfee supports a shift from what he calls 'HiPPO' executive leadership (the Highest-Paid Person's Opinion) to a culture of corporate leadership and decision-making that relies upon the realities revealed by data analysis. In a video [discussion](#) with McAfee, Rich Clayton of Oracle reinforces the importance of relying on the data by quoting the CFO of a consumer brands company, "In God we trust. All others: bring data".

McAfee also emphasises that organisations need to be asking the *right* questions of their data. In other words, what must organisations know in order to formulate and implement strategies that will reinforce and extend their competitive advantage?

Tharollo Consulting has developed analytical models that provide unequivocal answers to the right questions. Working with up to 50 statistical dimensions, our Advanced Customer Data Analytics solution generates reality-based insights into the five key 'Must-Knows' within a customer-centric enterprise: Revenue & Profitability, Behaviour, Lifecycle, Migration and Churn.

By combining these models with our long-established PM and BA skills and by partnering locally with firms like IBM for data technology, we have structured an inclusive, commercially-focused approach to leveraging Big Data.

At Tharollo, we believe such an approach is essential if organisations are to awaken the decision-making knowledge that is typically in deep hibernation within their Big Data.

Carn Iverson is a founding director of Johannesburg-based Tharollo Consulting. His profound understanding of Business Analytics is complemented by a proven approach to consistently ensure IT project success.

Established in 1997, Tharollo Consulting's expertise lies in managing R40m - R300m initiatives and is backed by a track-record of 100% success in delivering projects on time and within budget.

Tharollo is a North Sotho word meaning, 'solution for a problem.'

carn.iverson@tharollo.com
www.tharollo.com