

In the media

IT Professionals: Monetising Big Data

How advanced analytics enable IT professionals to inform customer-centric business strategies that build revenue and profitability

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IT professionals need to take increased responsibility for analysing big data to produce actionable insights into the customer base that will boost revenue and profitability, and reinforce competitive advantage.

At the same time, the technical, operational, governance, and compliance risks of undertaking a big data analysis project must be identified. IT professionals need to assess if these risks can be acceptably managed and be confident that the desired business benefits are clearly understood and articulated.

In terms of the costs associated with running a big data analytics project, the business and IT functions need to answer a fundamental question: what price to become a truly customer-centric, customer-responsive organisation?

Using advanced customer data analytics to create a customer-centric business

A lot of nonsense has been written and spoken about the concept of customer focus and being customer-centric. For organisations with big customer bases, such as those within the financial services and telco sectors, the objective to provide improved customer service has been little more than lip-service.

For many years, customer data has certainly been big – very big. For example, banks have long had customer volumes that run into multiple millions. Advances in data technology meant that managing customer-relations became increasingly centralised and automated. Carn Iverson of Johannesburg-based Tharollo Consulting says, “Consequently, what Tharollo refers to as ‘customer intelligence’ – what an organisation knows about its customers and stores electronically – became effectively entombed within impenetrably-large databases.”

Up until recently, say four or five years ago, it was neither technically nor economically feasible to manipulate, for example, an entire 20-million-strong customer database. This meant that organisations were restricted in the amount of data they could analyse and only a limited amount of fact-based insight could be teased out from all the available data. Organisations certainly possessed the data but consuming it was like eating tomato soup with a fork.

In a December 2013 Best Practices Report, [“Predictive Analytics for Business Advantage”](#), The Data Warehousing Institute (TDWI) says, “In the past, it might have taken hours or days to run a predictive model that now takes minutes. Historically, it was often difficult to afford the computing power needed to interpret data that might be changing in real time. The lack of affordable computing power also made it difficult to integrate the output of a model into a business process, i.e., to operationalise it.”

Iverson explains how the advent of big data has lifted these restrictions: “Combined with advances in data processing, advanced data analytics has unleashed the latent knowledge that exists within vast data sets. Big data is now being viewed as a corporate asset rather than an operational necessity. It is now cost effective to interrogate massive amounts of data very quickly and in a variety of ways in order to inform accurate strategic decision-making regarding initiatives that will better serve customers and profitability. This can be summarised as the four Vs of big data analytics: volume, velocity, variety and value.”

Iverson continues, “To effect the transition to a truly customer centric-business, an organisation must acquire an accurate and comprehensive understanding of each element in a typical customer value chain as shown in our graphic below”. (Fig. 1)



Fig. 1: A typical customer value chain.

For Iverson, the insights produced by big data analytics provide accurate, actionable answers to the key questions that arise from a shift towards building a customer-centric organisation.

What was, what is and what will be: descriptive, predictive and prescriptive analytics

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. But this is now regarded as increasingly problematic because, as the TDWI Report succinctly notes, “it is not enough to look in the rear-view mirror to gain insight and remain competitive.”

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 suggested activity in a variety of scenarios derived from a step-by-step analysis of cause, effect, action and outcome.

In terms of big data, Iverson says, “Advanced data analytics are so powerful because they can be applied to enormous data sets such as one comprising the extensive information on each individual within a telco’s multi-million customer base. In essence, the larger the data set, the more reliable the analysis becomes.”

The many facets of building a business case for big data analytics

In “[Generating Value From Big Data Analytics](#)”, a January 2014 White Paper from the Information Systems Audit and Control Association (ISACA), emphasis is placed on the importance of IT professionals understanding the business motivation for undertaking a big data analytics project.

In terms of such motivation, Iverson stresses that Tharollo's advanced customer data analytics solution illuminates *all* the realities within entire data sets. "For example, the customer intelligence it produces identifies profitable customers as well as those that are unprofitable to service. It highlights profitable products and services – and precisely who is buying them. It enlightens decisions regarding core functions such as product development and bundling, targeted-marketing activities, and investment in customer-responsive infrastructure. In short, customer intelligence of this nature produces actionable business insights."

In addition to addressing the technical, operational, governance, and compliance risks arising from big data analytics, ISACA's White Paper suggests an organisation needs to answer three key questions:

- Does the enterprise have the people, process and technology in place to build capabilities that will make productive use of data that the enterprise has collected?
- Has the enterprise established roles and responsibilities and identified stakeholders?
- Does the enterprise have (or can it get) data on which to apply advanced analytics?

Iverson says these questions accentuate the critical need to first ensure the right *approach* to managing a big data analytics project. "Assembling the correct skills across the disciplines of data management and extraction; statistical data modelling and analysis; business analysis; and project management and change management – is the major barrier to implementing analytical projects that have a positive impact on revenue and profitability."

"It may be stating the obvious, but successful projects – those that are completed on time, on budget and meet their specified objectives – will need to be managed from the outset in the most efficient and effective manner."

That there is an acute skills shortage in all these areas – data extraction, advanced statistical modelling and data analysis, business analysis, and project management and change management – is widely acknowledged.

In terms of the shortage of statistical and analytical skills, a McKinsey [commentary](#) from November 2013 said, "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".

"The new environment also requires management skills to engage growing numbers of deep statistical experts who create the predictive or optimisation models that will underwrite growth".

In terms of the necessity for deep statistical expertise, a March 2014 Financial Times feature [article](#) entitled "Big Mistake?" said, "Statisticians have spent the past 200 years figuring out what traps lie in wait when we try to understand the world through data. The data are bigger, faster and cheaper these days – but we must not pretend that the traps have all been made safe. They have not."

The article points out that the promises made by much of the hype around big data are "doomed to disappoint us if we ignore some very familiar statistical lessons." This opinion is later reinforced by David Spiegelhalter, Winton Professor of the Public Understanding of Risk at Cambridge University, who said, "There are a lot of small data problems that occur in big data. They don't disappear because you've got lots of the stuff. They get worse."

All of which highlights the fundamental importance of advanced statistical modelling that is able to provide accurate answers to pertinent business questions.

Structuring a big data analysis project: secure big leadership with big authority

By themselves, the accurate, actionable insights that can be distilled from big data are not enough. If it is to empower tangible business results, the discoveries made by its analysis need to be leveraged through action. And that means adhering to the principle of "implement-and-act" by establishing a project team that can – and will – deliver the necessary actions.

Successful leveraging of big data relies on harnessing a range of business functions in a co-operative effort with a goal that is clearly defined and agreed. As with any strategic initiative, a big data analytics project needs to be governed by strong leadership in a structured manner that applies appropriate solution engineering disciplines. Such a leadership-driven 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 (Fig. 2), Iverson says, “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.”

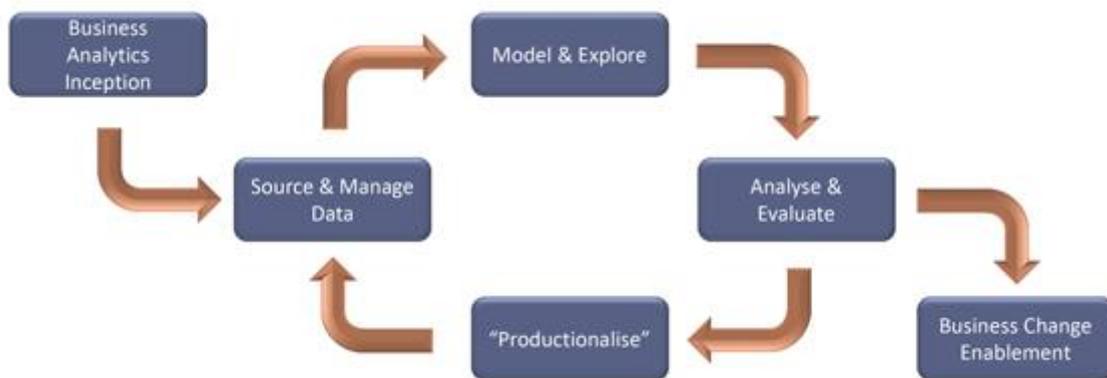


Fig. 2: Phases of implementation.

Look for the right answers

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?

Iverson answers that question by saying: “Tharollo 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 and profitability; behavior; lifecycle; migration; and churn.

“By combining these models with our long-established project management and business analyst skills, we have structured an inclusive, commercially-focused approach to leveraging big data. We believe such an approach is essential if organisations are to awaken the decision-making knowledge that lies deep within their big data.”

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

Tharollo Consulting (Pty) Ltd	www.tharollo.com
Glenda Wheeler 082 772 1581	glenda.wheeler@tharollo.com
Carn Iverson 083 287 8020	carn.iverson@tharollo.com