THE BEST WAY TO PREDICT THE FUTURE IS TO CREATE IT

Business Analytics in South Africa
Executive Summary

It’s time for a revolution.

The economic turbulence and technological advances of the 21st century have created an environment ripe with opportunities for businesses and the public sector. According to a special report compiled by MIT Sloan Management Review in partnership with the SAS Institute, organisations across the globe are on the cusp of an analytics revolution. This will transform how they are managed and how the economies and societies in which they operate function. Real change requires a rethink of how things are done. And with the rise of big data and the opportunities and challenges that come with it, organisations must go beyond just changing job roles or adjusting how invoices are managed, to re-evaluating how they view, value and monetise information.

A global survey conducted by SAS in 2011 found that the use of business analytics is still in emerging stages, and that although business analytics has gone mainstream, most organisations still relied on traditional technology. Spreadsheets were the number one tool used for business analytics.

This South African Business Analytics Survey aims to assess the maturity of business analytics adoption from a South African perspective.

This is what the research revealed about the current use of business analytics in South Africa:

• Tools such as analytics are needed in increasingly complex and dynamic environments to make sense of information and plot the way forward.
• Organisations require an integrated view of the business to make informed decisions and to assess the impact of those decisions.
• Strategic analysis, choice and implementation are best executed using as much quality data as possible.
• There is scope for more effective use of analytics in many organisations.
• The increased use of analytics is encouraging given the benefits that can be achieved.
• The more decision-makers trust the data, the more they will combine it with their “gut” to make decisions.
SAS believed that it would be useful to understand the current state of business analytics in South African organisations. The Business Analytics Survey was conducted to determine the extent of analytics used by local organisations and contrast how these organisations compare to their global counterparts. The research also assesses the role of the “analytics culture” in driving data-based decisions.

This research was conducted by BMI-TechKnowledge and was based on a previous international SAS analytics studies, “The Current State of Business Analytics: Where do we go from here?” and follow-up research, titled “Getting your money’s worth with analytics”. Researchers conducted fifteen- to twenty-minute telephonic interviews with potential respondents from the BMI-T top 350 companies list.

Demographics

INDUSTRIES

- 8% Primary industries
- 2% Media
- 11% Government
- 4% Communications
- 12% Manufacturing
- 26% Financial services
- 5% Healthcare
- 22% Business general

FUNCTIONS

- 14% CIO
- 8% Finance
- 5% Business Analyst
- 17% Business
- 16% BI/Analytics
- 4% Risk/Audit
- 28% IT
- 10% Sales/Marketing
“Predictive analytics can be used in two powerful ways: for prevention or for creation. One is about stopping the undesirable from happening, and the other is about fulfilling desires.”

“Business leaders have always made predictions about the future of their organizations. The difference today is that our predictions no longer have to be based on gut feel and inexact analyses of the past. With big data and predictive analytics, we have the ability to leverage collective knowledge and larger volumes of data. As a result, our predictions can be fact-based, not based on the experiences of one person.”
The use of business analytics capabilities/tools

In South Africa, spreadsheets are the most popular tool for business analytics, followed by dashboards and general statistics. This is similar to the global survey, which revealed that the most commonly used tools for business analytics were spreadsheets followed by dashboards and forecasting.

Also mirroring the global results, it emerged the use of sophisticated analytical capabilities is still premature in South Africa, with many organisations still only in the primary stages in their use of analytical tools.

WHICH OF THE FOLLOWING TOOLS DO YOU USE AS AN ANALYTICAL TOOL

- Spreadsheets: 87%
- Business Reporting/KPIs/Dashboards: 83%
- General statistics: 60%
- Forecasting: 51%
- Query and analysis: 51%
- Data and text mining: 40%
- Web analytics: 34%
- Optimisation: 28%
- Interactive data visualisation: 27%
- Model management: 23%
- Simulations & Scenario development: 22%
- Social media analytics: 20%
- Text, audio & video analytics: 14%
- Use none of the above: 0%
Organisational areas currently using analytics

Finance and strategy are the leading business areas using analytics, according to respondents. While their levels of adoption aren’t as extensive, sales and marketing respondents also clearly see value in analytics being used across the organisation. The rationale for the primary use of business analytics within these areas is due to these departments’ role in analysis and prediction.

WHICH OF THE FOLLOWING AREAS IN YOUR ORGANISATION ARE CURRENTLY USING BUSINESS ANALYTICS?

- Finance: 84%
- Strategy/planning: 76%
- Marketing: 61%
- Information technology/management: 59%
- Customer service/support: 56%
- Sales: 54%
- Operations/supply chain management: 53%
- Product development: 50%
- Human resources: 46%
- Other: 4%
Areas addressed by analytics

Organisations are interested in using analytics to solve various business issues, especially those related to money. Respondents believe that profit increase and cost reduction are the most important areas being addressed by analytics, and this was also reflected in the global results. CIOs feel that a particular area that analytics can help them with is the reduction of time taken to solve problems and make decisions. Solutions that identify cost reductions and areas where profits can be increased, as well as potential areas for customer service and productivity improvement will be adopted more easily within organisations than solutions where this value is difficult to demonstrate.

SELECT THE TWO MOST IMPORTANT AREAS YOUR ORGANISATION IS ADDRESSING OR HOPES TO ADDRESS WITH BUSINESS ANALYTICS

- Increased profitability: 50%
- Cost reductions: 39%
- Reduce time to solve problems & make increased fact-based decisions: 36%
- Optimised internal process: 33%
- Ability to manage risk: 23%
- Other: 5%

Business analytics across the organisation

Three quarters of respondents surveyed use analytics in various business units or across their entire organisations. Again, this is seen particularly in business roles (including finance, risk, sales and marketing). Communications respondents see analytics integrated across the entire organisation. The survey revealed that an integrated view of the organisation is required to make informed decisions and best assess the impact of those decisions across the organisation.
The initial global findings showed that many companies began with pilot programmes to address a specific need and then expanded these programmes further into the organisation as they proved effective. The updated research conducted at the end of 2011 showed that analytics had moved across the organisation with very few businesses only using analytics solely to address a specific issue or function. The South African results show a more rapid uptake of the use of analytics in an integrated manner compared to the initial results from global. Some of the rational for this could be that South African organisations lag behind international counterparts with adoption, so by the time we catch up, the analytics offerings are far more mature. Another reason is also that more organisations have realised the greater value in integrated versus silo usage of analytics.

WHICH OF THE FOLLOWING DESCRIBES THE USE OF BUSINESS ANALYTICS ACROSS YOUR ORGANISATION?

- Isolated use for a very specific issue: 11%
- Used for specific functions or initiatives: 15%
- Used in various business units divisions: 32%
- Integrated use across the entire organisation: 43%
Change in the use of analytics

On average, respondents say there has been a moderate increase in the use of analytics in their organisations. Audit/risk respondents (although low in number) saw a significant increase in analytics usage. There is a relevant uptake of analytics but organisations remain cautious in their approach.

How has the overall usage of business analytics changed in your organisation over the last 12 months?

Not everything that can be counted counts, and not everything that counts can be counted

- Albert Einstein
Using analytics effectively

There is a strong correlation between the effectiveness of analytics and the ROI that they offer. Respondents were asked to rate the effectiveness of their organisation’s use of analytics as “not at all”, “somewhat” and “effectively”.

Regardless, there is definitely room for more effective use of analytics in many organisations.

WOULD YOU SAY YOUR ORGANISATION IS USING ANALYTICS EFFECTIVELY?

Analytics use in decision-making

Analytics plays a substantial role in decision-making, according to respondents, but this could still be improved upon. Fifty three percent of the respondents state that analytics contributes to more than 60% of their organisation’s decision-making. Eight percent of the respondents indicated that analytics contributes 0% to 20% of their decision-making. Although the merit of using analytics to drive decisions is accepted by most organisations, intuition based on business experience still plays a significant role. The more decision-makers trust the data, the more they will combine it with their “gut” when making decisions.

“Not everything that can be counted counts, and not everything that counts can be counted”
-Albert Einstein
ROI metrics for analytics

Financial ROI metrics for analytics are most prominent among respondents across all industries. However, in Government, workforce productivity is the leading metric followed by financial metrics. Good ROI metrics, especially those that measure financial returns and productivity, will greatly support expansion of analytics initiatives within an organisation.

IN WHAT AREAS DO YOU HAVE METRICS IN PLACE FOR ROI CALCULATIONS ON BUSINESS ANALYTICS

- Financial: 72%
- Workforce productivity: 53%
- Customer experience: 42%
- Other: 14%
- None: 10%

“A point of view can be a dangerous luxury when substituted for insight and understanding”
- MARSHALL MCLUHAN
**Striving for an Analytics Culture**

**Value of analytics**

More than half of the respondents felt analytics are critical to achieving their organisations’ strategies and goals. Over 90% of respondents regard analytics as important or critical. Business roles in particular (including finance, risk, sales and marketing) see analytics as critical.

Increasingly complex and dynamic environments necessitate tools such as analytics to make sense of information and plot the way forward.

HOW VALUABLE IS ANALYTICS IN ACHIEVING THE STRATEGIES AND GOALS OF YOUR ORGANISATION?

![Bar chart showing the distribution of responses to the question: How valuable is analytics in achieving the strategies and goals of your organisation?](chart.png)
State of analytical resources

Almost one quarter of respondents plan to increase analytical talent within their organisations. Business intelligence/analytics respondents were especially aware of the need for additional analytics talent. Those within finance roles believed that they have the right analytical talent in place, while those in sales and marketing saw value in boosting analytical talent. To use analytics effectively and to realise ROI, it is obviously important that organisations have the right analytical talent in place. The majority of the respondents indicated that within their organisations their analytical talent was moderate to highly skilled.

Skills required of analytics personnel

The respondents generally feel that the skills levels among analytics personnel within their organisations range from moderate to high. On the other hand, more respondents in BI roles are moderately skilled. Those in the communications and financial services industries indicated the greatest level of highly skilled personnel.

WHAT LEVEL OF SKILL DO THE PERSONNEL INSIDE YOUR ORGANISATION HAVE TO APPLY OR USE ANALYTICS?
Getting others on board to use analytics

Most respondents feel it is possible to get others on board to use analytics, but almost a quarter of business respondents and CIOs still battle.

The benefits of analytics are easy to promote internally when valuable outputs are provided and ROI can be demonstrated. If value cannot be demonstrated, analytics are a hard sell.

CAN YOU GET OTHERS ON BOARD TO USE ANALYTICS?
Driving analytics in the organisation

There is a mix of top-down and bottom-up influences in the uptake of analytics in organisations, with respondents seeing analytics as being driven more from the top down. This is more prominent in the finance, business and sales and marketing roles. The industry view for the manufacturing sector was the highest in agreement with the top down approach. Champions can come from either end of the spectrum to promote and drive analytics initiatives. Obviously, executive drive and support will ensure the best chance of success.

Challenges in adopting analytics

The quality, integrity and consistency of the data, along with access to the right data, are the top challenges identified by respondents. As with all IT systems, quality data is vital to the success and adoption of analytics.
Effective use of analytics defined

There is, not surprisingly, a strong relationship between effectiveness and analytical ROI, although a few companies report being effective without yet achieving ROI and some indicate they have achieved ROI but are not particularly effective yet. The respondents were grouped into four segments based on their responses to questions about their effective use of analytics, breadth of analytics and analytical talent.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>FRONT RUNNER</th>
<th>FAST FOLLOWER</th>
<th>DABBLER</th>
<th>TRAILER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFFECTIVE USE OF BUSINESS ANALYTICS</td>
<td>Effective</td>
<td>Somewhat</td>
<td>Moderately</td>
<td>Not particularly</td>
</tr>
<tr>
<td>BREATH OF ANALYTICS</td>
<td>Relatively high</td>
<td>Some integration</td>
<td>Some integration</td>
<td>Very low integration</td>
</tr>
<tr>
<td>PERCEIVED ANALYTICAL TALENT</td>
<td>Have the right talent in place</td>
<td>Lacking in business and/or technology talent</td>
<td>Lacking in business and/or technology talent</td>
<td>Lacking in business and/or technology talent</td>
</tr>
</tbody>
</table>

View of own data was standardised, that all agree that data quality and access have positive impact on analysis.
"Information is the oil of the 21\textsuperscript{st} century, and

*Effective use of analytics defined*

**Front-runners**

Front-runners are those organisations that are successful in their use of business analytics as measured by effective use of analytics in decision making and the return on investment for analytics expenditures. From the respondents 26\% of the organisations fall within this category. Most front runners have increased their spending on analytics over the previous year, generally have a strong executive support for analytics and generally understand the importance of data being in order to enable effective use of analytics. While not yet completely integrated across the company, analytics in most front-runner organizations has spread beyond individual functional and department use.

**Fast followers**

Fast followers are defined primarily by evidence that they have not yet turned the corner on their return on analytics investments. They tend to view their analytics efforts as relatively effective, but they are not as mature in other areas as the front-runners. A critical factor separating fast followers from front-runners is that the vast majority of them don’t have the right analytical talent in place and tend to be plagued by data issues: accuracy and access. Some have executive support for analytics, but their culture is not typically one of fact-based decision making. Few fast followers have integrated analytics across the organisation.

**Dabblers**

Dabblers are organizations that have ventured into the use of analytics without a lot of structure. They seem to be doing a fair job getting value from their analytics, but they have difficulty determining whether they have recouped their investment because they typically don’t have metrics in place to measure ROI. These organizations are still at a deficit with their analytical talent, but not to the same degree as the trailers or even the fast followers. In general, they see themselves on about par with their competitors in using analytics, but a surprising percentage of them don’t know where they stand. They’ve done a better job than fast followers or trailers at moving analytics beyond departmental or functional areas, perhaps in part because they seem to have better data management capabilities.

**Trailers**

Trailers are organizations that appear to be in the early stages of their use of business analytics. These organizations have not reached a point of effectiveness and haven’t gotten a return on their analytics investments, or they have come to an operational crossroads and are stymied because they don’t know which way to turn. They tend to view themselves as behind the curve compared to their competitors. They, too, are lacking the necessary analytical talent, but unlike the fast followers, they haven’t made the investments in analytics over the past year. Data issues are a significant barrier to their use of analytics, and primarily because of this, executives tend to override the results more than half of the time. The use of analytics is typically fairly isolated, and collaboration is a key issue.

*Definitions obtained from the white paper: Getting your money's worth with Analytics*
The results from the survey indicate a positive uptake on the use of analytics and reliance when making business decisions. Accurate and reliable data must form the foundation of the effectiveness of analytics. Effective data management approaches can assist businesses in getting their data in order and simplifying access, freeing up time for analysis, which could result in better decisions and effective future planning. The main takeaways from the survey were:

• Solutions that identify cost reductions, potential profit increases and areas for customer service and productivity improvement, will be adopted more easily than solutions where this value is difficult to demonstrate.

• The most effective decision-making will be supported by a combination of quality analytics information, experience and intuition.

• Good ROI metrics, especially for financial and productivity, will greatly support the expansion of analytics initiatives within an organisation.

• Trust in analytics information is crucial; if the information is not trusted, executive support and user buy-in and adoption is impossible.

• The broader the analytical talent pool is, the greater the potential value that will come from analytics information. This is applicable throughout the organisation.

• User training in analytics is extremely important to extract maximum value from analytics solutions and initiatives.

• The benefits of analytics are easy to promote internally when valuable outputs are provided and ROI can be demonstrated. If value cannot be demonstrated it is a hard sell.

• Advocates for the use of analytics can be users of executives however executive support is crucial.

As with all IT systems, quality data is vital to the success and adoption of analytics, and must be a priority.
**About SAS**

SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions, SAS helps customers at more than 70,000 sites improve performance and deliver value by making better decisions faster. Since 1976, SAS has been giving customers around the world THE POWER TO KNOW®.

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