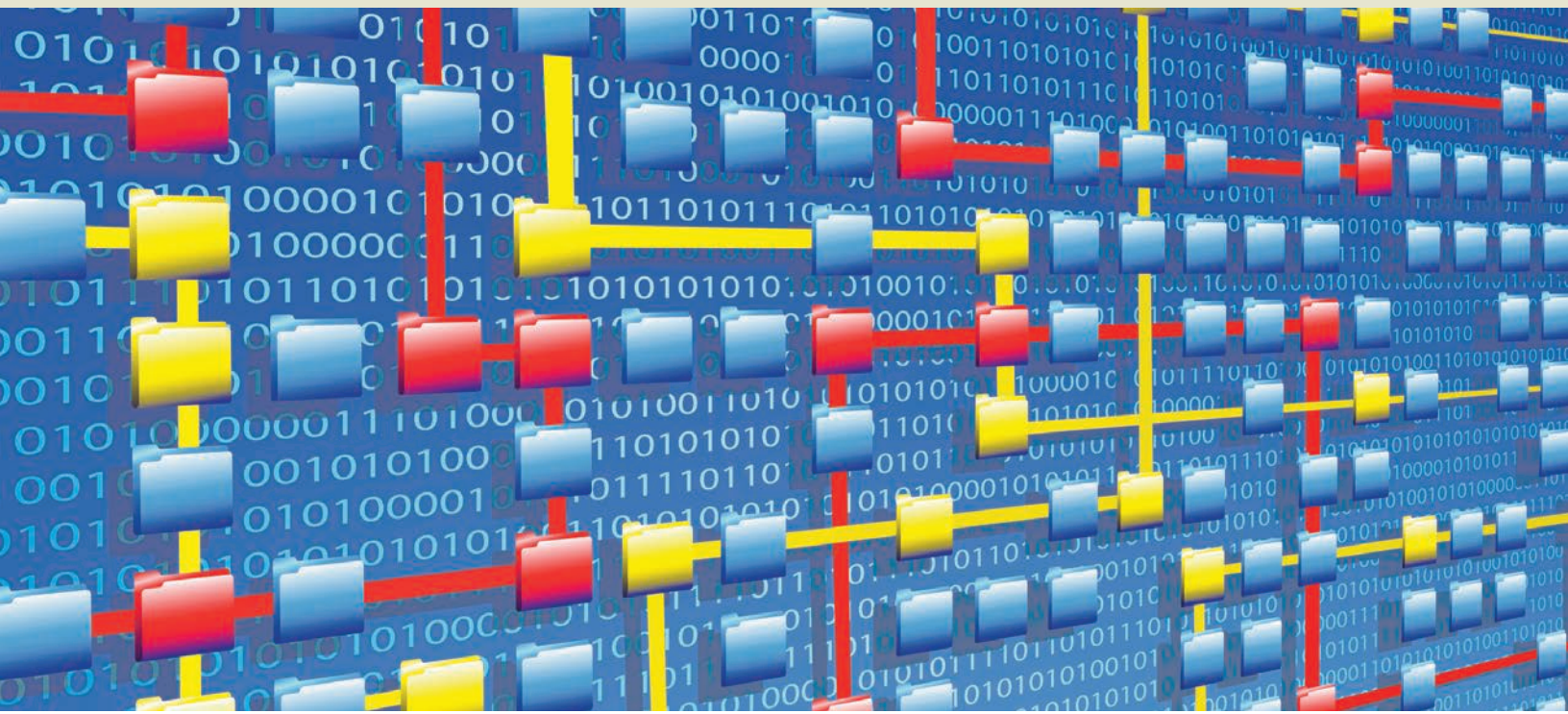


Analytics: The Key to Unlocking the Intelligence in Data



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In today's ultra competitive business environment, looking back on historical performance is no longer sufficient to stay ahead of the curve. Organizations need to be able to anticipate future outcomes as well, understanding not only what happened and what is happening but also what is likely to happen next.

Therefore, business analytics has become top-of-mind for management teams and IT. However the investment in analytics can occasionally be perceived as daunting and the vast amounts of data available to analyze can seem overwhelming. As organizations try and make data driven decisions, the need to understand the benefits and best practices of a business intelligence environment including predictive analytics, has become critical in ensuring that organizations get the actionable insight they need to outperform their competitors, as well as achieve the maximum return on their investment.

Joining Mukul Krishna, Global Director, Digital Media, Frost & Sullivan for this one hour eBroadcast was Dr. Kirk Kelly, Director of Accountability and Testing, Hamilton County Department of Education and David Clement, Business Analytics Product Marketing, IBM.

MARKET OVERVIEW

Across verticals, the need for integration and interconnectivity between various systems, databases, and devices, both in the back-end and the front-end, is recognized as requisite for delivering a seamless experience.

Analytics to process both internal and external data provide the intelligence to guide or trigger alerts, or automated adjustments to processes, offerings to customers, treatment for patients, or automotive driving controls.

Each of these themes are key to delivering a seamless experience. "But what do you do with all of the information that you're gathering? That is where analytics becomes so important," said Mukul Krishna, Senior Global Director, Digital Media, Frost & Sullivan. When processing internal and external data, analytics can extract intelligence out of this data — regardless of the vertical.

BYOD (bring your own device), tablets and other mobile devices, sensors, smart systems, robotics, are all part of the overall vision and are a source of excitement across verticals. These enable ubiquitous and real-time interactivity, both in the back-end (e.g., among hospital staff), and the front-end (e.g., shopper with the retailer).

PROCESS-DRIVEN INDUSTRIES

Process-Driven Industries were one of the first in the market to recognize the pain points, silos, and processes that needed to be brought together with analytics. These industries include:

Manufacturing: The sector is the most advanced, relatively, in terms of utilizing intelligent systems to optimize production processes. Predictive maintenance and condition-based monitoring has historically been implemented by most manufacturers with varying degrees of sophistication.

Banking and Finance: Despite significant progress made in the direction of multi-channel and mobile banking, protecting sensitive customer information and deriving actionable Business Intelligence (BI) from the sheer volume of data that banks collect is a restraint for this vertical.

Automotive: The segment has made tremendous strides in achieving its long-term vision of truly connected vehicles that are context-aware at all times. The convergence of in-car technologies, wireless communication and mobile devices, has provided the concept of the Internet of Things (IoT) with greater traction in this vertical.

Healthcare: Despite the compelling value proposition that IoT offers in terms of integrating siloed domains of operation like EMR and advanced equipments, persistent concerns around data security breaches (and associated financial liabilities) continue to slow uptake.

Retail: Retail has been lagging behind in embracing the idea of IoT. Challenges associated with data security, top management buy-in, OS fragmentation and overall weak macro-economic conditions will negatively impact investments in intelligent systems in the short and medium terms.

THE INTERNET OF THINGS

Strategically data can drive greater efficiencies in the process-driven industries. But it does not stop there. “Ten years ago we were all complaining about not having access to information, and we have done a fantastic job since then creating those ubiquitous networks to tie all of these siloed pieces together. Now our problem is we have so much data we don't know what to do with it,” said Krishna.

“Big Data begins with storage. You need to store it — and manage and discover it. Big Data needs a search and retrieve function. This is where digital analytics comes in — it is the one key thing transforming the landscape like something we have not seen in a generation,” asserted Krishna.

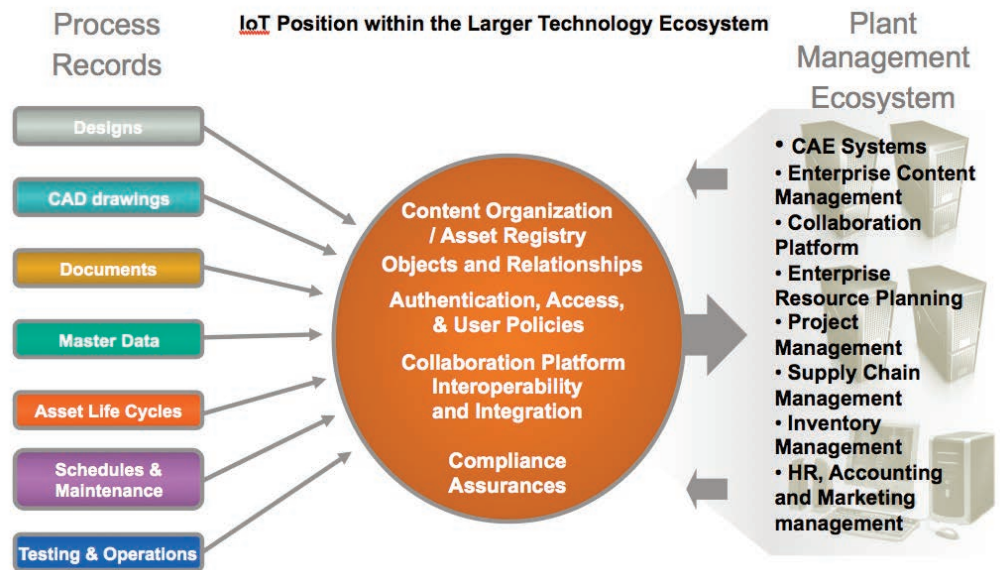
Once we are able to extract that intelligence, we can empower decision makers to make decisions in real-time. “To tie all the dots — we have the Internet of Things — which has led to a treasure trove of data we have never had access to,” said Krishna.

This leads to one of the most important features of Big Data analytics — using analytics and Business Intelligence tools to empower decision making and extract meaningful information moves us from being reactive to becoming predictive.

“Much less, the return on investment on analytics is very real,” said Krishna.

In an MIT study, vendors using Big Data and analytics were found to show productivity rates and profitability 5% higher than their peers. Meanwhile, McKinsey analysis has found that data-centric marketing decisions can grow marketing ROI by 20%.

“We are not talking about a leap of faith. We are talking about very real and tangible evidence,” said Krishna.



CONSUMER-DRIVEN MARKET DYNAMICS

The internet is everywhere. It has brought companies closer than ever before to their customers. That's true of their customers as well. BYOD has changed what customers expect from vendors, and it has made loyalty difficult to keep.

Customers expect you to know things about them without them telling you. The onus is on you to identify customers with urgent wants or deal-breaking complaints. Customers

want information now. Connected customers can move from site-to-site within seconds, which means they require an easy, intuitive experience. They will click away if they are not given this.

“To win these battles, you need to rely on intelligent analytics; this, in turn, is enabled in a very powerful fashion by harnessing Big Data,” said Krishna.

CHALLENGES IN HARNESSING BIG DATA

Data alone has no direct utility. Alone it is bits and bytes, zeroes and ones. Understanding correlations and making predictions is the key point. Analytics helps data come to life.

The perception of Big Data is that it is daunting and overwhelming. In many cases it is. There is a learning curve, which makes the final success better.

There are so many different types of data to analyze, different sources, streams of data to access. Analyzing data is easier said than done. It starts with understanding, “what are you trying to glean,” said Krishna. Frost & Sullivan has found that nearly half of the marketing executives surveyed, considered limited competency in data analysis a major obstacle to implementing more effective strategies; less than half of organizations that evaluate marketing tools actually use them.

“That said, Big Data is also the next frontier for innovation, competitive advantage, and productivity,” said Krishna.

Also, analysis paralysis is a real risk — data can be over-analyzed without being able to take meaningful actions. Unless you can quickly draw accurate conclusions, analytics serves no real purpose.

CONQUERING ANALYSIS PARALYSIS

To conquer Big Data analysis paralysis, Krishna advises that you leverage the cloud and Big Data technologies; that you break up data into manageable sets, and don't feel like you have to use all of it at one time — or ever.

“Be tolerant of imperfect data,” he said. “Remember that's why we have analytics. Analytics will help you draw these correlations.”

Seek to leverage real-time streams as much as your archives.

Focus on gathering specific actionable insights — start with simple questions and refine them over time. Seek correlation, not causation. Pay as much attention to exceptions and outliers as you do to trends. Embrace the convergence of data intelligence tools with your marketing systems.

Automation is key but humans are not replaceable. Automation tools are only an effective productivity tool, if leveraged intelligently — by humans.

CASE STUDY: HAMILTON COUNTY DEPARTMENT OF EDUCATION

To share an idea of how using predictive analytics and Business Intelligence products can help you to create a competitive advantage, the eBroadcast next focused on a case study from the Hamilton County Department of Education.

The Hamilton County Department of Education has 41,000 students with daily interactions, 6,000 employees (making it the largest employer in its area). The school district faced many dynamic challenges each day. Its vehicle for reporting these challenges was in a paper format, which was becoming dated too quickly.

The solution was in the form of a data warehouse that allowed the school system to pull together data from many different areas and silos. “We needed a solution that would allow us to bring all of this information together and be able to get on-demand reports to our end-users,” said Dr. Kirk Kelly, Director of Accountability and Testing, Hamilton County Department of Education.

IBM helped the school district automate its process with nightly updates of the data collected. Up to date information could be easily requested.

Additionally, the school district could track not only a student’s sick days, but also post-school and into college to help keep students “on task” and not in danger of dropping out. “We have seen an increase in the number of students going to post-secondary colleges,” said Kelly.

The system can create custom reports to meet its users’ needs — as they grow.

One of the big benefits is the ability of predictive analytics, which has allowed the school district to act in real-time and plan to tailor support services for students of all different levels.

Another advantage, thanks to predictive analytics, was the ability to have a idea of what students were likely to score on tests prior to them taking tests.

“The greatest resource we have in a school is human capital,” said Kelly.

ANALYTICS CHANGES EVERYTHING

Businesses are becoming more aware of the fluctuations that uncertain times can bring to their operations. “In a connected and data driven world, the hinge that swings in your favor can be how you see your business doing in the future and the proactive measures that can take your business to new heights,” said David Clement, Business Analytics Product Marketing, IBM.

Business leaders recognize that our new connected era is fundamentally changing environments around the world. “CEOs are now looking to embed insights where front line decisions are made, and ensure data driven decision making is part of everyday processes. Predictive analytics enhances the value of deploying BI reports, dashboards and scorecard capabilities across the enterprise, by broadening traditional data analysis in terms of patterns, trends and predictive scores to help make better decisions and improve operational efficiencies for success,” said Clement.

KEY TRENDS FUELING THE NEED AND URGENCY FOR ANALYSIS

“There are three important shifts in the world that are fueling the need and urgency for analytics,” said IBM’s Clement.

The first is the emergence of Big Data — but more importantly, the emergence of the information and analytics innovations creating new opportunities to glean actionable insights from new varieties of data and content coming at organizations in huge volumes and at accelerated velocity in cost-effective ways. Yet, based on a recent IBM study, 65% of business are not using big data for business advantage.

The second, is the continued shift of power to the individual consumer, the citizen, or patient, driving organizations to innovate around how to acquire, grow and satisfy individuals. Creating the need for organizations to understand and anticipate customer behavior and needs based on customer insights across all channels. Recent research has shown that 84% of consumers rely on social networks for purchase decisions.

The third, is the pressure to do more with less. In today’s hyper-competitive environment, there is a relentless focus on driving and optimizing efficiency and productivity. There is no question that this has become the “new normal” and analytics is helping organizations drive the next wave of efficiencies. Studies show that organizations using advanced analytics enjoy a 32% higher return on invested capital.

REALITIES TO CONSIDER

If you are an executive, business unit manager or business analyst, report author or business IT manager, then consider the following:

First, more than 70 percent of CEOs are seeking a better understanding of individual customer needs and improved responsiveness. Given the need for deep customer insight, outperformers have a distinct advantage. By including analytics in every corner of your business, executives can validate assumptions and make powerful decisions.

Secondly, for business unit managers and business analysts: “The most dramatic change is the increased visibility in how the company is running and what is happening in its external environment. Individual contributors and managers end up with more situational awareness, so they are able to make better decisions faster.”

Finally, CIOs want to optimize efficiency and seek substantial competitive advantage with the help of IT. In the recent CIO study by IBM, of those focused on cross-enterprise growth, 95 percent said they would lead or support efforts to drive better real-time decisions and take advantage of analytics.

Their objective is to shape their businesses future, extend market presence, and stay ahead of competitors by integrating predictive information in their BI environments to drive strategic thinking.

Through a number of interviews with a broad range of companies executives are asking to develop a culture of analytics and build predictive intelligence capabilities that can fundamentally change the business and drive profits.

BETTER OUTCOMES FROM BI

For IBM, the importance of providing business users with forward looking Business Intelligence and integrated predictive analytics, helps everyone realize better outcomes because:

- It provides simple to use business applications, allowing for better analytics to detect fraud or risks associated to specific business tasks and operations such as fuel or material price fluctuations. Embedding this evidence within your business analytics reporting environment validates assumptions leading to better business process enhancements, and bottom-line savings.
- It provides improved outcomes, looking at processes that are repeatable in nature such as utility consumption, credit approval or patient scheduling, where patterns and insights can be extracted and then included and applied to the Business Intelligence landscape to provide management with complete visibility into the business to help make confident decisions and improve efficiencies.
- It provides leaders with a means to strengthen analytics across the organization using desktop, browser and mobile devices, where past, present and future views of your data can be deployed to help drive ownership of company success, and promote wider strategic thinking within business units around the development and sale of your products and services.

The digital enterprise workflow space is comprised of closely intertwined markets such as enterprise search, digital asset management, and enterprise content management, among others. These are characterized by common macro level factors such as:

- Explosion in the amount of information that enterprises need to contend with on a day-to-day basis.
- Demand for a high-degree of customization in solutions from customers.
- Pressure to monetize and remonetize content to derive maximum value.

“No matter where you start, or what you need to do, today’s business climate demands comprehensive capabilities across a spectrum of different use cases,” said Clement. In traditional product terms, predictive analytics is part of your Business Intelligence environment and enhances and validates decision making across the organization.

Game-changing outcomes give your business competitive advantages and by having the depth, breadth, and interoperability to take analytics where it needs to go, when it needs to go there, you end up with successful results in the information age.

FINAL THOUGHT

Any organization looking at implementing analytics needs to also strike a balance between the data available and how it implements analytics. If you have too much data and not enough analytics you will drown in information and lose customers. If you run a lot of analytics on sparse data, you will draw misleading conclusions. The goal is to achieve balance and have the ability to react quickly and accurately, based on the intelligence extracted from the available data.

The promise of data analytics is real. Organizations across industries need to seize the moment and use analytics to implement behavioral targeting to increase customer loyalty and see sustained growth. Using analytics, organizations can more effectively nurture prospects into warm leads, and warm leads into customer relationships.

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