



A Perfect Match

Big Data and the Cloud in Action

A Perfect Match: Big Data and the Cloud in Action

Cloud + Big Data = Opportunity. The chance to scale like never before and run analytics are changing the world for business leaders – why wouldn't you get on board?

Visionaries and industry leaders tend to do a few things better than their peers. They sniff out and pounce on opportunities; they are the pathfinders for new markets; and they accelerate away from competition by creating efficiencies. Ask yourself a couple of questions. Is your organization a leader? Are you enabling your best people by giving them the best information platforms that enable them to stand above the crowd?

Cloud provides an ultra-flexible way to run services and try out new things without jumping through the usual hoops of IT provisioning. The path from idea to action is dramatically shortened. Big Data lets a gusher of old and new information sources from sensors to metadata and machine data be processed and analyzed at unprecedented speeds to deliver remarkable new insights.

Capitalizing on these changes will give your company the opportunity to jump from 'business as usual' to game-changing insights that industry leaders build upon. Those organizations that fail to use analytics to guide their decisions and move quickly will be left behind by their customers. So, pioneer or placid observer: which one are you going to be?



Leader or Follower: which one are you going to be?



Big Data and the cloud in the Real World

From executive information systems to data warehousing and business intelligence, data analysis has historically been performed on the premises of customers. But the new sources of data, often unstructured, are a terrible fit for the old infrastructure of scale-up IT systems, traditional software licensing and relational database management systems. By contrast, the cloud's practically infinite resource elasticity is a perfect match for Hadoop, Spark and the other frameworks and tools that have transformed the economics of analytics.

Cloud is also a good fit for information that is generated outside the four walls of the enterprise such as financial market data, weather station inputs, website or mobile clickstreams. But today's data movement tools also mean it's possible to take internal workloads and put them into the cloud or use on-premises/cloud hybrid approaches.

Every day, organizations are transforming processes, saving costs by building out their analytics clouds and moving faster than they could possibly have done on-premises.

- [Kellogg's](#) was able to get a much better grip on which TV, digital, coupon and other promotions are leading to sales by processing and analyzing 16 terabytes of sales data per week. The company can now deploy sales analysis instances 90 per cent faster in the cloud than it could on premises.
- With its Player Tracking System, [Major League Baseball Advanced Media](#) can show fans more of the subtleties of the game. Every play can be captured for analysis and enjoyed by players, teams, fans and the media. Off season, the capacity is simply switched off. Key moments are transmitted across the nation in real time with compute capacity to handle 15 games per day.
- Fashion retailer [Nordstrom](#) was able to process customer requests in its “online stylist” recommendation engine and help buyers find garments they love by analyzing their browsing. A process that once took up to 20 minutes now takes seconds and compute costs have fallen by two orders of magnitude.
- [Toyota Tsusho Electronics](#) in Thailand, a subsidiary of Toyota Group Japan, launched TSquare, a traffic information broadcasting system, which provides users with real-time traffic data for Bangkok and its suburbs.
- [Origin Energy](#) is leveraging Big Data to offer its customers a disruptive new pricing model in Australia. Data taken from smart meters and other sources was analyzed to let Origin offer a fixed-price 12-month tariff to customers who can now avoid “bill shock”.
- Indian news media leader [NDTV](#) tells its stories to over one billion people via TV and digital media. It is now serving its websites and mobile applications in the cloud, providing the capacity to meet peak loads of more than 600,000 simultaneous users at a 30 per cent lower cost than if it were using its own datacenter.

The Three Big Competitive Advantages



Speed

The standout is speed to action. The old way of doing business IT meant long procurement cycles and projects that would take months or even years before you even discovered whether the original idea or assumption was a smart one. With cloud you can be generating real decision-making data in weeks, days or even hours.



Innovation

The ability to start small and scale quickly opens the door for a culture of experimentation. The cost and risk associated with the failure drop dramatically. Like a Silicon Valley startup you can ‘fail cheap and win fast’. Not every experiment will turn into a gem but you have the capacity to try things without undue risk and when projects show signs of promise you can quickly escalate them.



Cost

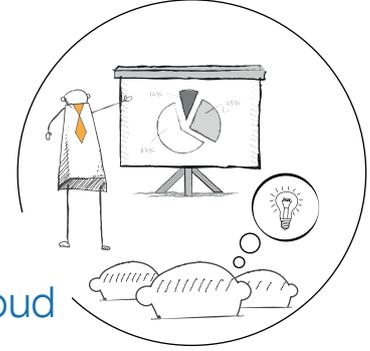
Shelfware and multi-year hardware purchases become things of the past and you can easily track your utility-based spending.

Big Data and you: before and after the Cloud

Let's look at some examples of how Big Data in the cloud can change possibilities for you.



Before Big Data & Cloud

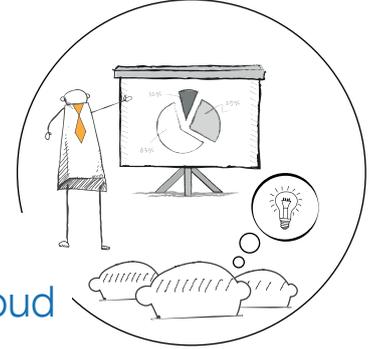


After Big Data & Cloud

CEO	<p>Hitting opportunities: Missing big market opportunities is unacceptable for CEOs but in the on-premises world procurement cycles, budget approvals and IT deployment slowed down leaders</p> <p>Reputation: Often lacked the facility to respond quickly to firestorms such as the company trending negatively on social media over errors</p> <p>Speed: Was unsure about the quality of information, frustrated at the slowness of IT, and had no access to clear and actionable data inside and outside the company</p> <p>Cost: Often needed to commit big budgets to business intelligence systems and hoped the investment paid off</p>	<p>Cloud + Big Data provides the tools for fast decision-making based on hard data that's reliable and in context. Leaders can see what's coming around the corner and act accordingly.</p> <p>Information is joined-up and CEOs can quickly gain visibility of high-value data. So in the example of a negative story, this is immediately surfaced and concerted action taken.</p> <p>Enjoys a data-driven strategy and has the right confidence levels in data to support and even automate decisions based on reliable information</p> <p>Does not require high capex spending to query data and benefits from pay-per-use utility spending</p>
CFO	<p>Profitability: Capital expenditure on IT infrastructure had a noticeable impact on the bottom line and cash flow. Struggled to cost-justify big spending on hardware, software licenses and annual maintenance fees.</p> <p>Risk: Had limited insight into the company's risk position and felt exposed to software audits that could be punitive, costing millions of dollars</p> <p>Cost attribution and visibility: Impossible to measure business unit profitability due to infrastructure centralization</p> <p>Executive decision-making: The CFO was limited in scope to help the CEO grow revenues and improve company efficiency</p>	<p>Has clear insight into incremental spend. IT costs can be tracked and are value-based. Project-based costing means initiatives can be taken without layers of approvals and spending is aligned with consumption.</p> <p>Rules-based caps on cloud spending and monitoring tools let finance leaders invest in the business without the fear of licensing audits and other predatory behaviour</p> <p>Transparent chargeback model shows spending links to departments and utility-based pricing offers financial analytics on an 'as needs' basis</p> <p>Can act as a trusted investor, helping the CEO answer critical questions that will transform the future of the enterprise</p>



Before Big Data & Cloud



After Big Data & Cloud

CIO/CTO	<p>Sunk costs: IT infrastructure cost was viewed as a cost centre</p> <p>Add value: Was seen as a gatekeeper, slowing down business projects and innovation</p> <p>Responsiveness: Was confined by lack of time, tools and budget, leading to projects failing or running late</p> <p>Resources: Constrained by budget so resources had to be deployed with great care</p>	<p>Spending is tied to consumption on a project basis so there is no wastage, profit loss or impact on the bottom line</p> <p>Can act as a partner to the business and enable business dynamically, quickly spinning up just enough big data and analytics services to support the business case. CIOs can also adopt a 'win fast/fail cheap' model.</p> <p>Has instant access to unlimited infrastructure, analyzing petabytes of data and real-time streaming in minutes</p> <p>Has access to almost unlimited compute and storage capacity to analyze deep historical data in context across multiple vectors and in real time</p>
CMO	<p>Personalization: Siloes of data about customers meant fragmentation and no seamless customer experience</p> <p>Targeting: Poor understanding of the customer led to marketing the wrong products and services, damaging brand and customer relationship</p> <p>Constraints: Ability to change online experience for customers was limited by legacy systems that are too costly or difficult to change</p> <p>Trust: Marketers would receive information about customers that is wrong or they believe can't be trusted</p>	<p>Can create tailored offerings based on deep customer knowledge.</p> <p>Focused customer targeting means no wastage and CMOs can cultivate customer relationships, creating loyalty and brand advocacy</p> <p>Can flexibly react to market opportunities and changes by using elastic compute resources in the cloud</p> <p>Has implicit faith in customer data and can confidently build targeted campaigns that work</p>

Of course we could go on and list many more examples of what is possible with Big Data in the cloud and how roles are transformed. Big Data in the cloud provides opportunities to think differently about how to better understand what's happening today and anticipate what will happen tomorrow.

Summary: Why Big Data in the Cloud?

Buried within data lie critical insights. Cloud makes Big Data projects more affordable, easier to deploy, quicker to generate a return on investment, and more able to integrate multiple sources of information. What can be analyzed? Virtually anything, and we have examples of companies processing tens of terabytes per day. Some use case examples:

Data warehousing: Before cloud, data warehousing was a discipline that required extensive IT resources but on the cloud you get access to elastic resources that can expand and reduce as you need them.

Clickstream analytics: Understanding clickstream buyer behaviour is a requirement of modern e-business and in the cloud it's made easier than ever before, including the elastic capacity to deal with peaks and troughs in demand – and in real time with simple visibility to those granted access and ways to easily slice and dice data.

Fraud detection: Detecting patterns suggestive of fraud required expensive infrastructure capable of spotting anomalies very quickly. In the cloud that infrastructure is readily available.

Internet of Things processing: Sensors underlying the Internet of Things would have been extremely tough to manage before the cloud because there will be vast numbers of these IP-connected, sensor-equipped devices, all sending status updates at regular intervals. In the cloud there is a single secure repository for managing and monitoring them.

Business intelligence democratisation: With cloud it's possible to realize the concept of making key indicators available to anybody in the organization with visualizations that bring the numbers to life and support actionable insights.

Machine learning: The cloud provides a far simpler way for information systems to 'learn' and can provide the compute capacity to garner more information than would otherwise be possible.

Ready to Get on Board with Big Data in the Cloud? Here's How you Begin...

Interested in what Big Data in the cloud can do for you? The good news is that the cloud makes it easy to convince your colleagues and peers because in the cloud you can make a fast start and show the quick wins that will help convince them to buy in to projects. By starting with simple projects and sharing your successes you will build a platform for taking more on-premises workloads into the cloud.

You can discover a wealth of examples of the work we are doing with customers deploying Big Data on the AWS cloud as well as keeping on top of new features and best practices by visiting our blog at:

<https://aws.amazon.com/blogs/big-data/>

You can view more customer case studies here:

<https://aws.amazon.com/solutions/case-studies/big-data/>

And finally, if you are ready for the next step you can contact us directly at:

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