As the volume of data grows, businesses are using the power of the cloud to gather, analyze, and visualize data from internal and external sources to improve business performance on a variety of fronts.
The cloud provides the power to turn numbers into insights and insights into action.

Insights in the Cloud

Business today runs on data: data about customers and transactions, data about markets and trends, data about internal operations, data about logistics and supply.

Just collecting this data is a formidable challenge but it’s not enough. To gain competitive advantage from data, businesses need to sift through it to spot the trends that matter fast enough to act.

With the vast and growing amount of data flooding into the enterprise from all sources—and more on the way—that challenge is more than almost any system can handle. The cloud makes data work for business by providing the processing power to turn numbers into insights and insights into action.

Big Data, small data, rich data, all data. With so many businesses now embracing a hybrid approach that combines on-premises, private, and public cloud, the imperative is to connect the dots across the systems and silos so that leaders get a single, complete view of their business and the market. Building those connections between internal data, which may reside on older systems never intended for real-time use, and external Big Data, is another task that benefits from advantages of the cloud.

Lastly, output matters. For leaders to act on data, they need it in a form that they can instantly understand, whether that’s a visualization, a dashboard, or a spreadsheet. Cloud software and platforms can bring business data together into that kind of view, turning insights into actionable intelligence.
What Cloud Insights Mean for the Enterprise

Cloud computing is a technological innovation, but how does it connect to the real needs and pains of enterprise businesses?

**Integrate and personalize:** Big Data in the cloud yields fascinating real-time insights about consumer behavior and the market. Your proprietary data contains the unique transaction history between customers and your business. Combine the two and you can deliver targeted, personalized experiences at every point of contact. The problem? Most legacy systems weren’t built for real-time performance and don’t share data well. Integrating through cloud systems can reduce the cost and complexity for IT.

**Analyze and anticipate:** Data comes in waves and peak loads can occur at unexpected times. Even high-performance stand-alone systems can experience problems that delay delivery of key insights and interrupt smooth operation of key processes. The elasticity of the cloud eliminates these problems by scaling up instantly to handle peaks. Customers only pay for that capacity when it is required.

**Visualize and act:** Data needs to be clear to be actionable. If the output is a complicated report or interface that requires expert technical skills to configure and customize, insights get lost or stuck at levels where they can’t influence meaningful outcomes. Look for cloud-based data platforms that present data through familiar, widely used business tools that enable people at all levels of your organization to easily understand data and act on trends quickly.

**Secure and be confident:** The cloud provides security and continuity for your business-critical data. Disaster recovery and high availability are fundamental to the cloud model. Security updates and patches are updated globally, ensuring a high standard of risk management and enabling central management of security policy across all devices, including mobile.

**Volume:** The sheer quantity of data produced today by Internet usage, social networks, mobile devices, sensors, embedded systems, and enterprise IT is exponentially greater than anything seen previously in human history. Just sifting through this mound of bits requires unprecedented computational resources and scale.

**Velocity:** We’re not only producing more data, we’re producing it faster: nearly 2.5 exabytes each day. Every minute, there are more than 205 million email messages sent. A single 30-minute plane flight generates 10 terabytes of data.

**Variety:** All kinds of systems, devices, and sources contribute to the Big Data explosion, and the most valuable insights emerge from mashing up data sets to spot unusual correlations. Traditional computing systems are not built to handle this kind of diversity and complexity; traditional data analysis methods have had to evolve as well.

**Veracity:** Poor data produces poor results, or, as IT engineers like to say, “Garbage in, garbage out.” How much of the data stream is spoofer, spammers, pranksters, and hackers? How much is coming from unreliable equipment or sources? When it comes to Big Data that’s driving your most important business decisions, hygiene matters.

By 2020, 35 zetabytes of data will be created. One third will be stored in or will have passed through the cloud.

Source: Progress.com, 2014
The Cloud Turns Data into Action

Cloud Authority
With BI in the cloud, decision-makers across the enterprise get a consistent, real-time view of business data.

Cloud Innovation
Use the cloud to tap into data created by emerging technologies like the Internet of Things.

Cloud Connection
Hybrid cloud solutions bridge the distance between legacy data and new data to support your real-time enterprise.

Cloud Scale
The massive processing power of cloud analytics tools can shed light on complex, unstructured data.

Smart Cloud for Smart Business. The cloud cuts Big Data down to size, giving enterprises a better way to collect, analyze, and collaborate around business intelligence. The cloud can also connect Big Data with your data to provide unique insights into customers for better targeting and personalized experiences.
Evolution of Insights in the Cloud: Turning Correlation into Causation

What new and emerging capabilities can businesses unlock on their journey to the cloud?

By measuring everything, business leaders can keep closer watch on the processes that influence customer experience and business performance. They can spot problems and opportunities more quickly, constantly making changes to improve results.

As businesses move more of their data and analytics to the cloud or hybrid environments, they can count on better performance and reliability from those systems. They can measure more data faster, and automate analysis through software to spot trends, reduce risks, and trigger alerts. The result of all these quantitative improvements is a qualitative transformation of the enterprise into a more agile, competitive business across a number of fronts:

Make processes run more smoothly. Data produced by new sources including sensors, product tags, mobile devices, and other components of the emerging Internet of Things can provide organizations with valuable insights into points of failure in products or processes, opportunities for cost savings in logistics and resource consumption, and other operational advantages.

Deliver personalized service at scale. By combining internal customer data and external information from social networks and other anonymized measures of human behavior, businesses can cost-effectively tailor products, offers, and service more precisely to the interests of each individual customer.

Target and measure marketing performance. Data is turning marketing from an art into a science, giving marketers better tools to raise awareness, convert interest into sales, and build loyalty. As consumers divert their attention across multiple channels and screens, having a data-based approach to reaching the right people at the right time is a key competitive advantage.

See around corners with predictive analytics. The volume, velocity, and variety of Big Data gives business leaders a more nuanced view of the market than ever before. Those who can ask the right questions and spot the right trends can make investments that anticipate market demand, gaining a huge advantage over more reactive competitors.

Cloud Insights by the Numbers

Why are businesses investing in Big Data?

**BETTER DECISIONS:** 59%

**FASTER DECISIONS:** 53%

—IDG Enterprise, 2014

Analytics drives personalized experiences.

94% of marketers see PERSONALIZATION as critical to future SUCCESS.

58% of marketers see BIG DATA as key to PERSONALIZATION.

—Econsultancy, 2013

Biggest Big Data challenges?

CONVERTING large DATA VOLUMES into actionable intelligence: 73%

53% say they have MORE DATA than they know what to do with.

—CompTIA, 2013

Evolution of Insights in the Cloud: Turning Correlation into Causation

What new and emerging capabilities can businesses unlock on their journey to the cloud?

By measuring everything, business leaders can keep closer watch on the processes that influence customer experience and business performance. They can spot problems and opportunities more quickly, constantly making changes to improve results.

As businesses move more of their data and analytics to the cloud or hybrid environments, they can count on better performance and reliability from those systems. They can measure more data faster, and automate analysis through software to spot trends, reduce risks, and trigger alerts. The result of all these quantitative improvements is a qualitative transformation of the enterprise into a more agile, competitive business across a number of fronts:

Make processes run more smoothly. Data produced by new sources including sensors, product tags, mobile devices, and other components of the emerging Internet of Things can provide organizations with valuable insights into points of failure in products or processes, opportunities for cost savings in logistics and resource consumption, and other operational advantages.

Deliver personalized service at scale. By combining internal customer data and external information from social networks and other anonymized measures of human behavior, businesses can cost-effectively tailor products, offers, and service more precisely to the interests of each individual customer.

Target and measure marketing performance. Data is turning marketing from an art into a science, giving marketers better tools to raise awareness, convert interest into sales, and build loyalty. As consumers divert their attention across multiple channels and screens, having a data-based approach to reaching the right people at the right time is a key competitive advantage.

See around corners with predictive analytics. The volume, velocity, and variety of Big Data gives business leaders a more nuanced view of the market than ever before. Those who can ask the right questions and spot the right trends can make investments that anticipate market demand, gaining a huge advantage over more reactive competitors.
Vision for Enterprise

What processes and outcomes can businesses achieve through the cloud?

The secret of Big Data in business is that it’s not about the data: it’s about what people do with the data. Using the power of the cloud to drive your data strategy empowers people to do great things. Benefits include:

Insights from everywhere. Managing your data in the cloud makes it easier to put it in the hands of your frontline sales, operations, and service teams, who can use insights from customer relationship management (CRM) and other systems to deliver a more personalized experience.

Informed collaboration. Data available through the cloud is always up-to-date and always in sync, so your decision-makers and teams are seeing the same real-time picture of the business. When cloud data is made available through standard business analysis tools like Microsoft Excel, more people can gain and contribute insights, leading to better outcomes and faster innovation.

Analysis without paralysis. Business decision-makers can customize and simplify their view of data using cloud analytics, CRM, and visualization tools, integrating it with desktop dashboards and other performance indicators. This provides leaders with a strategic, real-time view of market trends, social sentiment, internal metrics, and business-critical information so they can act quickly.

Is your data available across the enterprise?

Many organizations are using enterprise software as a service (SaaS) tools for CRM, marketing automation, financial management, and other scenarios on an opportunistic basis, led by business groups rather than central IT. Are those SaaS systems compatible and interoperable? Does data need to be exported in batches from stand-alone cloud systems in order to be used elsewhere? As businesses evolve their cloud strategies, availability of data across the hybrid cloud becomes a critical concern.

How are data security and privacy in the cloud handled?

Studies show security concerns are inhibiting some enterprises from taking advantage of cloud-based services. There are also issues with government oversight and compliance with regulations and government requests for customer data. Larger, better established cloud providers are typically on the front lines of these issues, strong advocates for data privacy, and first to market with policies, service terms, and technical solutions that meet emerging needs for security, transparency, and compliance.

Are your cloud partners in it for the long haul?

Continuity matters, and when cloud-based services end unexpectedly (either because the vendor terminates the service, or because a cloud provider ceases operations), the disruption can be costly and painful for your business. Some vendors of cloud-based productivity tools have a history of prototyping potentially useful technologies like news aggregators or collaboration platforms, then abruptly terminating those services, leaving users high and dry.

Are your business interests aligned with those of your cloud partner?

Cloud vendors not only have different approaches and offerings, but different business models. Are you comfortable with how a cloud service might use your anonymous data or metadata as part of their revenue stream? Are you concerned that your cloud provider might end up competing with you in your market or for your customers?

SOLUTION IN ACTION

Progressive Insurance Drives Online Growth and Performance with Big Data in the Cloud

Progressive Insurance, a Fortune 500 company, has long made customer service a competitive strength. Today, the online experience of its customers is crucial to its continued success. Central to that experience is the company’s policy-serving web app, through which customers can control and customize their policy.

To improve real-time app performance for customers, Progressive updated its data processing systems to the cloud with Microsoft SQL Server 2014 and the Microsoft Analytics Platform Big Data appliance.

“We achieved jaw-dropping increases in processing speed with the Analytics Platform System,” said IT manager Craig Lanford, citing increases of more than 1,900 percent. “There were queries that we couldn’t otherwise complete on-premises that ran in just two minutes on the appliance.”

It also enabled Progressive to integrate its Hadoop-hosted Big Data and proprietary relational data, powering a major increase in its work with predictive analytics. Lanford said, “The analyses we’ll run on the APS will help us to increase sales and retain customers.”

Click here to learn more about how Progressive Insurance tapped into its Big Data using cloud-based solutions from Microsoft.
Key Takeaways

• Taking advantage of Big Data for business analytics, personalization, and predictive modeling requires the scale and resources of the cloud.

• Cloud-based tools can also help businesses connect their on-premises and private cloud data with new external sources to create more business opportunities and competitive advantage.

• Companies should look for cloud data solutions that enable integration and interoperability between different data sources, rather than stand-alone solutions that keep data siloed in proprietary apps and cloud repositories.

For Further Reading

• For information on the trends driving enterprise business and the cloud, see www.microsoft.com/enterprise/reimagining/articles/top-enterprise-technology-trends-for-a-digital-world.aspx.

• For more information on the Microsoft SQL Server platform, including benefits, success stories, and pricing, go to www.microsoft.com/en-us/server-cloud/products/sql-server.

• For more information on Microsoft cloud offerings for the enterprise, go to www.microsoftcloud.com.