BEYOND BIG DATA
INCREASING PERFORMANCE WITH ANALYTICS

Big data is your most valuable asset. It is the driving force for business decisions and processes — helping you spot emerging trends, identify new markets, improve customer service and operate more efficiently.

For many industries, big data has been a game changer. It has reshaped the insurance industry, for instance, through accurate risk assessments, usage-based pricing and effective fraud detection. In healthcare, improved analytics are transforming disease management, population health and clinical decision systems, while machine learning is expected to save the industry $300 billion a year. And in the manufacturing industry, insights gained from big data are influencing everything from product design to employee allocation, supply chain optimization to product testing, and machine floor maintenance to predictive product maintenance.

Turning Data into Knowledge

Today, great amounts of data are being generated by the Internet of Things (IoT). Until very recently, all of this data could only be used “in the minute.” But now you can stream large sets of data in real time, process it and store it long-term. So not only can you access data that you didn’t have before; you can also use it in new and interesting ways to enable better decisions and more actionable insights.

However, to truly make sense of the Internet of Things, you need to leverage the Analytics of Things.

Analytics delivers insights about the past, present and future to help you capitalize on your data. Breakthroughs occur when different types of data intersect: structured and unstructured; internal to an organization or external. When you harness all the components of big data, your enterprise has the power to identify new and better ways to serve, produce, optimize and lead.

Four Steps to Operationalizing Your Data

As big data becomes more important, companies need to find efficient ways to capture and make use of it. We believe there are four areas where companies can take action to operationalize their data:

1. **Implement a flexible platform that paves the way for integrated intelligent applications.**
   
   Big data stacks, often comprising 10 to 20 components, need validation, auditable security, disaster recovery and elastic scalability to become dependable enterprise-ready operating environments. Enterprise-ready Hadoop now makes it possible to create a flexible, secure and highly available analytics platform. This platform can be deployed in public or private clouds, and you can host it in house or in an outsourced data center — or you can use a hybrid combination.

   Many enterprises are hesitant to put all their data in the cloud. However, software-defined storage and hybrid cloud environments allow you to provision sensitive data securely.

2. **Connect the physical world to the virtual world.**

   Sensor data is increasingly embedded in our surrounding infrastructure — cities, equipment, cars, human bodies, homes and manufacturing shop floors. However, almost all of this data goes unused, as there is often no operational linkage of sensor-generated data into decision systems.

   To generate the right kind of analytics and queries across multiple kinds of data, it is necessary to embed the necessary software and processes to capture —
and use — your Smart IoT data. Smart IoT can bring the physical world into the digital world for analysis, giving you visibility into the performance or the utilization of various resources.

Your analytics platform should therefore be built to ease integration of IoT data into your processes, with interfaces for ingestion of IoT data from sources such as sensors, log files, RFID, social media and mobile devices. The platform should also allow for near-real-time analysis and alerting to ensure you’re always aware of critical situations so you can address them.

3. **Drive intelligence from data to find new opportunities and avoid risk.**

Creating models for a few business outcomes is no longer good enough as a capability for your in-production analytics. Instead, users are beginning to expect rapid deployment, model refresh and decay prevention, scaling to thousands of models (if not more) and integration into decision processes often for near-real-time results.

Analytics driven by advanced machine learning can correlate and interpret data and recognize patterns to drive insight in real time. A platform with advanced machine-learning capabilities can provide predictive maintenance, fraud detection, next best action, churn, customer behavior and many other analytics insights. In other words, you can predict changing conditions and use them for speed.

4. **Gain insights with agile analytics and reporting that works.**

Getting information into the right hands quickly can help you make smarter decisions and build winning strategies. A platform that includes collaboration tools will allow your data scientists to share data, algorithms and visualizations with each other. These enhanced visualizations can speed business users’ understanding of the new data-driven insights, providing them with clear, actionable information.

**Tying It All Together**

Creating an analytics platform is a substantial achievement. But there are additional steps you need to take to remove operational roadblocks and tie together all the capabilities that will allow you to make full use of your analytics environment.

Well-thought-out systems integration gets you to a mature analytics capability easier and quicker. Start by assessing your current analytics capabilities and developing a roadmap to achieve the goals of your analytics project. You’ll then be in a better position to ingest data, develop analytics algorithms and visualize the results. Lastly, you can ensure success by establishing a governance process for your data, disaster-recovery capabilities for business-critical services and integration with enterprise applications.

**Gain True Business Value**

With an analytics platform, you can close the gap between the acquisition of data and its meaningful use. You’ll be able to integrate data more firmly into the decision-making process. And with actionable analytics insights, you can leverage your big data to increase output and productivity, boost asset utilization, improve return on equity and gain competitive advantage.

**Learn More**

CSC helps its clients leverage the Analytics of Things to make sense of the Internet of Things. Our Big Data Platform as a Service, along with full integration services and a growing enterprise repository, jump-starts your analytics capabilities.

» To learn more, visit csc.com/bigdata.
About CSC

CSC (NYSE: CSC) leads clients on their digital transformation journeys. The company provides innovative next-generation technology services and solutions that leverage deep industry expertise, global scale, technology independence and an extensive partner community. CSC serves leading commercial and international public sector organizations throughout the world. CSC is a Fortune 500 company and ranked among the best corporate citizens. For more information, visit the company’s website at www.csc.com.

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