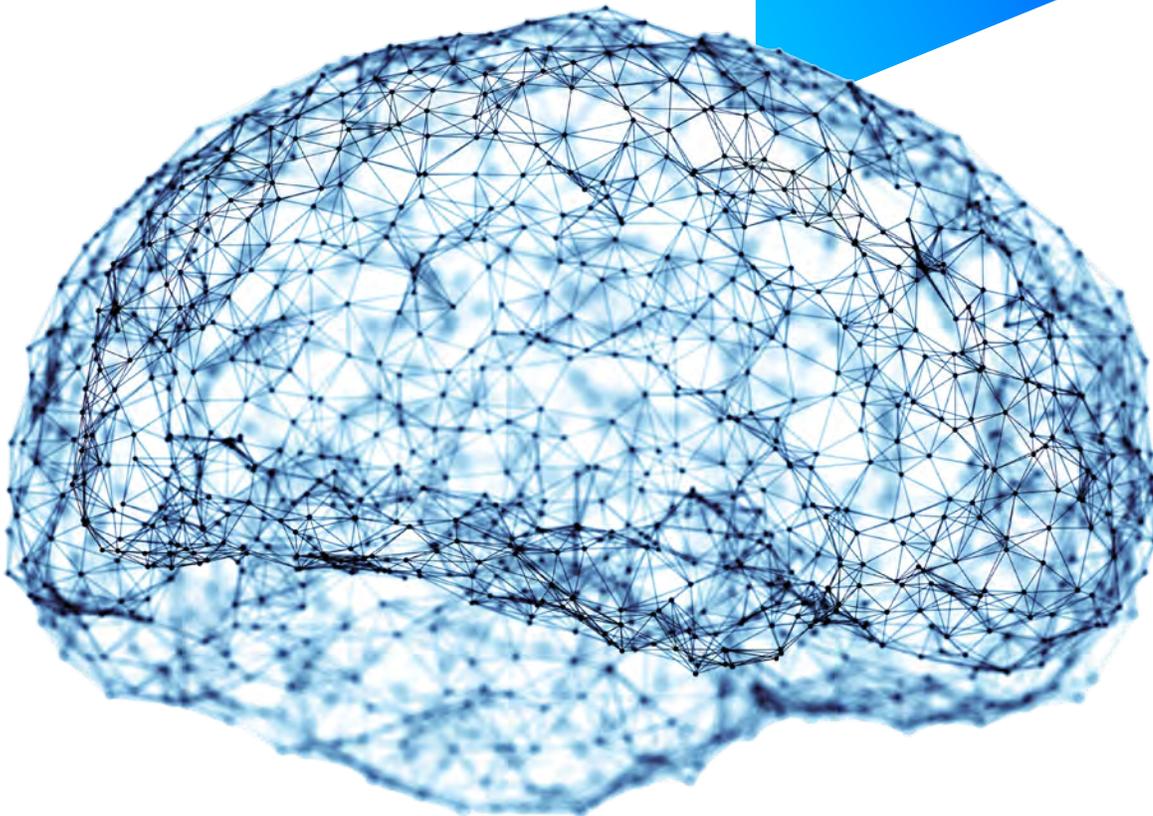




# TRANSFORMING ACCENTURE INTO AN INSIGHTS-DRIVEN ENTERPRISE



## OPPORTUNITY

Given the possibilities for innovative, new solutions in today's digital world, Accenture has undertaken the goal of transforming into an insights-driven enterprise that embeds analytics into the core of its operating model—one that uses data and analytics to transform current processes and is characterized by automation, optimization, prediction, continuous learning and above all, a data-native culture. Accenture used to operate on siloed data, pervasive use of spreadsheets, limited sophistication and multiple versions of data. Now, Accenture has established a new analytics platform and capability to enable this transformation and optimize it on an ongoing basis.

## SOLUTION

Teams from Accenture’s internal IT organization and Accenture Digital spanning China, Spain, India, Ireland and the United States came together to collaborate on developing and enabling the new capability. “Our team had a tall order,” says Steve Cooper, Managing Director, Analytics Platform and Studio, “and that was to build a comprehensive solution for data management and analytics, including everything from platform, use cases, processes and support. Our solution needed to support transformation of Accenture’s entire reporting landscape as well as establish an advanced analytics capability.”

The overall team began by looking at several major business concerns that needed to be solved. Three core challenges emerged:

- How will Accenture manage data at enterprise scale?
- How will the spectrum of analytics needs from traditional business intelligence (BI) to machine learning and advanced analytics be supported?
- How will Accenture accelerate the use of analytics to drive business outcomes?

### MANAGING DATA AT ENTERPRISE SCALE

The first challenge was around data—how to manage it, move it, transform it and get it to where it needs to go—all at enterprise scale. How would Accenture bring all types of data from hundreds of sources, thousands of ETLs and thousands of reports into a common platform? The challenge at hand was not one problem with one solution. For this reason, the team eschewed the traditional approach of looking at individual use cases or analytics needs. Instead, they looked at classes of problems, including hundreds of use cases, and addressed how to comprehensively support those.

The approach was to look at an objective, such as creating a report, and ask how the task could become an architectural pattern that could apply to many more reports. Everything the team developed became a reusable pattern—ways common problems are solved. Data ingestion, for example, became two—and only two—patterns: hot path (constantly streaming data) and cold path (batch data processing). Whether Accenture users are monitoring critical infrastructure or monitoring tweets, each use case uses the same underlying pattern.

Only after the team had the patterns established did it then begin filling in technologies. The benefit of this approach is that the patterns will not change. As the market evolves, the technologies Accenture moves in and out over the course of time might change, but they will always be servicing the same patterns. These patterns enable commoditization of design and analysis efforts, dramatically lowering the barriers to entry to the platform for future data management and transformation.

With the barriers lowered to ingestion of data, the team needed to address data governance, data security and data privacy. Ungoverned data lakes can turn into “data swamps.” The solution to this problem required both technologies, such as a metadata repository and processes. For data security and data privacy, the team built a data ingestion and data access process that accounts for country-specific legislations, Accenture’s data privacy policies and various cultural expectations. In this way transparency and two-way dialogue are fostered, enforced by service-level agreements and a collaborative relationship between technology and legal teams.

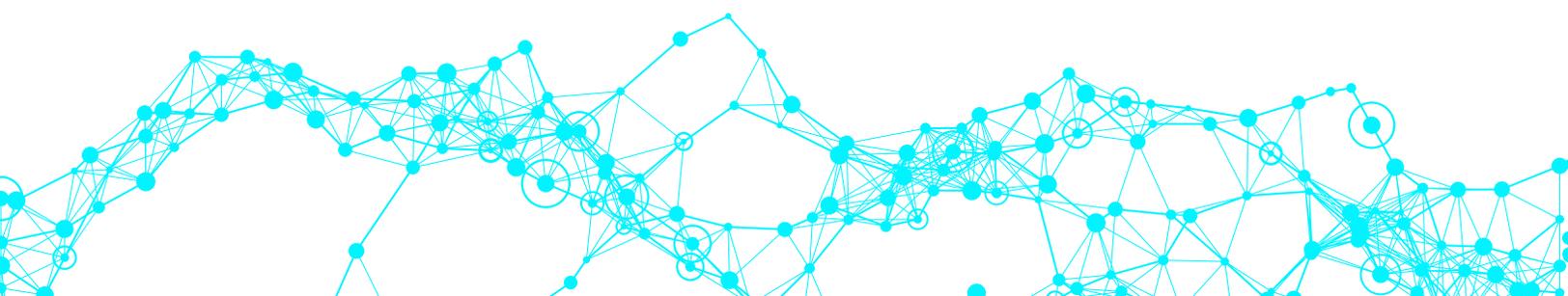
### SUPPORTING THE SPECTRUM OF ANALYTICS NEEDS

After enabling enterprise-scale data management, the team’s next challenge was to enable and support the entire spectrum of reporting and analytics needs—from traditional static business intelligence (BI) reporting to highly flexible and speculative work in data science and machine learning—for a wide variety of users. They laid the foundation by identifying three typical types of data consumption: BI and reporting (“what you know”), analytics (“what you know you don’t know”) and data science (“what you don’t know you know”).

**THIS APPROACH [OF USING NEARSHORE DATA MARTS] LOWERS THE COST AND BARRIER TO ENTRY FOR ANY GIVEN TYPE OF REPORTING AND BI ANALYSIS.**

**T.J. GLAZIER**

Senior Principal and Master Technology Architect



For the first type of need, BI and reporting, the team adopted an architectural approach termed “nearshore data marts.” The idea is to create small data sets that serve a small set of requirements for specific sets of information. “Compared to large-scale data warehouses, which are very large and difficult to change, and thus expensive,” says T.J. Glazier, Senior Principal and Master Technology Architect, “these data sets are small, manageable and isolated. They are specifically built for a specific need and housed on fast-access systems such as SAP HANA®. As such, they become quick to develop and easy to change. This approach lowers the cost and barrier to entry for any given type of reporting and BI analysis.”

The second need centered around data analysts who require a self-service analytics capability for discovery. By centralizing the management of security, data privacy policies and data management, this allowed the team to enable robust self-service capabilities on a broad spectrum of enterprise data for data analysts. They have fast access to data in a secure environment and can run analyses across broad swaths of data sets that previously, if available, were very difficult to access. Furthermore, data analysts can now seamlessly blend multiple data sets into one that can be loaded into a visualization tool, the results of which can then be immediately shared with business users.

Finally, Accenture needed to find a way to enable data scientists to be more agile. The decision was to migrate to Microsoft R Enterprise and Python to support big data, use the next generation of data science tools, perform agile development and leverage open-source development. The migration extended Accenture’s platform to provide advanced capabilities such as model management, model-as-service, and self-service deployment of data science models. Data scientists can now work in a production environment, and with one click deploy a model that can rapidly scale and be used by multiple applications. “What’s also important,” notes Glazier, “is that the change enables collaboration among Accenture’s data scientists to verify and improve each other’s results. This process strengthens our enterprise discipline by enabling data scientists to go from insight to action rapidly.”

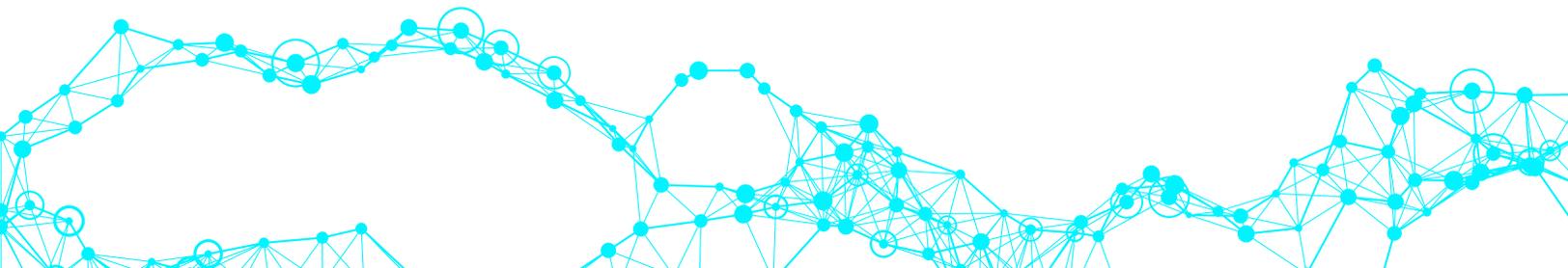
## **ACCELERATING ANALYTICS FOR BUSINESS OUTCOMES**

Having solved the challenges of how to manage the data and support it, the final challenge was determining how to accelerate the use of analytics to improve the business. The common hurdle at this stage is massive organizational inertia coupled with a lack of skills in advanced techniques. What was needed was a collaborative innovation process to show the art of the possible to have meaningful business conversations and drive business value. The team needed to create a data-native culture by breaking down silos and sparking new dialogue around analytics and new intelligence.

Accenture’s solution was to stand up and enable an internal, centralized Analytics Studio staffed by data scientists. The Analytics Studio tackles the art of the possible. Its work is not about using data to answer questions about today’s operations, but rather looking at and using data to change the way Accenture does business tomorrow. The focus of the data scientists is on data-driven business innovation. The group embraces a fail-fast mentality on ideas, and efforts are time boxed. If something looks promising, the data scientists continue; if it does not work, they move on.

The Analytics Studio instituted a very lightweight push-pull model of innovation. Working in an agile manner, with an embedded business product owner, the data scientist team does several innovative activities around data and focuses on pushing out minimum-viable product solutions that can be easily extended to other business use cases. It is up to the individual Accenture business teams to evaluate whether a concept is worth making “production grade.”

As part of Accenture’s business strategy, the Analytics Studio is centrally funded. This decision is an important one because it eliminates the need for business teams to find budget to address issues of interest, and thus promotes innovation. Teams only need to find funding when they want to make a solution real in production. Reducing the “ROI barrier” in this way ensures the studio focuses on high-value innovation.



## RESULTS

**20K**

Critical users moved

**110K**

Interactions per month

**120**

Enterprise-wide analytics solutions

Accenture's journey to an insights-driven enterprise is transforming the way Accenture does business. The overall reporting landscape is changing as users are moving from static, offline, asynchronous reports to interactive, online, near real-time operation. After 18 months of production operations, Accenture moved 20,000 critical users to these reports, supporting usage in excess of 110,000 interactions per month, while, at the same time retiring 50 percent of "traditional" reports. A portfolio of more than 120 enterprise-wide analytics solutions is available, supporting a range of users from client teams, sales, Human Resources to Accenture's global management committee.

**ACCENTURE'S APPROACH IS NOT JUST ABOUT FINDING QUICK WINS. IT'S ABOUT FINDING BIG WINS QUICKLY THAT CAN BE LEVERAGED AND EXTENDED ACROSS THE ENTERPRISE.**

**STEVE COOPER**

Managing Director, Analytics Platform and Studio

## ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 425,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at [www.accenture.com](http://www.accenture.com).

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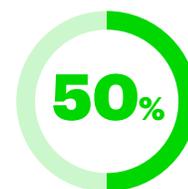
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Data management can today be done at global scale. In addressing Accenture's challenges around managing data and supporting analytics needs, the team commoditized these efforts, eliminating 90 percent of the common barriers in developing solutions. This game-changing shift allows Accenture's data scientists to focus on analysis and publishing, enabling them to potentially address 30 to 50 questions a month from the business.

In addressing the data analysis challenge, the Analytics Studio has harnessed a spectrum of analytics capabilities. For example, multiple AI models have been deployed to production, including external Twitter sentiment, employee sentiment, revenue prediction, win probability prediction, and receivables. Analysis in many cases has declined from months to days and even to hours.



Of common barriers in developing solutions eliminated



Of "traditional" reports retired

Looking ahead, Accenture's enterprise transformation journey will continue. The team is already addressing the next big challenge in the industry—that of moving from black-box algorithms to "explainable AI" and transparent information in how results are achieved, thereby increasing the trust and adoption of solutions.

## ABOUT THE ACCENTURE INSIGHTS PLATFORM

The Accenture analytics platform is instantiated on the Accenture Insights Platform. The Accenture Insights Platform is highly robust, leveraging the latest technologies to support cross-domain data ingestion and storage; encompasses industry-leading visualization tools (from every employee to enterprise scale); and supports advanced analytics models. It also offers flexibility and is structured as an as-a-service model.

