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Too much of a good thing
Helping a leading telecom provider turn big data into actionable insights

Abstract

Some industries might envy the vast quantity of data that telecommunications companies collect on their customers' behaviors. But one major telecom provider became mired in too much data and not enough insight. Even a simple business question could take weeks or months to answer. The organization's previous attempts to leverage big data had been costly and inefficient; they needed help getting started in a way that could be scaled to broader company-wide initiatives. The company's leadership wanted to improve decision making by using big data and advanced analytics in an efficient, cost-effective way.

The challenge

Analytics capabilities were spread across the company— each business had its own data analysts and technologies. This disconnected organizational structure meant that data and insights were not shared across business units and many efforts were duplicated. The analysts, however, did have one thing in common: their biggest challenge was getting fast access to the big data and gaining business-relevant insights from it. When analysts requested data from various internal sources and vendors, it arrived— sometimes weeks later— with inconsistent formats and missing data definitions. Time-consuming cleansing was needed before analysis could begin. A plethora of siloed tools and data environments made analysis tasks difficult to execute and share. With analytics-related expenses running into the millions—of which two-thirds was spent outside IT—leaders expected timely, reliable, and actionable insights for running the business. Something had to change.

How we helped

The company's leaders recognized that insights gleaned from big data could help build competitive advantages and a more efficient cost structure. They asked for Deloitte's support as their organization developed a pragmatic, repeatable way to streamline their bloated analytic processes and gain more value from their investment.

Working with Deloitte, the organization's project leaders started by aligning the company's leadership under a common analytics vision. Rather than recommend a massive analytics project that would change how the entire company used big data and analytics, the team selected a small number of pilot projects that could demonstrate the potential value of the new analytics vision on a small scale. This approach was lower-risk and enabled the sharing of experience and knowledge that could be transferred to larger projects in the future.

Working with Deloitte, the company had the confidence to change its approach to big data and analytics. Here is an overview of the steps the team followed.

Leadership alignment. The client's business and IT leaders worked together to evaluate the company's existing analytics capabilities, to crystalize the company's analytics vision, and to identify the skills and technologies needed to achieve this vision. Their goal was to align key stakeholders without getting mired in details.

Analytics Applied.

Selection of big data analytics pilot projects. With Deloitte's help, the business units and IT identified a mix of business use cases to demonstrate how big data insights could drive revenue growth and reduce costs. Two questions—one from Marketing and another from IT—were selected as pilot projects:

- Customer-related pilot: How can we increase customer response rates to digital advertising?
- Operations-related pilot: How can we reduce IT data storage costs?

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The two pilots were conducted simultaneously so that the project team could gain broader experience from the projects. Multiple projects also provide some insurance; if one pilot stalls, the learning could continue through the remaining project.

Design and execution of pilot projects. The company's IT and business specialists worked alongside Deloitte's analytics practitioners during design and implementation of the pilots. Project team members were selected based on the business knowledge and technical skills required to execute each pilot. The teams adopted an agile implementation process, meeting almost daily to help ensure that the solutions they were developing would meet the business needs.

Results

Operations pilot. The project team analyzed the company's IT storage costs and found that the traditional data warehouse database technologies used were 10x more expensive than new big data storage and processing technologies, such as Apache Hadoop. The team selected a small subset of the company's data—data generated from one specific Extract Transform Load (ETL) process—and offloaded it to Hadoop, which would enable the company to process much more data, faster and at a lower cost. The project team soon learned the value of having more than one pilot; the company's strategic priorities changed, which eliminated the selected ETL process—and the data—they were trying to move. While the specific pilot was not adopted as a production process, the techniques, technologies, and learnings were applicable to other large volume ETL processes.

Customer pilot. The project team carried the customer-related pilot through to completion. Analyzing the entire digital advertising process—from presenting an ad and calculating customer views to tracking responses—required an efficient way to compile and store big data from many sources. The team effectively implemented a Hadoop solution, which enables massive amounts of data to be stored and processed effectively. The team also developed an efficient way to add metadata, allowing business users to easily access relevant information. Tableau, an analytics dashboard platform, enabled business users to ask questions on the fly and get a prompt, accurate response in an easy-to-understand dashboard format.

As a result, Marketing gained insight into how much the company was spending on digital advertising, where the dollars were going, and how customers were responding. This information helped them allocate digital ad spending more effectively. Leadership recognized the value generated by this pilot and decided to move the solution into production to enhance business productivity and cost-savings. The pilot project also generated new ideas that would be applied to future big data projects.

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The company now has an effective way to evaluate the effectiveness of its digital advertising, which is being incorporated into day-to-day marketing decisions and processes. More importantly, the company is building a foundation on which to build a sustainable analytics program.

Lasting foundation

Several additional benefits emerged from these pilot projects. The project team identified the core technologies and solutions the company needed for efficient big data analysis. One example is the "data lake" solution, which was created to collect and store the company's data from a wide array of sources. This enables multiple business units to access the data pool to answer a wide range of questions.

The team also established governance protocols to protect the data. They established guidelines for identifying the data that would be collected, the data provider, and who could access the data. These are examples of sustainable analytics solutions that can emerge from even a small pilot.

The journey continues

The pilots were the first step in the company's journey toward developing a mature advanced analytics program that can help individuals make faster, smarter business decisions. The company now has an effective way to evaluate the effectiveness of its digital advertising, which is being incorporated into day-to-day marketing decisions and processes.

More importantly, the company is building a foundation on which to build a sustainable analytics program. The project team developed valuable skills and implemented core technologies that can be leveraged for other big data projects. As a next step, leadership is identifying and instituting more use cases to continue to grow the company's analytics capabilities.

Contact us

If you would like to get more insights from your big data, we should talk.

Richard Starnes
Principal
Deloitte Consulting LLP
rstarnes@deloitte.com

Prakul Sharma
Manager
Deloitte Consulting LLP
praksharma@deloitte.com

Thaddeus Zaharas
Senior Manager
Deloitte Consulting LLP
tzaharas@deloitte.com

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