

Technical Considerations for Modern Data Analytics at Pearson

How and why a global learning company decided to use Tableau on Amazon Web Services (AWS) for its analytics solution

Data challenges for a global learning company

Pearson offers educational courseware, assessments, and a range of teaching and learning services powered by technology. The global company works with other learning institutions, such as K-12 schools, community colleges, and businesses, as its clientele.

At Pearson, data is spread across multiple sources and siloes — yet uncovering that data is critical to the success of Pearson and its clients. Pearson wanted to increase the likelihood of deriving insight from data, reduce time to insight, and simplify Pearson's architecture. At the most fundamental level, Pearson needed access to better data, faster.

In order to evaluate the right data warehouse system for its needs, and how to set up Pearson's architecture, Jason Lokkesmoe, Head of Analytics/Product Management at Pearson, weighed several technical considerations.

CHALLENGE

A global learning company needed better data insights — faster, needed to remove data siloes, and needed to evolve quickly as its data and user base grew.

SOLUTION

Pearson implemented a modern analytics practice using Tableau as its analytics platform and Amazon Redshift as its modern data warehouse.

RESULTS

Pearson reduced time to insight and empowered its growing BI and analytics user base.

The decision to use Tableau and Amazon Web Services (AWS)

Consideration 1: How to meet business objectives?

Pearson is acutely aware of the need to capture timely, actionable insights for its internal stakeholders and its sophisticated external customers. Pearson needed a solution that could reduce cycle time, from request of delivery to insight. It also wanted to form "curated sources of truth" for all users, from data scientists and analysts to business users.

Consideration 2: How to modernize, company-wide?

"Legacy data systems weren't meeting the needs of the organization, so an enterprise-wide modernization effort began," says Lokkesmoe. In fact, the company had a charter to create an analytics landscape that enabled product teams, content teams, and customers to make evidence-based decisions.

"Tableau was a strategic decision by senior leadership to invest in a best-in-class visualization platform that could support the array of evidence-based decisions necessary at Pearson's scale," says Lokkesmoe.

Consideration 3: Which platform will help fix data siloes?

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Consideration 4: How to continually evolve as the business grows?

Pearson, like its students, is constantly learning. Here's a look at Pearson's analytics platform supporting a modern data warehouse over the course of just a few years:

2016

Pearson implements a commercial database for performant querying. But just six months later, Pearson reaches limits on expected performance and needs to move again. Pearson makes its move to AWS, specifically to Amazon Redshift. The move enables Pearson to ingest legacy product data into Amazon S3 for future cross-product analytics. Pearson deploys Tableau Server to nearly 500 internal users and enables self-service analytics.

2017

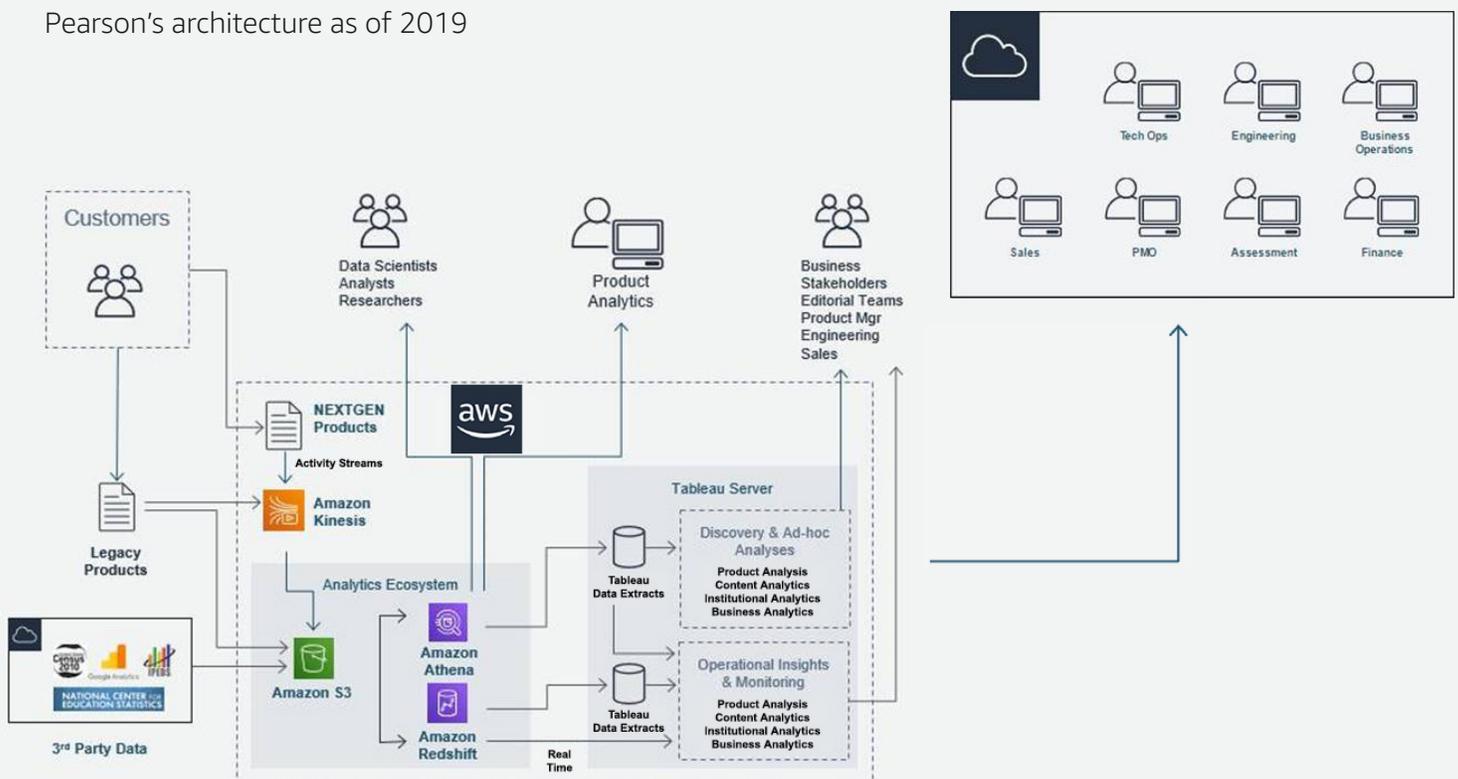
Pearson takes workloads and data to AWS and evolves its Tableau engagement once again. This time, Pearson updates its messaging platform with Amazon Kinesis and adds Amazon Athena to support discovery and ad-analysis. At this stage, Pearson ramps up Tableau engagement again, too, deploying Tableau Server to nearly 2000 internal users.

Today

Pearson connects more than 250 data sources and has Tableau Server pushed to 22 teams (spanning Legal, Facilities, Product, Marketing, HR, Supply Chain, and Tech, to name a few) and more than 7,000 internal users.

Pearson is in the early stages of delivering insights via Tableau directly to its institutional customers. **The bottom line: it's never done!**

Pearson's architecture as of 2019



Benefits and outcomes for Pearson

Pearson has seen a multitude of benefits since moving to Tableau and AWS, including:

TIME SAVINGS

Pearson has compressed time to decision-making by eliminating or reducing what used to be barriers. For example, individual users at Pearson no longer need to rely on IT team support to begin capturing data.

As well, Pearson has improved its “speed of thought,” meaning the company can not only move to a decision faster—it may even be able to move further with the insights enabled by Tableau and AWS. “When you can answer quicker, it begets another question,” explains Lokkesmoe. “That speed of thought moves you faster; it also moves you further. The quality of the answer will be higher when you can constrain this process with tight integrations, and that’s what Tableau allows for. Through data integrations, I can have all this disparate data, join it, and make decisions.”

SCALING UP — AND OUT

Using Tableau and AWS, Pearson can better scale its data as its user base grows. Using Tableau and AWS, Pearson is able to extend insights across the organization internally. Just a few years ago, Pearson had roughly 500 users of Tableau; now, more than 7000 users across different departments including Legal, Facilities, Product, Marketing, HR, Supply Chain, Tech, Sales, and Product Analytics use the solution.

Pearson is extending use of Tableau externally, too. As an example, one of its community college clients uses the Tableau dashboard to understand where students are abandoning a course or performing well. The college can then use this student performance data to determine course objectives and where to make improvements.

Lokkesmoe indicates that using Tableau and AWS, the company has saved an estimated 68K hours across 900 projects over the past three years — work that used to require four engineers up to two weeks on average to complete.

About Tableau and AWS

Tableau provides self-service data management for anyone at an organization, and can be used for any app or process. Tableau offers connections to Amazon Redshift, Amazon EMR, Amazon Aurora, and Amazon Athena. Tableau Server can be launched on Amazon Elastic Compute Cloud (Amazon EC2) via self-deployment, a Quick Start, or through AWS Marketplace.

[Learn more about Tableau and AWS >](#)