

Why Data Engineers Should Think Like Product Builders

In data engineering, the difference between "good enough" and game-changing often comes down to treating your work like a product, not just a pipeline.

For example, when I was contracting as a Data Analyst at Expedia Group, I didn't just optimize 600TB big data architectures for compliance-though reducing costs by 50% with distributed computing felt great. I approached every dashboard, every ETL process, and every API integration as if I were delivering a product to end-users. This meant prioritizing clear communication, rigorous testing automation, and creating dynamic Tableau visualizations that helped teams make real-time, globally-impactful decisions.

As the founder of ExamPA.net, I built an entire ed-tech business on top of data pipelines that ingested, validated, and transformed synthetic actuarial datasets. I designed these systems to scale-ultimately serving 15,000+ users and supporting a 12% conversion rate. The result? Customers could trust the quality of the data *and* the insights, reducing their study time by half.

When I worked as a data science consultant for a small business specializing in fractional executive staffing, I discovered firsthand how valuable it is to build data infrastructure that genuinely adapts to user feedback. Setting up their CRM workflow wasn't just about connecting data sources behind the scenes; I focused on making sure that every decision-maker could simply open HubSpot each morning and instantly see everything they needed to run the business-no more jumping between platforms or missing critical updates. By listening closely to the team's daily routines and pain points, I was able to craft a workflow that felt seamless and intuitive, turning data from a hidden asset into a visible, everyday advantage.

The lesson: Whether optimizing SQL scripts down from 600 lines to 50, automating GLM model monitoring for national insurers, or collaborating in Agile teams, I always ask, "How does this help the end user?" That question leads to better validation, smarter automation, and more resilient infrastructure-qualities that modern data engineering desperately needs.

If you treat your data products with the same care as customer-facing apps-from system monitoring to presentation-your impact multiplies. In a world hungry for reliable, actionable insights, isn't it time we start building data solutions with the product mindset our stakeholders deserve?