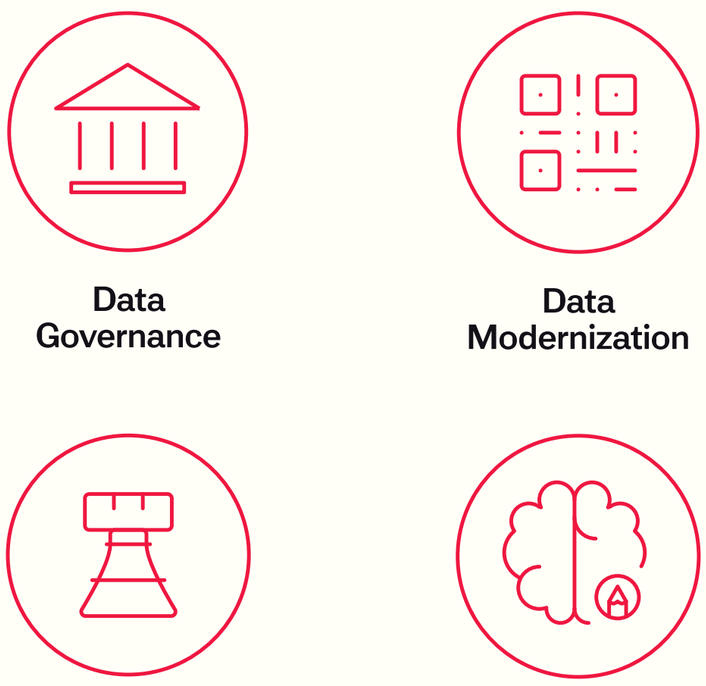
CASE STUDY

Implementing Proactive Data Quality Management Checks



Challenge

Pharmaceutical sales information sourced from a third-party aggregator often arrived incomplete or inconsistent. Internal factors — such as pipeline logic errors, mobile device management (MDM) inconsistencies, and changes in business rules — further contributed to missing or inaccurate records. These issues impacted sales, marketing, and compensation teams, increasing the risk of incorrect payouts, misguided marketing decisions, and reduced confidence in reporting.

Solution

The SEI team adopted a multi-pronged strategy, combining immediate fixes with preventive measures for a more resilient data ecosystem. This entailed:

- Root-cause fixes that analyzed each issue to address vendor delays, pipeline errors, or MDM inconsistencies
- Vendor collaboration to escalate missing or delayed data to vendors for correction at the source
- Developing an automated quality engine to proactively detect statistical anomalies using a Databricks framework built with Python, SQL, and business rules
- Business alignment by partnering with sales, marketing, and compensation teams to ensure logic and priorities matched business needs

Results

The introduction of proactive data quality checks shifted the organization from reactive issue management to preventive monitoring. As a result, the organization:

- Reduced reactive data quality incidents by approximately 40% within the first year
- Identified and resolved many issues before they reached business users
- Minimized operational disruptions by moving away from response-driven firefighting
- Increased confidence in reporting among sales, marketing, and compensation teams
- Strengthened trust in the accuracy and reliability of enterprise information