

# Rule Engine Optimization

## Challenge

A global e-commerce platform processed millions of transactions daily through multiple payment gateways. However, their Payment Success Rate (PSR) had declined, leading to lost revenue and a surge in customer drop-off due to Convolutioned rule logic, No rule hierarchy, Redundant and obsolete rules, Manual maintenance

## Objectives

To enhance PSR by at least 4% without compromising fraud prevention efficiency by streamlining and optimizing the rule engine.

## Key Results

**6%** PSR improved by

**\$5 M** Incremental revenue

## Approach

- Data Extraction & Profiling: Historical transaction and decline data from all gateways were extracted.
- Each failed transaction was mapped to specific rule triggers.
- Rule Trade-off Simulation: Built simulation models to test rule combinations under varying thresholds.

## Solution

- Automated Python Scripts were developed for: Rule threshold sensitivity analysis across >120 variables (AVS mismatch, BIN type, velocity checks, etc.) and for Impact measurement of each rule on PSR and fraud catch rate.
- Rule Hierarchy Framework: Introduced a multi-tiered rule structure
- Business KPI Dashboard: Fixed set of business KPIs to ease decision making and created a real-time Tableau dashboard to visualize: Rule-level PSR contribution

## About Straive

As a data analytics and AI operationalization company, we don't just build top-tier data analytics and AI solutions—we integrate them seamlessly into your core workflows. This approach drives enhanced efficiency, improves user experience, and boosts revenue, setting you apart from the competition.

Serving a diverse range of industries— including Pharmaceutical & Life Sciences, Logistics, Supply Chain & Manufacturing, Research & Publishing, Information Services, EdTech, Banking & Financial services, and Retail Tech, Entertainment & Media— we have a global client base spanning over 30 countries.

Our strategically positioned resource pool operates across seven countries, including the Philippines, India, the United States, Nicaragua, Vietnam, the United Kingdom, and Singapore, where the company is headquartered.