# Smarter Rule Management Through Coverage Analysis

**Are All Our Rules Helping Us?**

How Rule Coverage Reporting Drives Better Business Decisions

## The Problem

Our decision services use hundreds of business rules to guide daily operations like approvals, pricing, risk scoring, and compliance checks. But as our business evolves, some rules become outdated, unused, or duplicated. These inactive rules:  
- Add complexity  
- Slow down execution  
- Increase maintenance time  
- Make testing harder

Over time, these unused or redundant rules can silently grow in number. Because they are rarely visible in normal day-to-day operations, they often go unnoticed. This makes our decision logic harder to understand, especially for new team members. It also increases the chance of errors when changes are made, since more logic has to be considered, even if it's not actually used.  
  
Until now, there was no clear way to know which rules were still useful and which were not.

## Our Solution: Rule Coverage Reporting

We’ve developed a process that captures detailed rule execution traces every time we run a test. These traces show exactly:  
- Which rules were fired (executed)  
- Which rules were skipped or not triggered  
- The overall rule coverage as a percentage  
- A full list of never-fired rules

This report gives us visibility across the entire decision service and makes it easy to spot gaps, overlaps, or outdated logic.

## Why It Matters to Business Users

1. Clarity – Know which rules are actively helping you make decisions.  
2. Optimization – Identify and clean up unused or outdated rules. Keep your decision logic focused and relevant.  
3. Efficiency – A smaller, smarter rule set runs faster and is easier to test and maintain.  
4. Better Testing – Helps ensure your test scenarios are truly covering your rules — not just confirming the obvious cases.  
5. Confidence – Gives stakeholders trust that the decision logic is clean, current, and delivering value.

## How to Use It

- Run your decision service tests as usual  
- Review the coverage report to see what ran and what didn’t  
- Look for rules with 0% usage over time  
- Collaborate with your rules analyst or IT team to decide whether to revise, deactivate, or remove unused rules

## The Business Value

By regularly reviewing rule coverage, we:  
- Reduce rule clutter and confusion  
- Improve performance  
- Cut time spent in rule reviews  
- Strengthen the overall decision-making process  
  
This is more than a technical feature — it's a business improvement tool.  
  
If you're interested in reviewing your rule coverage or need help interpreting your results, reach out to the Decision Services Team.