

Business Rule Transformation with AI Reverse Engineering

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The client is an industry leading travel and vacation company that uses business rules for dynamic pricing, personalized promotions, and delivering customer-centric experiences. However, over the years, these rules have become deeply embedded in legacy systems. This situation made the rules opaque, brittle, and difficult to scale, limiting their growth.

Industry served:



**Travel and
Hospitality**

Employees:



22,000

Myridius Services:



**Business rules
modernization
with our AI-driven
reverse engineering**



Overview of Project

Businesses use diverse rules to ensure operational control and efficiency. These rules often form the backbone of pricing, promotions, and customer interactions. However, these rules can get trapped in outdated systems like COBOL, PL/SQL, or siloed databases. And when that happens, they can quickly become a hindrance to growth. They also restrict agility and slow transformation.

This was the extract challenge our client was facing. They had excellent rules, which, unfortunately, became entangled with legacy systems and infrastructure. And the result? **Slow growth, limited scalability, and operational challenges.**

Hence, our client was looking for a way to extract, analyze, and modernize thousands of deeply embedded rules. And they wanted to do it for better discoverability, scalability, and operational efficiency. Myridius partnered with them and deployed an **AI-powered reverse engineering framework** to free the business from these rigid rules and transform them into valuable, accessible assets.

The Challenge: Transforming Rigid Rules Embedded in Legacy Systems Into a Valuable Asset

The client faced multiple bottlenecks caused by legacy rule management:

- Dynamic and Complex Rule Sets:

Their rules were scattered across code and databases. As a result, the teams found them difficult to interpret and even harder to maintain. Such challenges also lead to revenue dips.



- Fragmented and Decentralized Systems:

The client has multiple business units, and each of them manages the rules differently. This meant there was no centralized way to manage the rules. The result was inconsistencies and duplication.

- Customer Experience Gaps:

Even customers are not safe from the challenges these rules have caused. These opaque rules often led to misaligned pricing and promotions. This made it hard to ensure personalization for end users.

- Business Agility Bottlenecks:

This was another growth challenge the client had to address. When launching new offerings or adjusting strategies, the team took weeks due to rigid and outdated processes.

- Operational Inefficiencies:

Inefficient rules and management made engineers spend more time on troubleshooting and interpreting code. This took away their time from driving innovation to work on tasks that did not bring any value.

Problem to Blueprint: How We Analyzed, Ideated, and Designed the Solution

As we approached the project, our first goal was to examine the client's ecosystem of legacy code, documentation, and databases. This helped us understand that complexity and decentralization were the chief issues. They were also preventing teams from scaling and innovating quickly.



Hence, we put together a team to address these issues, and further analysis helped us focus on the following goals:

- **Simplify** rule discoverability
- **Enable** business teams to query and manage rules directly
- **Improve** system scalability without disrupting ongoing operations

From these discussions, we developed the blueprint for the project. We decided to extract, analyze, and re-engineer rules incrementally and then introduce AI-powered tools for continuous optimization.

The Solution: How We Addressed the Issues

After the analysis, we figured the solution was a domain-based AI reverse engineering framework. It would transform legacy rule management into a modern, agile ecosystem.

In our efforts to do so. We developed and implemented the following solutions:

- Code Processing Using LLMs

This ensured automated parsing of COBOL, PL/SQL, and databases to surface hidden rules.

- Knowledge Graphs and Business Rules Generation

This was developed to map relationships between rules and the objective was to enable clear visibility and reduce duplication.

- AI-Powered Anomaly Detection

This solution was developed to identify redundancies. It also discovered conflicts and optimization opportunities while enhancing rule quality.



- ## Incremental Domain-Based Re-engineering

This was designed to migrate rules gradually. The objective was to reduce risk while ensuring business continuity.

- ## Business Enablement Tools

We designed a 360° view of rules. This was further enhanced with a Business Rules Registry, Validation Workbench, and an AI Query Assistant. These features were added for non-technical users.

Results: Measurable Business Impact

Within months of implementation, the client achieved measurable impact across revenue, efficiency, and customer satisfaction.

Here is a quick overview of the results our client was able to achieve:

Metric	Outcome	Impact
Discoverability	360° view of all business rules	Simplified analysis and reduced time-to-market for changes.
Business Agility	Incremental transformation	Faster adaptation to pricing and promotion strategies.
Efficiency	AI-assisted enrichment and optimization	Reduced manual effort in code interpretation.
Empowerment	Rules as accessible business assets	Enabled business teams to query and manage without IT bottlenecks.
Operational Reliability	Centralized registry and validation tools	Improved compliance, reduced errors, and streamlined governance

Improve Guest Experience and Operation Efficiency with Myridius

Legacy business rules often slow innovation and frustrate teams. By re-engineering with AI, companies can turn hidden rules into valuable, manageable, and scalable assets that drive efficiency and growth. **Myridius brings a proven methodology to help enterprises modernize at scale.** With us, you benefit from:

- Data and AI-first approach to transform rules into predictive, actionable insights.
- Governance and adoption strategies that ensure transformation sticks.
- Domain expertise and frameworks tailored for rule-heavy industries to deliver value for your business.
- Incremental, domain-based migration and transformation of rules to a modern platform.
- Extract and catalog business rules hidden in legacy systems with proven best practices in AI-driven engineering.

Ready to **modernize** your business rules?



With Myridius as your partner, you gain clarity, agility and a future-ready rules ecosystem. **Contact us today.**