



DATA-DRIVEN WARRANTY RISK PROFILE ANALYSIS

Most manufacturers must handle large numbers of warranty claims related to a variety of products and components. The volume of claims can easily run to millions per year for consumer goods manufacturers. Patterns within claims data may indicate emerging quality or design problems; therefore, identifying and prioritizing the issues requiring high-priority responses is critical to improve quality and reduce the financial impact of claims.

Cleansing Data from Multiple Repositories is Critical

It is critical that the claims data be consistent and clean in order to formulate appropriate responses to the many types of issues that they reveal. Inaccurate or incomplete data and duplicated records can skew the output of machine learning (ML) algorithms, which can lead to misallocation of scarce engineering resources, reductions in product quality, and a tarnished brand image.

Altair's [AI fabric](#) enables data preparation tools to be seamlessly integrated with data from CRMs, ERPs, channel partner systems, PLM systems, PDFs, and spreadsheets—ensuring high-quality, trustworthy data for downstream analytics.

Use Machine Learning to Detect Emerging Quality or Design Problems

[Machine learning](#) (ML) is the optimal technology to analyze large volumes of warranty claims data. Systems that support a visual, no-code approach to selecting, building, and testing ML algorithms save time compared to writing custom code.

[Altair® RapidMiner®](#) offers an intuitive, code-optional interface for building ML workflows, making advanced analytics accessible to engineers, quality managers, and business users. Its AI fabric framework provides the underlying infrastructure to integrate, govern, and operationalize these models at scale—ensuring that AI development within Altair RapidMiner translates seamlessly into enterprise-wide deployment.

Explainable AI features ensure transparency, while [AI agents](#) built within the platform can proactively monitor incoming claims and trigger alerts or actions based on customizable thresholds.

CLEANSING DATA FROM MULTIPLE REPOSITORIES IS CRITICAL

USE MACHINE LEARNING TO DETECT EMERGING QUALITY OR DESIGN PROBLEMS

MACHINE LEARNING CAN PRIORITIZE PROBLEMS BASED ON RFM WEIGHTING

Machine Learning Can Prioritize Problems Based on RFM Weighting

The recency, frequency, and monetary value (RFM) model is useful in many applications beyond warranty analytics. In this case, it is an excellent way to quantify the importance of different warranty issues or customer groups.

- Recency: How recently a warranty issue has arisen
- Frequency: How often similar issues have occurred
- Monetary value: The cost of resolution and long-term business impact

RapidMiner's AI fabric integration enables automated RFM scoring using real-time and historical data pipelines—ensuring issue prioritization reflects current risk profiles.

Visualize and Act on Insights in Real Time

Altair's [streaming analytics](#) capabilities power customizable dashboards that combine historical and real-time warranty signals. AI agents integrated into these workflows surface deviations, suggest optimizations, and coordinate follow-ups—all without manual intervention.

AI Fabric for Warranty Risk Analysis

AI fabric unifies data preparation, machine learning, and real-time analytics in a single environment. This cohesive approach enables:

- Automated ingestion, cleansing, and transformation of multi-source claims data
- Development and deployment of scalable ML models using no-code and low-code tools
- Proactive issue detection with AI agents that surface root causes and recommend corrective actions
- Integration with real-time data streams to flag anomalies and accelerate quality issue resolution

Altair RapidMiner, as part of our AI fabric strategy, offers a comprehensive platform for building intelligent, automated, and explainable warranty analytics solutions. Whether you're aiming to reduce costs, detect early failures, or safeguard brand loyalty, Altair's connected analytics ecosystem accelerates every step from raw data to root cause.

Learn More at: altair.com/manufacturing-analytics

