



Data Quality Services – Use Cases & Case Studies in The Payments Domain

RS Software has extensive experience in Data Quality Management (DQM) ranging from building customized data platforms to fit the needs of a specific organization to integrating one or more DQM tools into an established data platform for the standardization and verification of certain critical attributes, data provenance and lineage, data enrichment, deduplication, statistical outlier detection, and data variance reporting. The company has used this experience to create a Data Quality Platform that allows organizations to improve their overall ability to optimize the use of actionable information within their operation.

Enterprise Dashboard and Management Reporting

With large scale enterprises typically running hundreds of applications, senior management is always looking for metrics that can help them track risk levels and support their decisions on funding projects. It is therefore considered best practice to systematically measure the quality of data related to these projects within the organization. This calls for development of metrics and dashboards that provide a 360-degree view of the organization's applications data quality at various degrees of granularity – e.g., annually, monthly, weekly, daily. RS Software's Data Quality Platform (DQP) addresses these requirements with metrics and components that can be easily understood and monitored across enterprise wide applications.

Case Study – A payments network wanted to measure the value of several planned application enhancements. Using centralized dashboards generated by our DQP solution the organization analyzed data from more than 400 transaction related attributes in more than 20 applications providing senior executives with the information they needed to approve the enhancements. The DQP provided by RS Software lowered the risk and provided ongoing monitoring of the enhanced applications.

Statutory and Compliance

In the payment industry, networks, acquirers and issuers must abide by set of compliance-based operational terms and conditions when processing transactions. Some of these transaction attributes must have high data quality to avoid violation of existing statutory requirement.

Case Study - Payment networks have strict data quality standards that, if breached, can lead to severe fines based on operational guidelines. RS Software's Data Quality Platform implemented for a leading payments network client was able to detect and report that the Retail Merchant Category Code (MCC) was erroneously getting swapped with the Airlines MCC. Prior to the implementation of our DQP solution, this network used to pay heavy fines due to this processing error. By using the DQP to detect and provide early alerting these fines and others across the enterprise were reduced.

Transaction Monitoring and Early Warning

Monitoring that identifies transaction-related problems as early as possible allows operational teams to ensure the quality of data and information it provides to key stakeholders by preventing erroneous data from migrating to downstream systems. In addition, having this capability can offer value added services to acquirers and issuers by providing alerts that flag issues with the data they supply to the network.

Case Study – A leading global network utilized our DQP solution to raise alerts when a specific merchant volume fell significantly below defined thresholds. These alerts cause the exit gateways in the central data processing hub to stop data flow to downstream systems. It was later determined that most of those transactions from the merchant were being rerouted to another merchant acquirer service provider. Even though in this case the reduction of the transaction did not impact the payment network's revenue, being able to identify anomalies such as this can give a network information that allows them to respond if merchant volume is moving out of the network by negotiating with that merchant to recover the business sooner rather than later.

Metadata Management, Data Provenance and Data Lineage

Implementing data provenance and lineage processes helps users within an organization to track data flows between applications at attribute level to estimate enterprise wide impact analysis on specific attribute changes and provide information on the ultimate source of that data attribute.

Case Study – A payment network processor was facing data lineage challenges. RS Software successfully implemented a metadata management tool that was customized to leverage the client’s AbInitio Metadata Repository. In addition, we worked with the client’s Abinitio product team to enhance their metadata repository product to accept and display data quality metrics specific to each attribute that was monitored. Metadata management systems help enterprises define and leverage standard business or technical terms for all business attributes. By adding data quality metrics into metadata management systems and associating them with all monitored attributes, the accuracy and credibility of those attributes is enhanced.

Data Attribute Standardization and Verification

Most business users and analysts rely on data quality metrics to determine the usability of the information provided. Therefore, it is a basic requirement for any data sourcing application to capture these metrics and, if found under the expected threshold, alert data platform owners so they can perform the activities required to improve these metrics. Merchant platform providers face complex challenges to maintain high data quality metrics. This is due to the fact that merchant platforms generally source their data from transaction systems that may not pass along the attributes required to ensure data accuracy. Improving an attribute’s quality is mandatory if the information derived is to be useful to the enterprise.

Case Study –To improve the data quality associated with address attributes – i.e., street number, street name, city, state, zip code – RS Software established a standardization framework for a leading customer with the following features:

- Use of Trillium as the address standardization tool after conducting a multi-vendor proof of concept evaluation. Trillium provides monthly and quarterly updates from country-specific postal services that can be used to obtain geo-codes and conduct address validation, improving address completeness and accuracy.
- Address standardization to improve the consistency score.
- Customized applications using big data platform tools and ETL tools or custom coding based on scale of data volume. The application was architected to allow all enterprise applications to access its address standardization services. These address standardization services were used by multiple enterprise wide applications including the enterprise data hub, loyalty platform, merchant platform and billing team.
- Enabled Trillium services to provide real-time address standardization and verification services.

Data Enrichment and Context Sensitive Data Quality

Many times, organizations generate data that must be enriched in order to be useful in the context of making a specific decision. One way to improve the contextuality of data is to leverage external data providers for data enrichment. Enriching data with additional attributes from external data providers will significantly improve completeness, thus leading to better usability.

Case Study – RS Software has implemented data enrichment services utilizing third party data providers such as the Internal Revenue Service (IRS), Dunn & Bradstreet (D&B) and a variety of payment acquirers and we are currently working with new data providers such as Radius & Argus. IRS data enrichment provides validated merchant EIN and social security numbers while D&B enrichment adds more than 500 attributes from a variety of categories and acquirers, adding an additional 200 data points. Using these data enrichment services improved contextual data quality and decision making for our customers. One customer also set up a search platform leveraging enriched data to on-board interested merchants to specific loyalty programs.

About RS Software

RS Software is the leader in vertically integrated solutions involving the deployment and customization of software in highly complex, mission-critical payments environments. The company's exclusive focus on the payments industry for over 20 years forms the basis for its proprietary processes and methodologies that improve time to market for its clients. Its global delivery model and knowledge transfer disciplines ensure that its cross-culture experience enables maximum value to clients from start to finish.