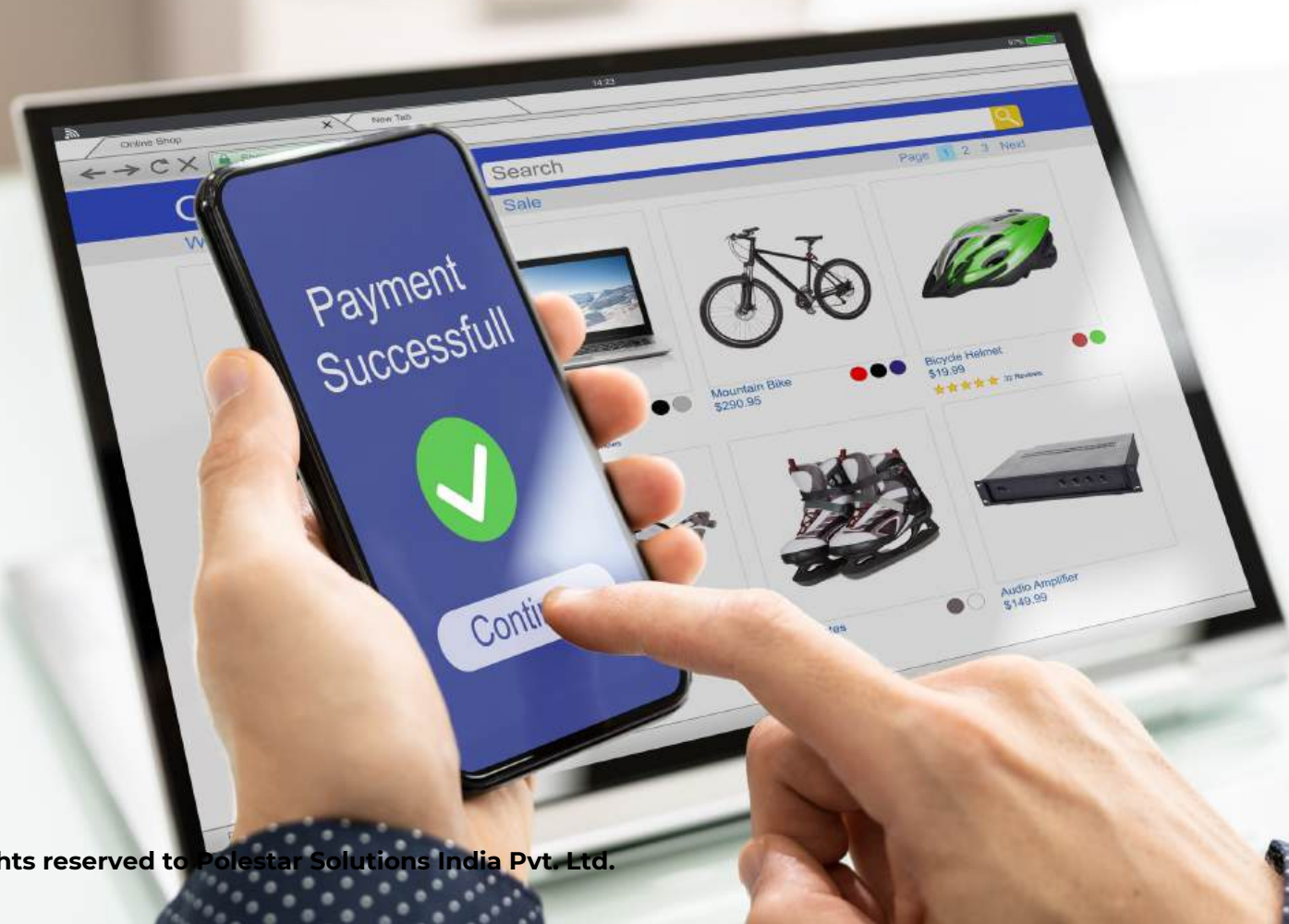


Ecommerce and Fintech Company

Performance Optimization and Data standardization for An Established Ecommerce Company using Catalog Processing Tool



Client Overview

Our client is one of the leading Marketplace and Financial technology companies with products offered across categories such as fashion, home, electronics, industrial supplies, recharge services, and more.

It receives 50 million orders per month with over 100 million users, 80,000 merchants, and 500 product offered categories.

Apart from its core business our client also offers services of payment plugins and hosted sites for several e-commerce for online payments, digital wallets, recharge and bill payment, investments, travel bookings, etc.

Problem Statement

Our client faced the challenge of refining and processing large amounts of data originating from millions of users, thousands of merchants, and over 500 product categories.

It followed a manual process that negatively impacted the operational team's efficiency and was time-consuming. Moreover, the data that it handled from merchants were non-uniform creating problems in data mapping and clustering them into different products.

Also, with a constant influx of merchants joining the platform, the client was planning to double the number of personnel impacting its operations, costs, and revenue.

Key Challenges

Manual Data Entry and Processing

Data refining and standardization of catalogs was done manually which was time consuming and prone to errors. Additionally, it hindered the company's ability to scale & meet the growing demand.

Inconsistent Data Formats

Catalogues from different merchants often had varying formats, creating data integration challenges. Inconsistent formats lead to errors in product information, pricing, and search results.

Complex Mapping Rules

Different merchants may have unique catalog structures, requiring complex mapping rules. Manually defining these mapping rules can be error-prone and time-consuming.

Cluttered UI and lack of workflow planning

Poor workflow planning often results in inefficient task management, where tasks are not prioritized or assigned effectively. Additionally, it was difficult to monitor a task's progress affecting the efficiency.

Solution overview

We implemented a comprehensive catalog processing tool (CPT) to address the challenges associated with manual catalog management. The CPT was designed to automate various tasks, **including data standardization, validation, and mapping**. By automating these processes, efficiency was improved, with a reduction in errors and processing time. Moreover, the tool was implemented seamlessly across the company's existing e-commerce platforms and acted as a centralized product information management enabling the business to manage all product information from a single platform.

Modules delivered



User Module- For end-users who interact with the system on a day-to-day basis.



Admin Module- Provides control and configuration options for system administrators.



Quality check Module- data and files prepared for upload meet quality standards.

Solution Details

User Module- This module performs all the core functionalities enabling seamless data flow

● **Data Filtering & Validation**

The module includes sophisticated filtering capabilities to ensure that the input data adheres to the required formats and standards before it is processed

● **Template Alignment and Standardization**

The merchant catalog's are in different template. The module is responsible for aligning and matching the templates with a standardized format. Following steps were taken

1. Reorder field columns to match the template required for uploading to c-panel
2. Change attribute nomenclature to that of the standard Format
3. Row-wise data validation to check for mandatory values, data type adherence, and standardization of refiners
4. This process required multiple iterations due to the cumbersome & error-prone manual handling techniques. On average, it took 30 minutes before uploading the catalog to the c-panel.

● **Error Handling and Isolation**

When the module encounters an error during processing, it isolates the problematic record into a separate file with complete explanation for each error.

● **Alerts and Corrected CSV Files**

Along with error isolation, it has the ability to create a separate CSV file containing processed records and excluded records for root cause analysis. It also alerts users about the errors in real-time, ensuring issues are promptly addressed, minimizing delays in processing that existed before.

Admin Module- This serves as the backbone of system configuration and user roles.

● **Dynamic Template and Attribute Creation**

Enabling Admin to design and create new templates that can capture necessary data points, ensuring information is collected and standardized across the various workflows. Moreover, admin can define columns and attributes without the need of extensive reconfiguration or technical intervention.

● **Credential Setup**

The Admin module offers a role-based access control (RBAC), enabling the Admin to assign specific roles to each user, enhancing security.

● **Task Assignment and Workflow Management**

It allows for easy task allocation streamlining the workflow and provides a system to monitor progress.

● Validation and Mapping Rules Configuration

Validation and Mapping Rules Configuration

With this module, validation rules can be created easily ensuring data integrity and compliance. Applying these rules to templates and attributes, ensures that data entered into the system meets predefined criteria before being accepted.

While on the other hand, data mapping capabilities helps admin to map and integrate data across different modules and functions

The Quality Centre (QC) Module- ensures that files prepared for upload to an e-commerce portal meet all quality standards

● Verification of Prepared Files

The QC Module allows the Quality Manager to verify whether the prepared files destined for the e-commerce portal are accurate and complete.

● Error Notifications

The QC Module provides real-time notifications of any errors or issues that may have been missed during the initial preparation of the files.

● Task Assignment and Workflow Management

The Quality manager can use the module to export the catalog file in formats compatible with the e-commerce portal

Business Impact

100%

Reduction in error

The automated validation and error detection mechanisms implemented across all modules (Admin, User, and QC) enable checking of data integrity, format compliance, and consistency, the system eliminated human error.

90%

Reduction in Processing Time

The system's ability to automate tasks and processes drastically reduced the time needed to complete each step. Previously processing each product took 30 minutes which was reduced to only 3 minutes.

85%

Reduction in Required Team Size

The module tools executed all the definable and recurring tasks that led to enhanced resource utilization and productivity. It led to the suspension of previously planned of workforce expansion.

200

Man-months reduction in human efforts

The system allowed for routing tasks to the appropriate team members, monitoring for immediate identification and resolution of bottlenecks, seamless data flow between functions, and many more, reducing saving the company 200 in man months.