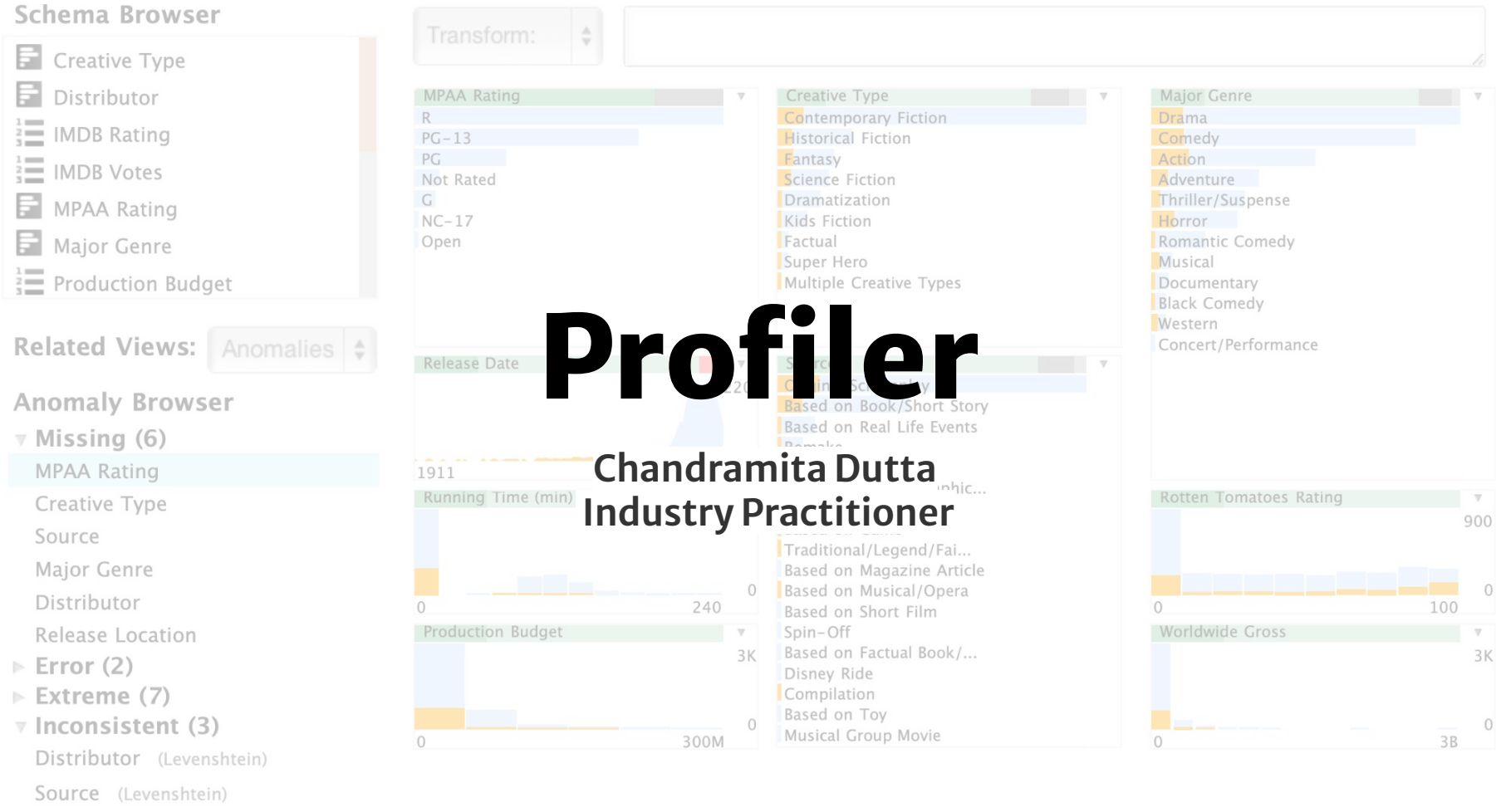

Profiler

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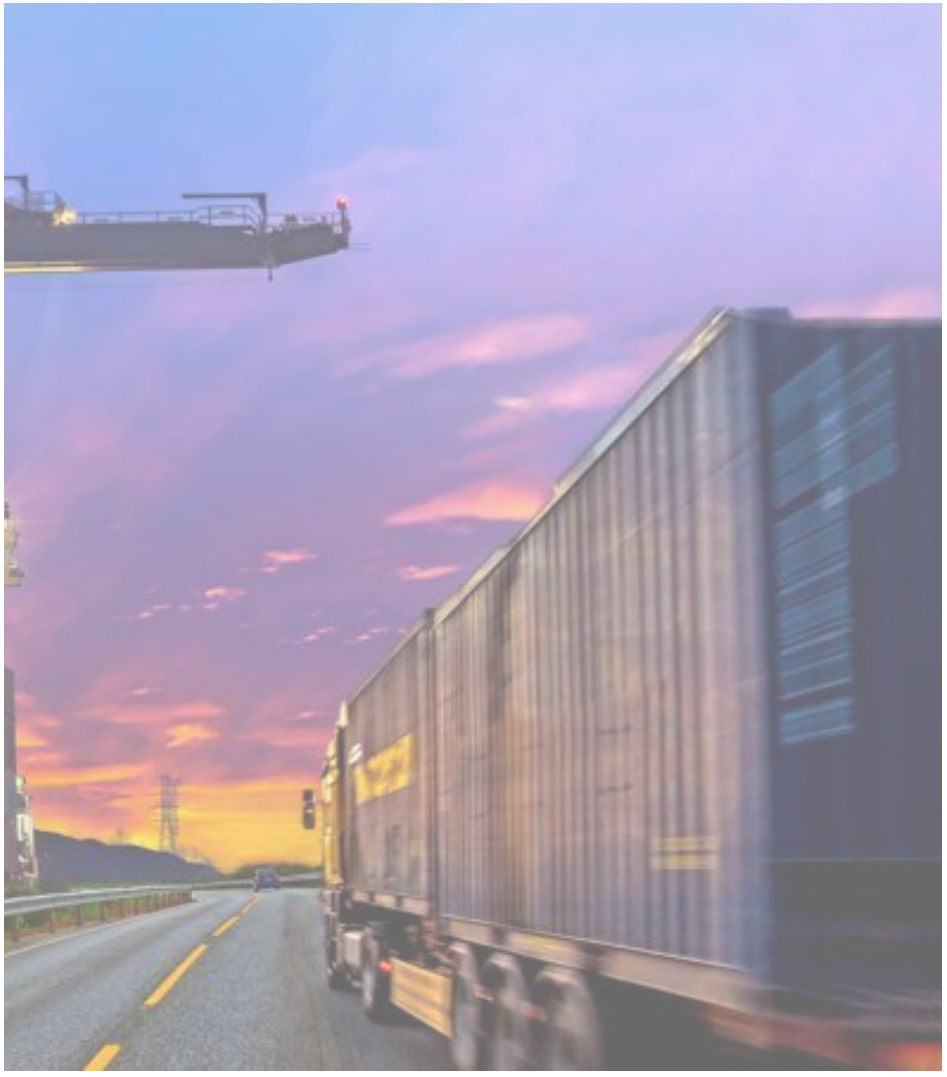
Use Case: Optimizing Logistics Operations with Data Quality Enhancement using Profiler

Background:

Top Parcel Service(TPS), is a rising transportation and logistics company that manages a vast network of shipping routes, warehouses, and supply chain operations. They are looking to *increase their NPS to ascertain customer satisfaction* in the next financial year.



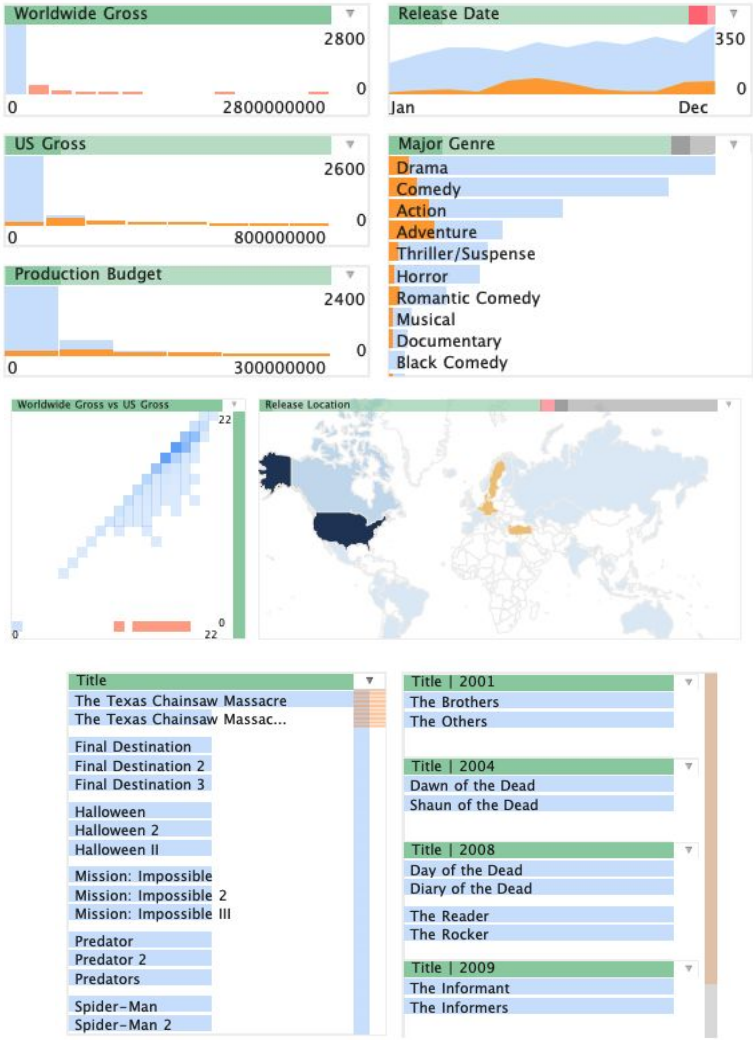
Root Cause: Delivery delays and errors impact customer satisfaction

Challenges:

- Inaccurate or missing data in shipping and inventory records – cause missed predicted delivery estimates, leading to shipment delays
- Incomplete route data – hinders route optimization and fuel efficiency, adding to delays
- Manual data quality checks – time consuming and delay responsiveness

Solution with Profiler

- Automatically generates data subsets and summary statistics on identified anomalies in big data
- Identifies missing values, duplicates, key violations and other discrepancies in shipping records
- Enables visualization of 'raw' data using summary visualisations
- Linked visualisations speeds up analysis process, eg. selected part in the 2d binned scatter plot highlights corresponding data on the map.
- Real-time anomaly detection increases responsiveness



Benefits

Clean data will help in **route optimization** - shorter and efficient shipping routes, improving delivery time and reducing fuel cost.

Build predictive models to improve operational efficiency - clean data is necessary to build good predictive models.

Automation **reduces manual effort and time**, enabling focus on strategic tasks and increase responsiveness to issues.

Risks

Integrating Profiler into existing logistics systems can be complex and time-consuming.

Anticipating a **learning curve** as users adjust to this new system, which isn't the most intuitive.