

ACCT414 Accounting Analytics Capstone (G2): Process Mining

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Problem

FairPrice Online (FPOne) is seeking to enhance their operational efficiency by:

- **Identifying deviations** between their current and Standard Operating Processes (“SOP”) of their online transactions
- Uncovering non-conformance and **hidden inefficiencies** across different departments within their organisation to achieve **compliance** and **reduce risk**.

Solution

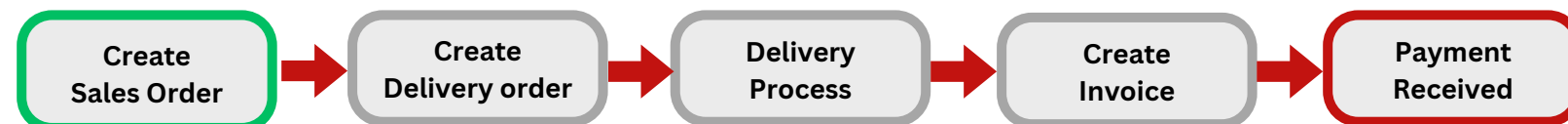
Our solution involves utilizing **process mining tools** to create a **graphical representation** of **FPOne's order-to-cash** process. The output map allows us to compare the actual process to their SOP for risk compliance, identifying bottlenecks and inefficiencies.



Key Findings

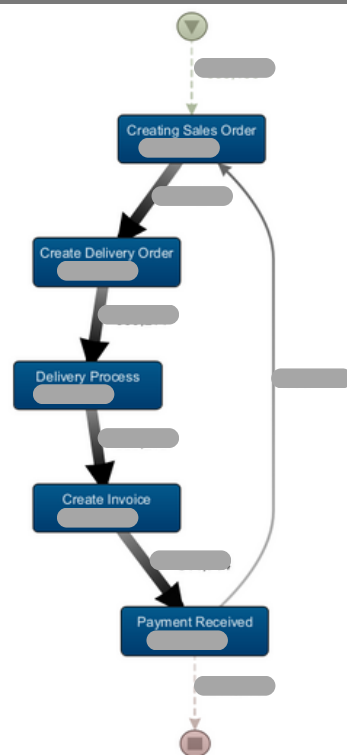


Process Map under Standard Operating Procedure



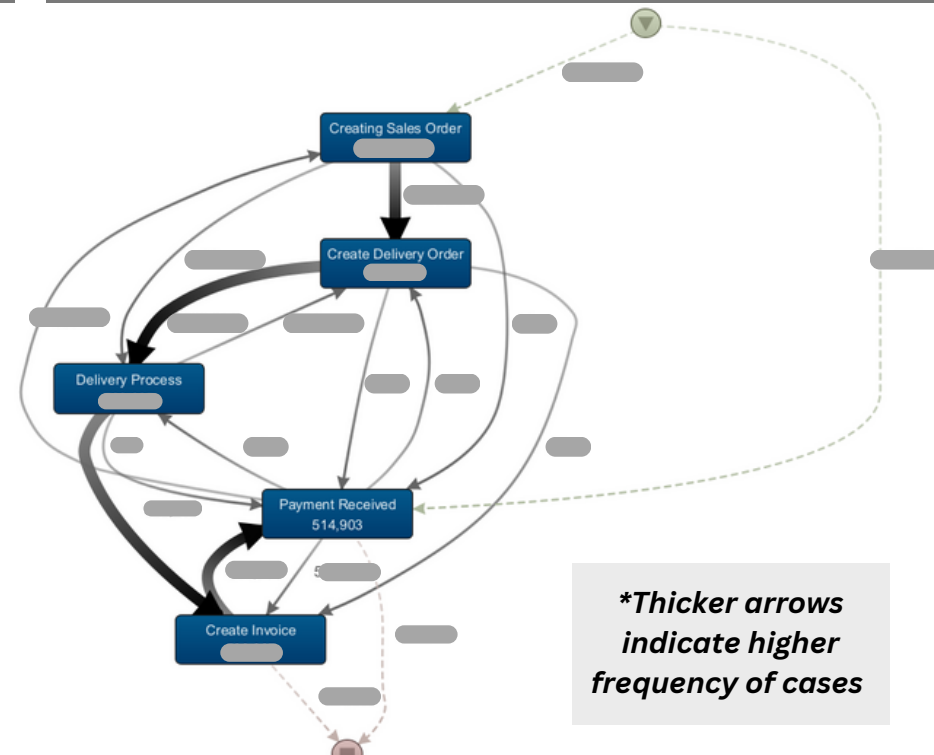
0% paths output:

Only the most frequent paths in the process are shown



100% paths output:

Every possible path in the process is shown



Process

1. Data Cleansing & Event log creation

Using BigQuery, we cleansed and filtered the raw data for the creation of the event log.

2. Process mining

We mapped out the actual processes using PM4Py and Disco, and evaluated each tools' pros and cons.

3. Variance identification

Using the outputs, we were able to identify and investigate any inefficiencies or deviations from the SOPs.

Variances

1. Cases which end after an invoice is created

Due to actual outstanding payments or time lag in SAP system which did not reflect updated payment status

2. Cases that start with a payment being received

Missing timestamps for the 'Payment Received' activity.

3. Cases with early payment

Internal dataset filtering issues that resulted in B2C transactions in B2B dataset.

Recommendations

1. Investigating cases for the real cause of data incompleteness and ensuring data is complete prior to process mining initiatives

2. Standardise of formats for time-specific columns and ensure datetime is recorded in SAP

3. Conduct conformance checks by deploying process mining tools to identify actual deviations to address and follow up on any internal dataset inconsistencies

4. Compare the key insights against industry benchmarks and set target KPI to further reduce inefficiencies

Limitations

1. **Data Quality & Completeness:** Process mining relies heavily on accurate and complete data for reliable outputs - Establish data quality metrics and controls

2. **Format & Integration Complexities:** Introducing a new process mining tool may encounter integration issues with data files and IT systems - find a tool with the right fit and plan for data transfers

3. **Cost of Process Mining tools:** Implementation can be costly due to software licenses and maintenance costs - Explore tools such as Celonis Free Plan (limited functionality) and dive deeper into Google Colabs