

Process Mining at Suncorp

PROCESS MINING

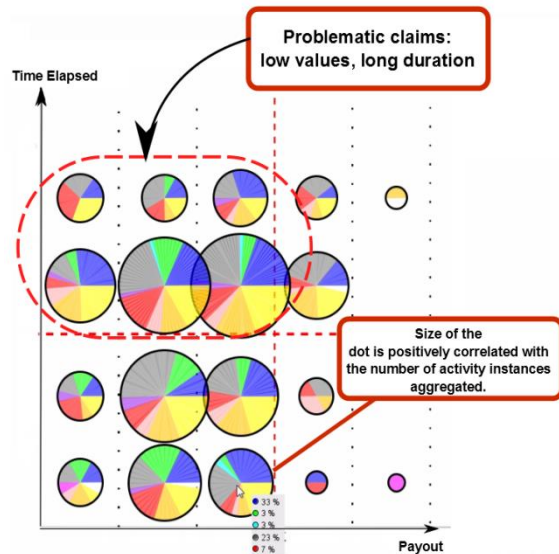
A novel data analysis discipline which aims to extract evidence-based insights about one's business processes using data generated from an organization's information systems. Typical analyses include process discovery, conformance checking, performance analysis, social network analysis and process visualization.

PROCESS DISCOVERY

By studying process-related data, process mining attempts to discover the *actual temporal* ordering of activities involved in business processes and display the results in the form of process models.

CONFORMANCE CHECKING

By comparing what *really happened* (as seen in the data) and what *should have happened* (as captured by organizational process models or business rules), process mining can detect (un-)desirable deviations in the actual execution of business



- More than 32,000 claims of Suncorp, made up of more than 500,000 events, were analyzed using *process mining* techniques.
- Novel algorithms and effective data visualization facilitated *evidence-based extraction* of pain points in the claims handling processes.
- Results have assisted Suncorp in
 - ✦ the *reduction of the claims processing time* from 30-60 days to 1-5 days, and
 - ✦ the *de-bunking of “anecdotal wisdom”* regarding how processes should be improved.

(Australian Financial Review – 09/07/13)

About. Suncorp, the largest insurance group in Australia and second-largest in New Zealand, in collaboration with the Queensland University of Technology (QUT) conducted a 6-month project involving the application of process mining techniques to analyze unstructured insurance claims handling processes.

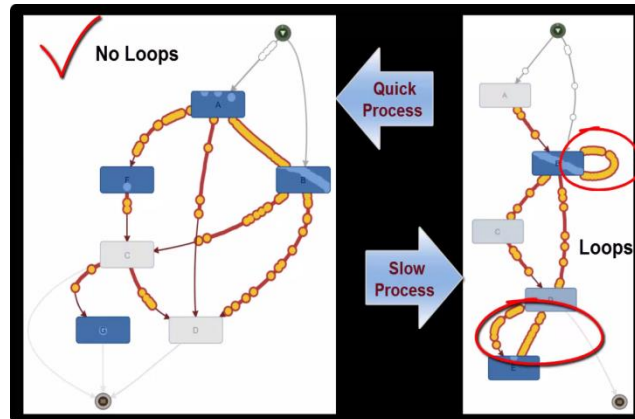
Objective. To gain insights into how insurance claims were processed at Suncorp. In particular, we were interested in process improvement ideas to reduce the lengthy claims processing time for a group of “simple” claims.

Key Question. What are the key differences in the way claims were processed between claims that completed on-time and those that did not?

Data. Data related to a subset of claims finalized within a 6-month period was extracted from the claims management system. Through minimal data cleansing and filtering activities, the data was split into a number of logical clusters.

Analyses. For each cluster, a number of process and data mining techniques, including *process discovery*, *performance analysis*, and *process animation* were applied. Together with Suncorp stakeholders, initial results were interpreted and subsequently refined to obtain the final results.

Results and Impact



- ✚ Through process discovery and animation, we easily identified likely differences in terms of process behaviors, between on-time and lengthy claims
- ✚ Claims that were stuck in a loop often resulted in lengthy claims.
 - Often, the loops were the results of the need to request more documents from customers or other parties involved
- ✚ Insights from this project have contributed to the rolling out of a one-touch program by Suncorp, which has substantially reduced claims processing time.

Low Efforts Maximum Gain

- **Low efforts** required from Suncorp to participate in this project
 - ✚ Part-time involvement of a Suncorp's employee for the first few weeks, followed by weekly meetings with the stakeholders from Suncorp
 - ✚ No more than two rounds of relatively straight-forward data extractions
- **Maximum gain**
 - ✚ Results directly benefit core Suncorp's businesses
 - ✚ Injection of exciting new innovation into the organization
 - Awareness raising across organizational hierarchy
 - New way of thinking for improving business processes

PERFORMANCE ANALYSIS

In addition to basic performance metrics (e.g. case duration, working time and idle time), process mining can also attempt to identify the location within an end-to-end process where bottlenecks exist.

SOCIAL NETWORK ANALYSIS

Given a log with resources information, process mining can discover relationships between resources (such as delegation of work and clusters of resource networks).

PROCESS VISUALIZATION

By replaying recorded data, process mining can *animate* past process executions in various forms with the goal of enabling effective extraction of information (i.e. visual analytics).

For more information about process mining, visit www.processmining.org



GPO Box 2434, Brisbane, QLD 4001
Australia
arthur@yawlfoundation.org
m.larosa@qut.edu.au