

# Process Mining at Suncorp

## PROCESS MINING

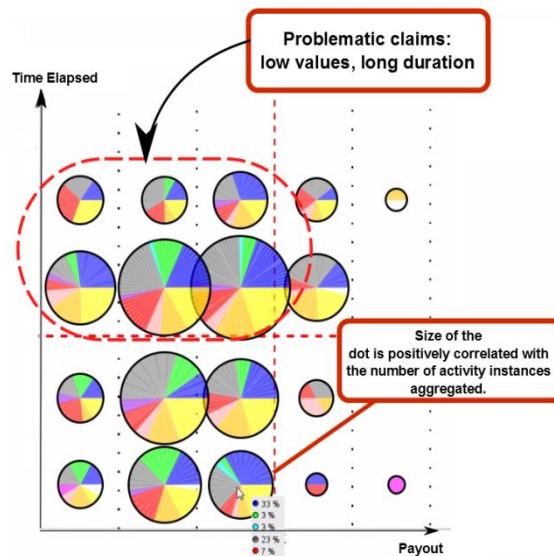
A novel data analysis discipline which aims to extract evidence-based insights about one's business processes using data generated from an organization's information systems. Typical analyses include process discovery, conformance checking, performance analysis, social network analysis and process visualization.

## 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.

## 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

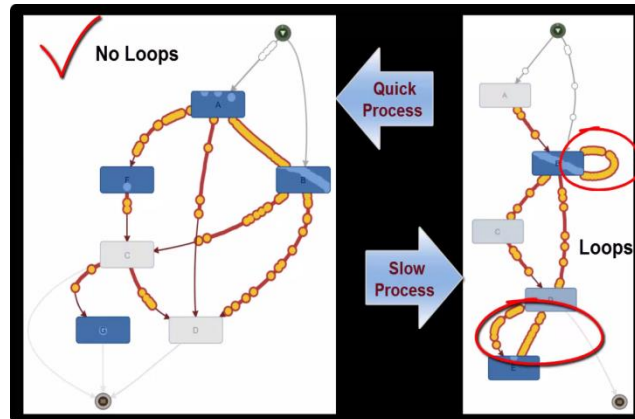
Given a log with resources information, process mining can discover relationships between resources (such as delegation of work and clusters of resource networks).

## 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](http://www.processmining.org)

# 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



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