

A background image showing the backs of several police officers wearing high-visibility vests with 'POLICE' written on them. The image is overlaid with a semi-transparent blue and white geometric pattern on the left side.

BPM-D® CASE STUDY PROCESS MINING TO DRIVE TRANSFORMATION AT POLICE SERVICE

■ Summary

A UK-based police service wanted to improve response and case processing time for incidents. Together with BPM-D, they deployed process mining to analyse response data, identify bottlenecks/issues, and define potential initiatives which would improve how cases are managed.

■ Organisation background

The police service in focus had an internal team dedicated to delivering Operational Excellence who recognised the value of process management. There was an established process modelling & repository management platform and they had been investigating the use of Process Mining technology to supplement this process capability.

There was scope for improvement in their handling of a specific category of incidents, with potential inefficiencies in both response and case processing. The police service acknowledged this and looked to deliver this improvement, leveraging their internal process capability alongside both Subject Matter Expert and BPM-D consulting support.

■ Approach

BPM-D's Rapid Process Improvement (RPI) methodology was used to define how the handling of incidents should be transformed. This is a 7-step approach, as shown in figure 1.

At the outset, the strategic drivers for the project were defined. The two main drivers were reducing response/waiting times for incidents and improving the effectiveness of the interaction.

This created a framework for prioritising improvements downstream and helped to focus analysis on the most critical areas of the process.

This police service uses a custom system for recording and managing incidents. This system creates event logs when used; these track what function the system has been used to perform and the time at which the function was executed. Further, rich data is also recorded which provides information such as the borough, user, and incident category, etc. The event logs and the rich attribute data for a 3-month period were extracted, anonymised, and then loaded into a process mining tool for analysis.

The subsequent analysis highlighted bottlenecks, trends, and potential areas for improvement. After validating the data interpretation with the System Owners, these insights were reviewed with process subject matter experts.

In the SME interviews, first the As-Is process was discussed to identify key, non-system driven tasks. Once there was agreement on the current processes, the data insights and SME pain points were discussed. This combination of quantitative and qualitative investigation generated a rich understanding of where transformation needed to be delivered.

The As-Is landscape was validated through a workshop with a focused group of process stakeholders, fostering alignment and ensuring the interpretation was accurate.

This served as the foundation of the transformation definition. The pain points and data insights had been recorded in an issue register. In the second part of the workshop, the root causes were identified and improvement actions defined.

BPM-D then enabled the internal teams to drive the improvement actions to implementation through coaching and support. Initiative templates and prioritisation frameworks were provided to structure the next phase of work and enabled the development of a transformation roadmap which would deliver an improved incident response service.

■ The Process Mining Factor

Generate an As-Is Process

■ Process models were previously built through interviewing SMEs. This meant that they showed what an organisation thought it was doing. Process mining is built off of system extracts – **the data does not lie**. This builds a true representation of business processes, including repetition, failure points and bottlenecks.

Analysis by Segment

■ Process mining investigations can be filtered by any attribute – case category, region/team, time of incident, etc. This enables the identification of issues and trends specific to a focused segment of the organisation, allowing for focused improvement and/or benchmarking.

Track Compliance

■ By using system data, you have visibility of how your organisation functions. With a continuous data feed, you can identify potential non-compliant behaviour and correct it before its an issue. By analysing historical data, long term trends can be found and corrected.

■ Results

- BPMN process models for domestic abuse incident handling.
- Process Mining investigation with 3,400+ cases.
- 23 pain points and data insights.
- 20 actionable root causes.
- 13 recommended improvements.
- Templates, methodology, and coaching for building a transformation roadmap.

■ Benefits

The ultimate output of the project was the delivery of a transformation roadmap. This was the foundation for delivering improvements across the incident handling process. The initiatives it describes are justifiable to the rest of the organisation because they are built on data, not just opinion. Further, they describe a holistic transformation agenda which accounts for the entire end-to-end process and not only driving excellence in siloes. Finally, through the process mining investigation and process models, process transparency was built which would facilitate improvement implementation and future analysis.

Additionally, the internal team led the project with coaching support from BPM-D; this ensured the police service built internal capabilities and now have a reusable approach for delivering improvements. Further, they validated the value of process mining through this project and will now deploy this technology more widely, providing other areas of the organisation with an innovative approach for combining data and people to drive efficiencies.



Figure 1: 7 Step Approach