

Process Mining - Ana Aeroportos de Portugal

About Ana Aeroportos de Portugal

Ana Aeroportos de Portugal manages the Airport infrastructure of Lisbon, Oporto, Faro, Beja, Ponta Delgada, Santa Maria, Horta, Flores and Madeira, Porto Santo, managed by the affiliate ANAM – Aeroportos da Madeira. ANA is responsible for providing the entire airport infrastructure that allows travellers and cargo to connect to the world, contributing towards the economic, social, and cultural development of the surrounding communities.

DSTIC Challenges

DSTIC - Information and Communications Technologies Directorate is responsible, among others, to ensure the availability, reliability and security of information and communication systems of the Airports. They provide a portfolio of services to their customers: Airlines, Passengers, Handlers, Shops, Ana's Employees, as well as to all other entities that develop their activity in the airport domain.

Under the ITIL framework, the Change Orders process has the objectives of incident prevention and timely response to the changing business needs, ensuring alignment of infrastructure with business expectations. It's a process with a high degree of complexity, bearing in mind that requests for changes involving technological assets must be properly considered, authorized and implemented to ensure operations continuity without any disruption and yet not to degrade the performance experienced before the change has occurred.

With Process Mining technology DSTIC was looking for answers regarding:

- Is there another way to structure the process so that it becomes more lean?
- How can we be faster to implement and improve our performance?

“The ability to directly perceive how the process is actually working allows for a detailed analysis and leads to better results in the process improvement project”

- Manuel Chaves Magalhães, CIO Ana Aeroportos de Portugal

The solution

The Change Order process is automated using a customized information system to meet specific needs. DSTIC wanted to discover all of the different process variants that were in place, taking into account the multiple technical categories that hindered their understanding in a particular way. The traditional discovery of a process model using walk-throughs and interviews with process participants and managers to collect information can take a long time. In this particular situation there are multiple process models according to the technical categories that make it very difficult to create a clear process map if classical approaches using manual process mapping would have been adopted.

Using process mining, the first step was the discovery of the AS-IS process model, automatically and immediately, based on log data in the information system. This made it possible to quickly identify that in some cases the process was not structured optimally to respond to the challenges that DSTIC deals with on a daily basis. The ability to “replay” the discovered process with existing process data contributed decisively to identifying where the process should be improved, answering questions, and defining initiatives to improve performance objectively.

The next step was a process performance analysis. Instead of only general information, it was possible to obtain intelligent insights on specific tasks that must be executed faster so that the process could be more efficient. Process Mining capabilities provided a way do uncover key patterns and specific cases, identifying the causes that must be eliminated to improve performance.

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The results

With Process Mining, Ana Aeroportos de Portugal improved the Change Orders process in the following way:

- Finding a more effective method to balance the workforce so that resources can ensure performance levels in implementing the solutions with which they are committed to their customers.
- Changing the process to be much more lean for particular technical categories. It was clearly identified that certain process models that were normalized to several technical categories did not provide the best results for other categories.
- Eliminating non-value-add tasks, as well as making changes to the task sequence in order to bring agility and speed in execution. Furthermore, it was identified that it was possible to compress a set of tasks that made the process faster.
- Identifying unambiguous performance metrics for the process as a whole, as well as for particular tasks, which sparked improvement opportunities based on the performance measured.
- Making changes in the way Change Orders are created and recorded in order for technical people to focus on what is really important and improve how they identify execution priorities.
- Applying the same practices (“Process patterns”) to other ITIL processes, i.e., it was possible to extend the scope of the improvements to other processes that are part of the ITIL reference framework.
- Making sure that no Change Order was implemented without being previously authorized, in accordance with the recommendation of the ITIL reference model.

“With Process Mining it is much easier and faster to improve processes. One can directly and quickly identify the source of the problems and immediately proceed with the process improvement”

- Carla Chambel, Process Manager – “Change Orders” Ana Aeroportos de Portugal

“In a simple and nimble way it’s possible to get an objective view on the operations and multidimensional processes”

- Pedro Coelho, ITIL System Administrator Ana Aeroportos de Portugal

The application of Process Mining capabilities, such as automatic process discovery, allowed the DSTIC team to quickly identify improvement opportunities, prioritize them, and achieve benefits.

Process Mining: Discovery ● Conformance and Risk management ● Performance analysis ● Process improvement