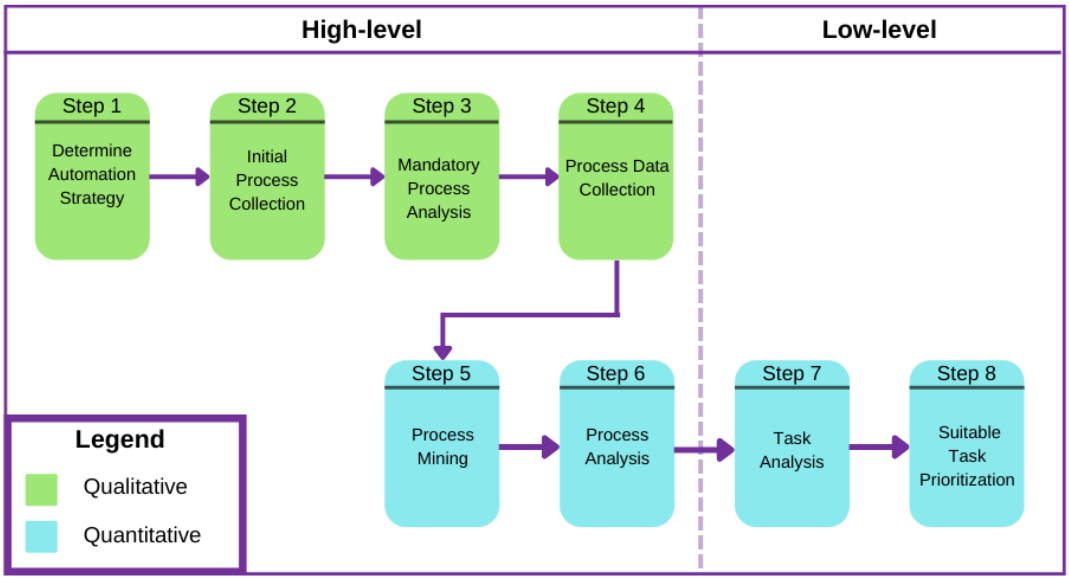
Tutorial PLOST Framework

Introduction

You are going to execute the PLOST Framework, in which you will obtain a Prioritized List Of Suitable Tasks (PLOST) for RPA (Robotic Process Automation). The Framework consists of 8 steps. You can see them below.



You are going to execute every step in chronological order, so starting at step 1 and finishing at step 8. The focus of the execution is on the usability and repeatability of the framework and not on the data. This means every experiment will use the same dataset.

The goal is to identify tasks within processes that could be automated with RPA. If you're not familiar with RPA, it is advised to watch this short video before starting.
You received the following documents:

- *Tutorial PLOST Framework.pdf* -> This tutorial.
- *Method_Templates .xlsx* -> A file where you can fill in the information from the different steps.

Context

The context in which you will search for these tasks is the Central Service Desk (CSD) of ProRail, the company that manages the Dutch railway network. The core business of the CSD is solving ICT-related incidents and events. In 2021, there were 25135 incidents at the CSD. Their desk is 24/7 occupied with employees that all have the same skills. Their main ITSM tool is the Marval Service Management System , in which they keep track of all the open and closed incidents and events with the use of tickets.

Thinking-Aloud Experiment

Because this is a thinking-aloud experiment, you are asked to say everything that pops up in your head. There are no weird comments and if you have questions you can always ask them

to me. The written text in the tutorial can be read in your head, but please tell me what you are going to read. So for example “I start reading the description of step 3”. At the end of each step, you are asked to answer a couple of questions. Please read these questions aloud and also answer them speaking aloud.
Let’s start!

Step 1 – Determine the Automation Strategy

The desired outcome of a RPA implementation differs per organization and situation. Therefore, the automation strategy is determined at the beginning of the framework. This consists of two parts:

- The Business Value Prioritization
- Risk Level Assessment

Business Value Prioritization

For the business value prioritization, each stakeholder has to divide 100 points over three different business values. With prioritizing these values, you indicate what is the most important value to you to gain benefits. The business values are:

- **Time Savings:** By automating processes that are performed often or take a lot of time, great value can be found in the time saved. Besides that, bottlenecks in the processes can be automated, which raises the total throughput time of the process.
- **Quality & Accuracy Improvement:** Where humans work, mistakes are made. When automating tasks, the error rate can be minimized resulting in less rework and rejections, and removing delays because of these.
- **Availability & Flexibity Increase:** While humans work most of the time eight hours a day, RPA robots are available 24/7. Besides that, when the demand of a certain task is higher, a RPA bot can simply be copied while a new employee has to be on boarded. This makes it easier to scale up and down when a task is automated.

Open *Method_Templates .xlsx* and go to *Step 1*. You see that six different stakeholders already filled in the prioritization. Add yours in the column of S7.

Risk Level Assessment

With the assessment of the risk level, the organization indicates how much risk they are willing to take. The three risk levels are the following:

Risk Level	Process Description
High	**High** importance & **High** complexity
Medium	**High** importance & **Low** complexity OR **Low** importance & **High** complexity
Low	**Low** importance & **Low** complexity

The organization has chosen for a low risk level.

Step Questions

- On a scale of 1 to 10, how executable (uitvoerbaar) was this step?

Step 2 – Initial Process Collection

In this step, interviews were conducted at ProRail to collect processes. For practical reasons, the processes are already collected for you. You can find them in *Step 2* in *Method_Templates .xlsx*. It is not necessary to fully understand the processes.

Step 3 – Mandatory Process Analysis

This step takes as input the processes from the previous step and asses them based on six qualitative criteria. These criteria are mandatory, meaning that a process should meet all of them to stay in the framework. If that is not the case, the process is removed from the selection.

The six criteria are:

- **Digital and Structured Input:** The data input for the RPA robot needs to be structured and digital.
- **Easy Data Access:** It should be easy to access the data needed in the process, to make the execution of the framework as fluent as possible.
- **Few Variations:** A process with multiple variations needs more time to be programmed, can have reduced performance and is more difficult to maintain. Therefore, the amount of variations should be minimal.
- **Repetitive:** The process should be repeated in the same way over and over.
- **Clear Rules:** The process exists of clear steps and decision points, of which it is possible to define them so they can be programmed by simple rules
- **Mature:** The process already exists some time, does not have any upcoming changes in the near future and is not prone to changes. If a process is not mature, the maintenance of the RPA robot will outweigh the benefits of the implementation

Go to *Step 3* in *Method_Templates .xlsx*. Because more process knowledge is needed than can be given now, the analysis is already filled in. Only the last cell needs to be filled. If a process meets all of the criteria, make the last cell green. If not, make the cell red.

Process mining is a time-consuming activity. By removing the irrelevant processes in this step, we save time later in the process by only focussing on the relevant processes.

Step questions

- On a scale of 1 to 10, how executable was this step?

- Are the criteria in this step sufficient? If not, what are you missing?

Step 4 – Process Data Collection

The processes with a green cell stayed in the process. This are process 5 and 6. From now on we will call them respectively the **SMS Prio 1 Process** and the **NCSC Process**. For these processes, the data is collected. This is done with help of Marval and Xtraction. Xtraction is IT business intelligence software made by Ivanti. ProRail uses Xtraction as the report tool for Marval, their ticket software.
With this process data, an event log for process mining is created.
If you're not familiar with process mining, watch this short video.

Step 5 – Process Mining

The event logs are uploaded in a process mining tool. We will use Celonis for this. For each process a different dashboard is made. The links for the two process dashboards are:

- SMS Prio 1 Process
- NCSC Process

Tip: it is recommended to first take a look at the different dashboards to see how the processes look like.

Step 6 – Process Analysis

The two processes are assessed against different quantitative criteria. The criteria are:

- **Cycle Time:** The average throughput time that is needed to go from the process start to the process end.
- **Case Frequency:** The total amount of occurrences of the process.
- **Activity Frequency:** The total amount of occurrences of the different activities in the process.
- **Standardization:** The total number of variants. A high standardization is a low number of variants.
- **Length:** The average length of the process.
- **Automation Rate:** The percentage of events performed by the system.
- **Human Error Prone:** The rework rate of the process, which is the amount of activities executed more than once during the execution of a process.

Go to *Step 6* in *Method_Templates .xlsx*. Fill in the table based on the data in the dashboards.

With this analysis it becomes clear what the importance and complexity of the two processes are. This analysis can then be aligned with the determined risk level from Step 1.

The risk level is low, which means the company wants to automate processes with a low importance and low complexity.

Go to *Step 6* in *Method_Templates .xlsx*. Compare for every criteria the two values. Give the lowest value a green color. Compare which process has the most colored cells. This process is in the next step further analysed to identify suitable tasks.

Step questions

- On a scale of 1 to 10, how executable was this step?
- Are the criteria in this step sufficient? If not, what are you missing?

Step 7 – Task Analysis

For the last process in the framework, we are going to analyse what the different tasks are and which one would be the most suitable to automate with RPA. This analysis will be done with six different quantitative criteria. These different criteria are:

- **Activity Frequency:** The total amount of occurrences of a task.
- **Case Frequency:** The number of unique cases in which this task appears.
- **Duration:** The average duration of the total number of executions of the task.
- **Automation Rate:** The percentage of occurrences performed by the system.
- **Human Error Prone:** The rework rate of the task, which is the amount of activities executed more than once during the execution of a process.
- **Irregular Labor:** (number of times activity is executed in period x)/(number of times activity is executed in period x-1)

Go to *Step 7* in *Method_Templates .xlsx*. Fill in the table based on the data in the task dashboard. Do not forget to click on the *task* tab in the left corner of the dashboard to see the task data.

Step questions

- On a scale of 1 to 10, how executable was this step?
- Are the criteria in this step sufficient? If not, what are you missing?

Step 8 – Suitable Task Prioritization

The final step is to prioritize the tasks based on the analysis of the previous step.

Go to Step *Step 8* in *Method_Templates .xlsx*. The first table shows the task analysis from *Step 7* and the second table the business value prioritization of *Step 1*.

Rank for each criteria the tasks in the analysis in the second table. The highest value receives an 8, the second highest a 7, the third a 6 etc. If tasks have the same value, give them the same number.

Example:

se case.

Criteria	T1	T2	T3	T4	T5	T6	T7	T8
Activity Frequency	7	6	7	5	7	7	8	7
Case Frequency	8	7	8	6	8	8	8	8
Duration	5	3	6	7	4	2	8	2
Automation rate	7	8	8	8	6	8	8	5
Human Error Prone	6	8	6	6	6	6	7	6
Irregular Labor	6	8	6	6	6	6	7	6

Now it's time for the final prioritization. This is done by multiplying the scores of the business value prioritization with the ranking. Each criterion matches with one of the three business values. You can see which criterion matches which business value in this table:

Criteria	Time Savings	Quality & Accuracy	Availability & Flexibility
Activity Frequency	✓	✓	✓
Case Frequency	✓	✓	✓
Duration	✓	X	X
Automation Rate	✓	✓	✓
Human Error Prone	X	✓	X
Irregular Labor	X	X	✓
Total	**4**	**4**	**4**

When a criterion matches more than one business value, the score of the highest business value is used for that criterion. For example: Case Frequency matches all three business values, but Quality and Accuracy Improvement has the highest score. Then the cells in the Case Frequency row will be multiplied with the score of Quality and Accuracy Improvement.

Copy the value of each business value behind the criteria in the second table, based on the distribution of the business values showed above. Now the final prioritization will automatically appear.

Tadaa! The task that has the the highest priority to be automated with RPA will be showed in the darkest green color! The dark red color is for the task with the least priority.

Step questions

- On a scale of 1 to 10, how executable was this step?
- What do you think of the amount of calculations in this step?

Questions

1. To what extent do you think the addition of process mining benefits the identification of RPA tasks? Give a number from 1 to 10.
2. How would you describe your overall experience with the framework?
3. What is your opinion about the duration of the framework?
4. What did you like the most about the framework?
5. What did you not like about the framework?
6. What was the easiest part of the framework?
7. And what was the hardest part?
8. If you could change anything to the framework, what would you change? And why?