

ETPN 2020 Project

Vehicle Inspection and Emissions-Testing Process

Task

Your assignment is to model and analyse the “as is” business process model for a Vehicle Inspection Process and to redesign and automate a “to be” process. A description of the “as is” process and issues identified in this process can be found in the case study “Frumherji Ltd. Reykjavik: Vehicle Inspection and Emissions-Testing Process” that is available in the Fenix. When the case study description is not detailed enough, you must make your own assumptions and write them down in your report.

Your work starts with understanding the “as is” process. To this end, you will model the process in BPMN, starting from a value chain and drilling down to sub-processes where appropriate. This process model should cover the “normal course of action” (happy path), as well as foreseeable errors or exceptions and how these are handled.

Next, you will analyse the “as is” process model quantitatively and qualitatively leading to an “issue register”. You do not need to apply all analysis techniques introduced in the lectures, but rather you should select those techniques that are applicable given the data provided in the case study. For the quantitative analysis, whenever it gets too complex to perform by your calculations, you can run a process simulation and support your analysis with that data.

Based on the identified issues, you will then design a “to-be” process. You will explain the proposed changes, and how and to what extent these changes help to address the issues identified before. Also, report what other possible changes you considered, why could they also be potentially relevant, and why did you discard them. This will lead to a “to-be” process model. The proposed changes to the process should be validated by running a simulation of the to-be process, and the results compared with the as-is analysis.

Next, you should follow by enriching the process model with the information that is required for the process automation, and propose an implementation on the Outsystems tool made available for you. This process implementation should produce forms allowing actors in the process to enter relevant data. The form in the last page of the case study could be used as a basis. But given that it is in Icelandic and not readable, you may take inspiration from alternative emissions testing forms available online, e.g. <http://tinyurl.com/jqwtmk8>. You do not need to include all fields in the form, but you can select a sample of about 20% of fields, to give an idea of how the form would look like.

What to Submit?

You should submit a deliverable as a PDF file with the following sections:

1. The “As is” process model. If the size of the diagrams allow so, please copy the process model(s) into your report. But if some diagrams are too large, submit them as separate PDF file(s). Please also inform what was the tool you used to create the model, and include the source file with the submission.
2. The “As is” process model analysis: This section should include the issue register as a bare minimum (try to conceive and use a handy table for this purpose), but may include also why-why diagrams, a Pareto chart, a waste table or value-added analysis table. To perform the flow analysis and simulation you will be required to make assumptions, given the provided data. You must present all assumptions in a clear way, and make sure they are also used in the analysis of the to-be process.

3. The Process Redesign: This section should include: (i) the proposed process changes and justification for each proposed change; (ii) a discussion of the expected benefits of the proposed changes; (iii) alternative changes that, according to the subject of the course, could be considered as potentially relevant but you discarded, explaining the reasons for all that; (iv) the “to be” process model in BPMN (can be submitted in separate files); and (v) the results of the simulation showing the expected behaviour of the process and the gains over the as-is.
4. Executable process model in OutSystems submitted as:
 - An OutSystems Application Pack file (*.oap) containing all the modules needed to execute the application.
 - The public URL of the application in the OutSystems Cloud Personal Environment (“personal environment name”.outsystemscoud.com/”Application Name”).
 - Necessary user accounts (usernames and passwords) to log into the application.

Each team must deliver a live presentation of their report on the project presentation date planned for this course (week 16 December), which means the presence of all the team members in this session is mandatory. The presentation should explain the outcomes of the analysis and redesign, as well as a pre-recorded demonstration of the executable process model.

Indicative grading: Each of the four points above is worth 4 points, which will be each accessed according to the quality of their presentation in the report. The live presentation is worth another 4 points.

Important dates:

- Delivery date and format: – see in Fenix
- Group presentation date - see in Fenix
- The faculty is available to provide intermediate and individual feedback of your project in three possible moments, as listed in Fenix. For that, which is optional, you must submit your on-going report in Fenix until the deadline for each delivery. The feedback will be provided in the class session after each delivery deadline, in a private session to be booked with each group. These optional deliveries will not be rated in any form. Only the final report will be rated.