

MTAT.03.231 – Business Process Management

Project – Pharmacy Prescription Fulfilment Process

Teams: 4 or 5 members – at least one from Masters of ETM, at most 3 from Masters of IT/CS/SE

Worth: 30 points

Task

Your assignment is to design and to automate a “to be” business process model for a Pharmacy Prescription Fulfilment Process. A description of the “as is” process and the issues identified in this process can be found in the case study “Pharmacy Service Improvement at CVS” that was handed to you. In some places, the case study description is not detailed enough. In these cases, you can make your own assumptions.

First of all, you are asked to assess the possible benefits of improving this business process (this is called an “Opportunity Assessment”). To this end, you are asked to answer the following question:

- What revenue improvement could be obtained by reducing the defection rate due to poor customer service by 60%?

In order to answer this question, you may need to analyze the following questions first:

- What percentage of defecting customers in 2000 are light users? Same question for heavy users.
- What is the volume of scripts lost annually to light defectors? Same question for heavy defectors?
- How many scripts are filled annually by CVS pharmacies?
- What is the average revenue per script?

Next, you need to understand the “as is” process model. To this end, you are asked to design a detailed BPMN process model for the prescription fulfilment process. This process model should not only deal with the “normal course” of action, but it should also show how different types of errors or exceptions are handled, including:

- What happens if a customer calls to cancel their prescription or to change the time at which they plan to pick-up their prescription?
- What happens if the required drugs are not on stock? (Note: in some cases, the missing drug may be available in a nearby pharmacy).
- What happens if a customer does not come to pick up his/her prescription for several days?
- What happens if the maximum number of refills has been reached and the doctor who emitted the prescription needs to be called in order to authorize an additional refill – but the doctor is unavailable?
- Other errors documented in the case study.

As a third step, you are requested to document the most important issues in an issue register and to assess the impact of these issues. This analysis should be documented in the form of an “issue register” including the following columns: Issue Priority Number, Issue Name, Short Description, Assumptions, Quantitative Impact and Qualitative Impact. You do not need to make an exhaustive issue register with every possible issue you can think of. Instead, you should include only the most

“important” issues. For the quantitative impact analysis, you can use the estimates obtained in the opportunity assessment.

Based on the identified issues, you should then design a “to-be” process model and to explain what changes are you proposing and how these changes help to address the issues identified before. When proposing changes, remember that ultimately, the goal is to increase revenue. Improving customer satisfaction is one way to achieve this goal. Other process changes that help to bring in customers into the pharmacy should also be considered.

To give an initial idea of how the to-be process could be automated by means of a new process-aware information system, you are requested to implement the to-be process model in YAWL or Bizagi. The process implementation should produce forms allowing staff members in the pharmacy to enter relevant data found in a prescription. A sample prescription form that CVS pharmacies typically receive is shown in Figure 1.

Figure 1. Sample prescription form

In addition to the relevant prescription data, the process implementation should be able to handle customer data needed for prescription fulfilment, such as telephone number, insurance company and insurance policy number.

The implementation should include roles and a small number of participants for each role.

E-Prescriptions

Recently, an e-prescription system was introduced in some states where CVS operates. If a patient has been issued an e-prescription, CVS pharmacy staff can retrieve the details of the prescription from a state-wide e-prescription system by entering the date of birth of the customer and his/her personal identification code (the so-called “social security number” in the U.S.). The details found in an e-prescription are the same as in a paper-based prescription. However, the user of the e-prescription system is not obligatory for doctors. We will assume that about 15% of prescriptions served by CVS pharmacies are issued as e-prescriptions.

What to Submit

You should submit by e-mail a report in PDF, MS Word or OpenOffice format, containing the following sections:

1. A title page including the names of all team members and the role(s) taken by each member (e.g. leader, analysis/design, YAWL modelling /testing). A table of contents is not required.
2. The “opportunity assessment”.
3. The “as-is” process model captured in BPMN. If you prefer, you can submit the process model as a separate file (in PDF, Visio, TIBCO or Bizagi format). If using Signavio, you can share the process model with the lecturer (use the e-mail address: marlon dot dumas at ut dot ee).
4. The “issue register”.
5. A description of the proposed business process changes. For each change, you should explain why do you suggest that change, and which issue(s) it would help to solve.
6. A “to-be” process model captured in BPMN. If you prefer, you can submit the full process model as a separate file or share it via Signavio.

If you implemented in YAWL, you should submit an executable process model in YAWL (.yawl file) and an organizational database (".ybkp" file). If your implementation is in Bizagi, no executable project is needed, but you should attach screenshots of the forms produced by the system as an appendix of your report.

Due dates

The deadlines for this project are as follows:

- Masters of ETM students must send the to-be process models to the Masters of IT/SE in their teams by Thursday 3 May 2012 (e-mail addresses will be shared long before this date).
- Project presentations will take place on Thursday 17 May 2012, 10:00-13:15 in room A313 (Narva 3 – Oeconomicum)
- Reports are due on Monday 21 May 2012 at 9:00am

A penalty of 5 points per day will be applied for any delay.

Additional Notes

- The report will not be made public.
- Normally, the grade that a team gets will be the grade that each team member will get. However, Master of IT/SE students may be penalized if the YAWL application developed by their team is unsatisfactory, while Master of ETM students will be penalized if the issue register or “to be” process model are unsatisfactory. Also, points may be deducted from individual team members if, according to the other team members, his/her contribution to the project was unsatisfactory.
- Your team should prepare an oral presentation and a demo to be delivered on 17 May. The presentation should last between 5 and 12 minutes (ideally 10 minutes). The presentation should highlight the following points:
 - a. Main issues identified and their impact.
 - b. Proposed changes to the “as is” process (and justification of these changes)
 - c. Demo of the executable process