

Data and Process Modelling

Lab 7. Quantitative Analysis and Simulation

Marco Montali

KRDB Research Centre for Knowledge and Data
Faculty of Computer Science
Free University of Bozen-Bolzano

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Credit Application Tasks

TASK NAME	RESPONSIBLE	AVERAGE TIME
check completeness	secretary	1 day
check credit history	analyst	1 day
check income sources	clerk	3 days
assess application	clerk	3 days
make credit offer	clerk	1 day
notify rejection	secretary	2 days

Credit Application Process

The process is initiated when the secretary receives an application. The secretary then checks whether the application is complete or not. If not, then waits until the application is revised, and then goes back executing the completeness check. This is repeated until the application is eventually found to be complete. When so, a clerk and a credit analyst respectively check the income sources of the customer and her credit history. Once both have finished, the clerk does an assessment of the application. There are two possible outcomes:

- the credit request is denied, in which case the secretary notifies the rejection to the customer;
- the credit request is granted, in which case the clerk makes a credit offer to the customer.

Questions

Q1

Model the process using BPMN, showing the organization lanes explicitly (but not the customer).

Q2

Calculate the cycle time of the process, considering that, on average:

- an application submitted for the first time is found to be incomplete in 20% of the cases;
- 3 out of 5 applications are granted.

Q3

Calculate the daily work-in-process, considering that, on average, 10 new applications per month are received.

Q4

Simulate the process using Oryx Signavio. See <https://editor.signavio.com/help/en/index.html?simulation.htm>