

Assignment 4 Solutions

1.

A. You were supposed to create different process maps with various levels of abstractions. All of you got full points for this, it was done correctly by everyone.

B. You were supposed to create one or more BPMN models and explain the details about them. All of you got full points for this, it was done correctly by everyone.

C. Comparison of Process Maps and BPMN Models:

- Process maps are very good to get an overview of the main steps and paths of a business process. When we vary the abstraction level (both in paths and activity nodes), we can analyse the process using different abstraction granularities.

However, Process maps over-generalize: some paths of a process map might not exist and might not make sense. Process maps make it difficult to distinguish conditional branching, parallelism, and loops.

- BPMN diagrams can represent decision points (XOR gateways) and parallel paths (AND gateways), so they give a more detailed perspective of the control flow of a process model. However, BPMN models can become too complex depending on the level of abstraction that we choose.

2.

A. What is the cycle time of each log?

Answer: Young: 1.37 weeks, Old: 1.09 months

B. Where are the bottlenecks (highest waiting times) in each of the two logs and how do these bottlenecks differ?

Answer:

Young: from 'Admission NC' to 'CRP' (max waiting times of 2.57 days)

Old: from 'CRP' to 'Leucocytes' (max waiting time of 2.16 weeks)

Note: Waiting times for release and readmission are excluded as these are typically fixed (e.g. if the patient is well for at least 2 days then they are released)

C. Describe the differences in terms of frequency and order in which activities are executed between the two variants.

Answer:

Frequency: LacticAcid, Leucocytes and CRP are repeated much more often in Old: 50-70 times max per case, as opposed to 5-7 times (max frequency at Arc = 10%)

Order: Differences in the order of CRP and Leucocytes. Young only gets out via Release A channel.

3.

A. Is it a problem if you take the average cycle time of all cases, also the ones that have not finished yet?

Answer: Yes, there is a 1.75-day difference in cycle time. Also, the overall log timeframe is very short (2 months) compared to the average cycle time (15.5 days) so incomplete cases may be longer.

B. In general, which channel(s) have the biggest problems with missing documents that need to be requested from the customer?

Answer: Internet (77) and Dealer (718)

C. How many customers have received a refund without the product being received by the electronics manufacturing company? This should not happen.

Answer: 4

D. Has a customer ever received a double payment? This should not happen in this process.

Answer: 1