MTAT.03.231 Business Process Management

Practice 6
Flow Analysis

Solutions

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Exercise 1

Consider the following process model. Each task is annotated with its mean processing time.

1. **Calculate the Theoretical Cycle Time (CTE) of this process.**

2. **Let us assume that the cycle time of this process is 2 business days (16 hours). What is the cycle time efficiency of this process?**
Exercise 2

Calculate the cycle time efficiency (CTE) of the following process. The cycle times and processing times of each task are given in the table below.
Which of the following expressions allows us to calculate the theoretical cycle time of the process?

a) \( 60 + 540 + 120 + 1200 + 240 + 60 \)

b) \( 60 + 0.9 \times 540 + 120 + 0.85 \times 1200 + 0.8 \times 240 + 60 \)

c) \( 60 + 0.9 \times 540 + 120 + 0.85 \times (1200 + 0.8 \times (120 + 60)) \)

d) \( 60 + 0.9 \times (540 + 120 + 0.85 \times (1200 + 0.8 \times (240 + 120 + 60))) \)

e) \( 60 + 0.9 \times (540 + 120 + 0.85 \times (1200 + 0.8 \times (240 + 60))) \)
Calculate the theoretical cycle time of the Admission process (see next slide), assuming that:

- It takes 2 weeks for the documents to arrive to the admissions office by post.
- The check for completeness takes 10 minutes. In 20% of cases, the completeness check that some documents are missing. If so, an e-mail is sent to the student automatically by the admission management system.
- The time it takes between the moment the degrees are send to the academic recognition agency and the time we receive back a response is 2 weeks. We assume that it does not take any to send or receive the documents (this is all waiting time).
- About 10% of applications are rejected after the academic recognition assessment.
- Checking the English language test results takes 1 day on average, but in reality the officer who performs the check only spends 10 minutes on average per check.
- About 10% of applications are rejected after the English language test.
- It takes on 2 weeks between the time students service sends the copy of an application to the committee and the moment the committee makes a decision. The committee spends 1 hour examining an application.
- It takes on average 2 days (after the decision is made by the academic committee) for the students service to record the committee’s decision in the University admission system.
- Recording a decision takes 2 minutes. Once a decision is recorded, a notification is automatically sent to the student.
Exercise 4: University Admission Process Model