

# Fundamentals of Business Process Management

Marlon Dumas, Marcello La Rosa, Jan Mendling, Hajo A. Reijers

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## Errata

### Chapter 2

1. Section 2.2.4, first paragraph: “When a guideline applies, this may lead to a separation of processes between rows (a vertical split) or to a separation of processes between columns (a horizontal split).” should be: “When a guideline applies, this may lead to a separation of processes between rows (a *horizontal* split) or to a separation of processes between columns (a *vertical* split).”
2. Section 2.2.4, the texts on the guidelines (p.51-54) is incorrect about the orientation of the splits; the text should be such that the Guidelines 1-4 refer to horizontal splits and Guidelines 5, 6, and 8 refer to vertical splits.

### Chapter 4

1. Figure 4.15: The sequence flow labels “already registered” and “not yet registered” should be swapped. The updated figure is provided below.
2. Page 109, paragraph before the Question: “after which the first activity required a message to be performed.” should be “after which the first activity requires a message to be received.”
3. Section 4.5.4, first paragraph: “the timer is activated when the enclosing activity starts, ...” should be “the timer is activated when the enclosing

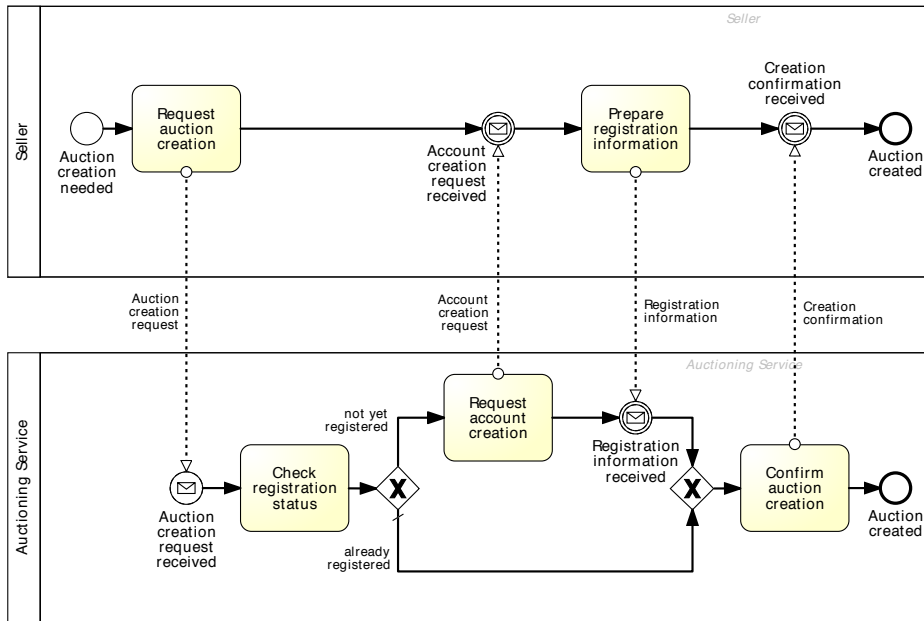


Figure 1: Figure 4.15

activity is *enabled* (i.e. when a token is available in the activity’s incoming sequence flow) ...”.

4. Solution 4.3, first bullet point: “being inside the repetition block” should be “emanating from within the repetition block”. Second bullet point: “outgoing arc of the XOR-splt” should be “outgoing arc of the XOR-join”. Also “which is inside the repetition block” should be “which emanates from within the repetition block”.

## Chapter 5

5. Page 172, first paragraph: “This is the case when the *soundness* property holds (see Chap. 3). Common sound and unsound process fragments...”  
Replace this sentence with the text below.

“A *deadlock*, as shown in Chap. 3, occurs when a running process instance is not able to progress any further once a given state is reached, i.e. a token gets stuck at that state. A *livelock* occurs when a process instance keeps cycling in a loop, i.e. a token is free to move but only within the loop.

Both deadlocks and livelocks prevent tokens from reaching an end event, so the process instance may not be able to complete altogether. Another behavioral anomaly is the *lack of synchronization*, occurring when two or more tokens running in parallel are not synchronized at some join gateway, with the result that an end event may be reached multiple times (once per token). Finally, a *dead activity* is an activity that can never be executed in any instance of the process model.

In the light of above, we say that a process model is behaviorally correct, or *sound*, if and only if it satisfies the following requirements:

- (a) *option to complete*: any running process instance must eventually complete, i.e. there are no deadlocks or livelocks,
- (b) *proper completion*: at the moment of completion, each token of the process instance should be in a different end event, i.e. there is no lack of synchronization, and
- (c) *no dead activities*: any activity can be executed in at least one process instance.

The above definition of *soundness* only takes into account the control-flow of a process model, assuming all input data objects and incoming messages are available when an activity is to be executed, and that all output data objects and outgoing messages are produced upon an activity's completion.

Common sound and unsound process fragments..."

6. Page 173, last paragraph: "There are two essential aspects of semantic quality: validity and completeness indexCompleteness." should read "There are two essential aspects of semantic quality: validity and completeness."
7. Exercise 5.18 should read as follows: "Have a look at the process model of Fig. 5.11 showing a sales campaign process for one of our industry partners. Describe which 7PMG guidelines can be used to improve this model."

## Chapter 6

8. In Table 6.1, the following steps are misclassified:
  - "Record recommended equipment" is business value-adding (BVA)
  - "Forward request to works engineer" is non-value-adding (NVA)

- “Send PO to supplier” is value-adding (VA)

A corrected version of the table is provided below.

9. Example 6.1, third bullet-point. The following statement is inaccurate: “In the the third task, the clerk calls the supplier to check the availability of the selected equipment. Again, we can treat this task as a single step.” As explained later in this bullet-point, task “Check Availability” in fact covers three steps: (i) Checking the availability by contacting the supplier; (ii) recording the recommended equipment; and (iii) forwarding the request to the works engineer.
10. Page 202, Figure 6.4 – the number of wrong equipment deliveries should be 15000 (not 30,000) as shown in the chart. The number of late payment fees should be 2400 (not 4800).

Step	Performer	Classification
Fill request	Site engineer	VA
Send request to clerk	Site engineer	NVA
Open and read request	Clerk	NVA
Select suitable equipment	Clerk	VA
Check equipment availability	Clerk	VA
Record recommended equipment & supplier	Clerk	BVA
Forward request to works engineer	Clerk	NVA
Open and examine request	Works engineer	BVA
Communicate issues	Works engineer	BVA
Forward request back to clerk	Works engineer	NVA
Produce PO	Clerk	BVA
Send PO to supplier	Clerk	VA

Table 1: Table 6.1 (corrected). Classification of steps in the equipment rental process.

## Chapter 7

11. Page 220, first paragraph: “However, if the upper branch is taken only 10% of the times and the lower branch is taken 90% of the times, ...” should be

“However, if the lower branch is taken only 10% of the times and the upper branch is taken 90% of the times, ...”

12. Page 220-221: “...since task B and C are executed in parallel, their combined cycle time is determined by the slowest of the two activities, that is by C”. It should be “...that is by B” because task B is the slowest.
13. Figure 7.5: Probabilities  $p_1$ ,  $p_2$  and  $p_n$  should not appear in this figure.
14. Table 7.2: The heading of the right-hand column should be “Processing time”, not “Cycle time”.
15. Example 7.2: The following arithmetic calculation is incorrect:  $2/(1 - 0.2) + 3 + 2 + 0.62 + 0.40.5 = 9.9$ . The result of the calculation should be 8.9 instead of 9.9.
16. Example 7.3: “The cycle time of the rework block is  $10/(1-0.2) = 1.25$  days.” should be “... $1/(1-0.2) = 1.25$  days.”
17. Exercise 7.3: “...ministerial enquiry process introduced in Exercise 3.7 (page 78).” should be “...ministerial enquiry process introduced in Example 3.7 (page 77).”
18. Page 228, Table 7.4: The Total Cost for row “Assess Application” should be 100 ( $2 \times 50$ ).
19. Page 230: “For example, we can say that customers arrive at the bank office at a mean rate of 20 per hour. This implies that, on average, one customer arrives every 5 minutes ( $1/20$  hour).” should be “...one customer arrives every 3 minutes.”
20. Example 7.6: “On average, 0.05 orders are received per day ( $\lambda = 0.05$ ), and 0.2 orders are fulfilled per day ( $\mu = 0.1$ ).” should be “On average, 0.05 orders are received per day ( $\lambda = 0.05$ ), and 0.1 orders are fulfilled per day ( $\mu = 0.1$ ).”

## Chapter 8

21. Tables 8.7 and 8.8: The header of these tables says “Cost, Quality, Time, Flexibility” but should read “Time, Cost, Quality, Flexibility”.

22. Page 280-281: “However, in a more common case, the eye-sight quality is one of the many aspects that are incorporated in a physical test (B), which should be combined with the outcome of the psychological test (C)” should be “... incorporated in a physical test (C), which should be combined with the outcome of the psychological test (B)

## Chapter 9

23. Figure 9.6: the condition labels “in stock” and “not in stock” should be swapped. The labels on the message flows emanating from pools Supplier 1 and Supplier 2 should be “Raw materials”. The updated figure is provided below.
24. Figure 9.10: An improved version of this figure is provided below, where the borders of the boxes are thicker.
25. Solution 9.13, first paragraph: “The latter interface contains the following four operations for the website service:” should be “The latter interface contains the following three operations for the website service:”.

## Chapter 10

26. In the  $\alpha$ -Algorithm, step 5.b) must read: Eliminating  $b \rightarrow d$  and  $c \rightarrow d$  if there exists some  $(b\#c) \rightarrow d$ .

## Index

27. Y: “Yet Another Workflow System” should be “Yet Another Workflow Language”.

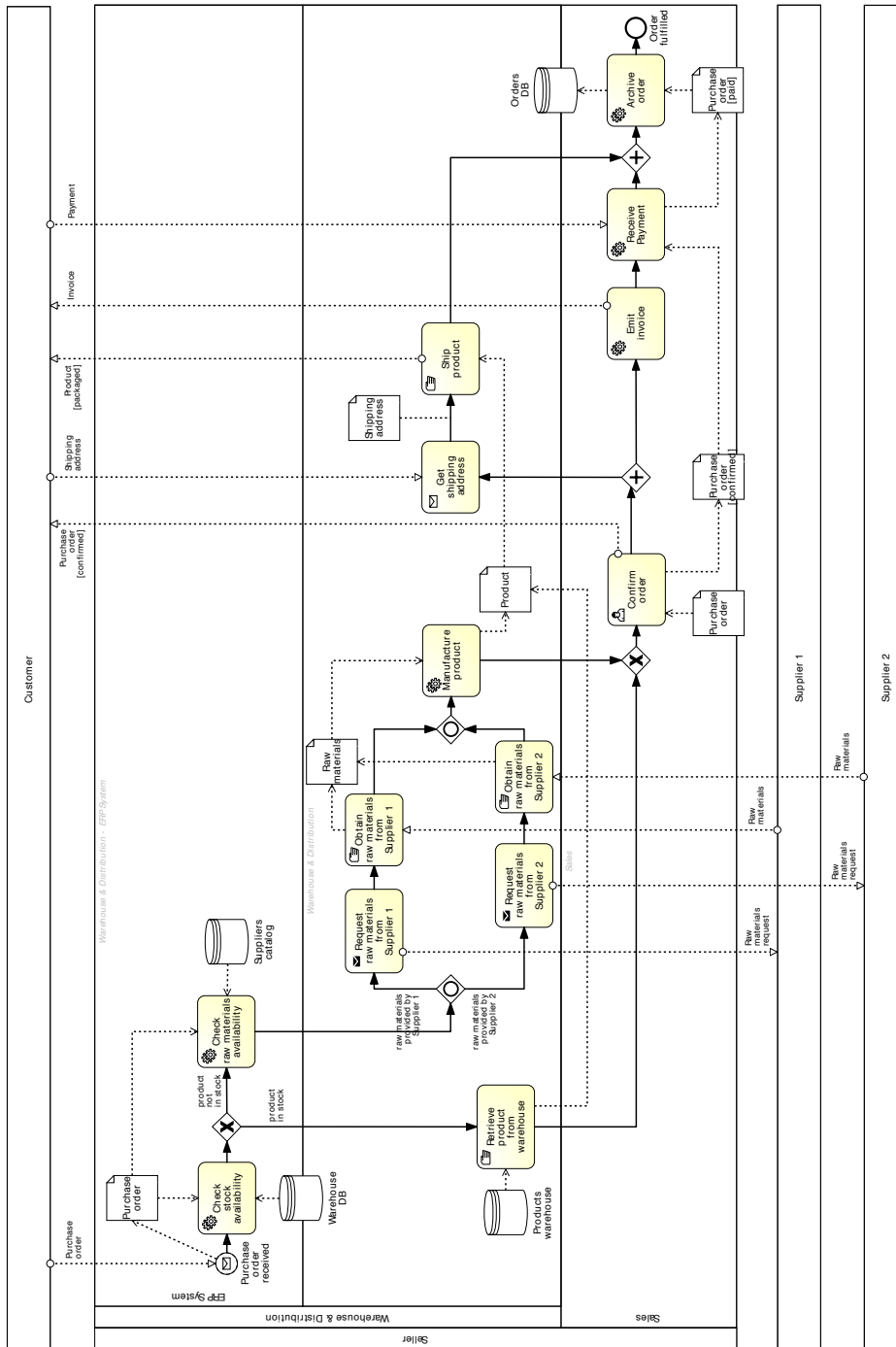


Figure 2: Figure 9.6

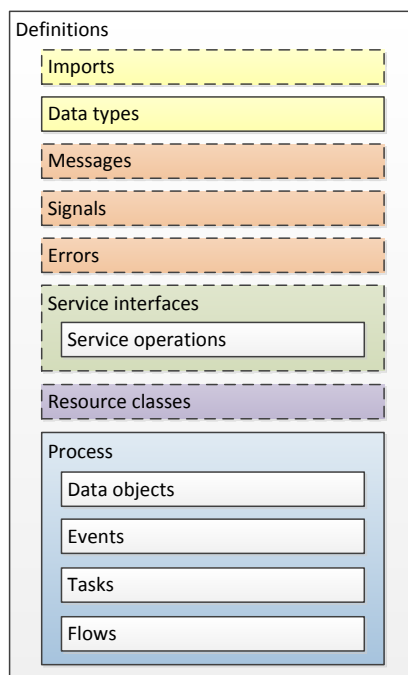


Figure 3: Figure 9.10