

Business Process Modelling

Business Process Model and Notation (BPMN), Workflows
Visualization, “As Is-To Be” Technique

SoftUni Team

Technical Trainers



SoftUni



Software University

<https://about.softuni.bg>

You Have Questions?



sli.do

#IT-BA

facebook.com

/groups/ITBusinessAnalysisAugust2023/

Table of Contents

1. Introduction to Business Process Analysis

- “As Is – To Be” Visualisation

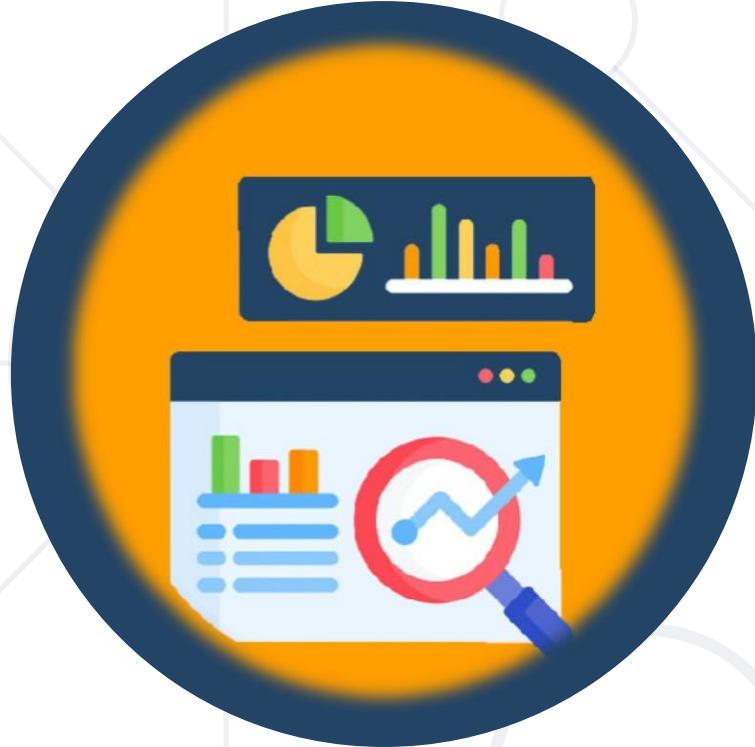
2. Introduction to BPMN

- What is BPMN?
- Basics of BPMN

3. Why is BPMN important?

4. Visualisation Tools





Introduction to Business Process Analysis

“As Is-To Be” Technique and BPMN

What is Business Process?

A Business Process is an **activity or set of activities** that accomplish a **specific organizational goal**. Business Processes should have **purposeful goals**, be **as specific as possible** and **produce consistent outcomes**.

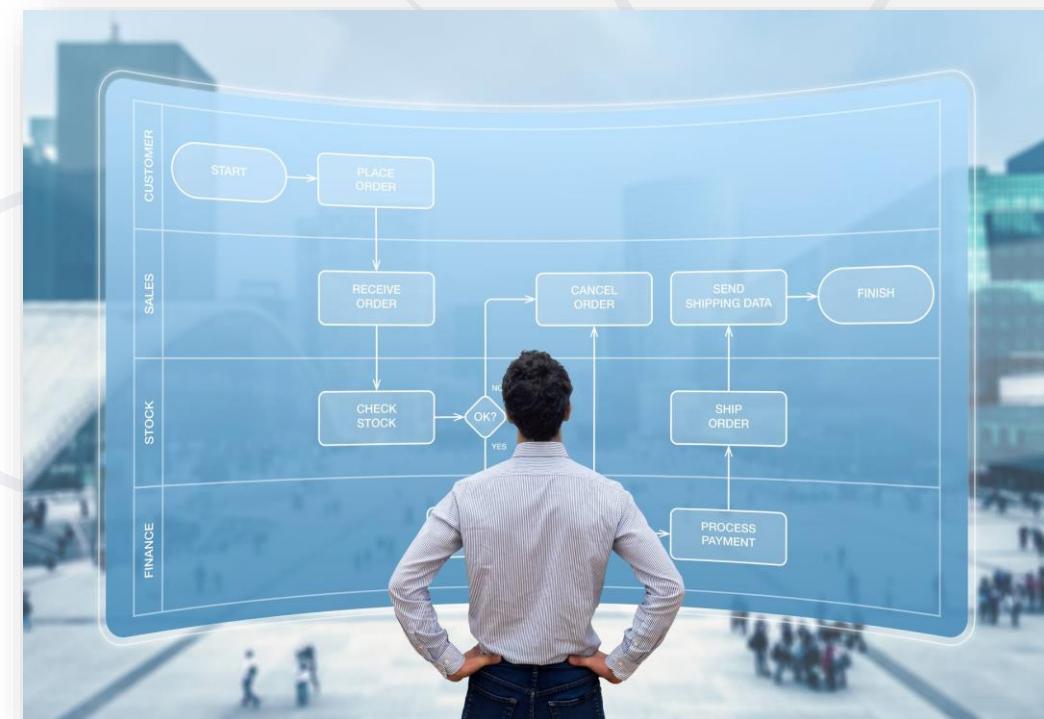


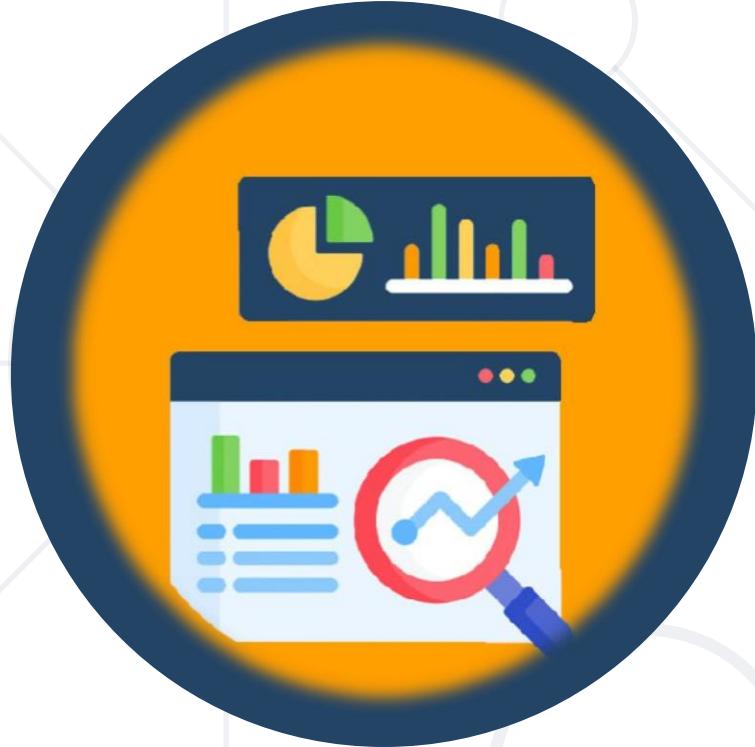
Car Assembly Line Example



Graphical representation using a modeling language that takes something complex and makes it easier to understand.

- Easily understand complex information
- Gets all stakeholders involved
- Receive requirements efficiently
- Identify the underlying problem
- Analyze ‘what if’ scenarios
- Allows removal of irrelevant information

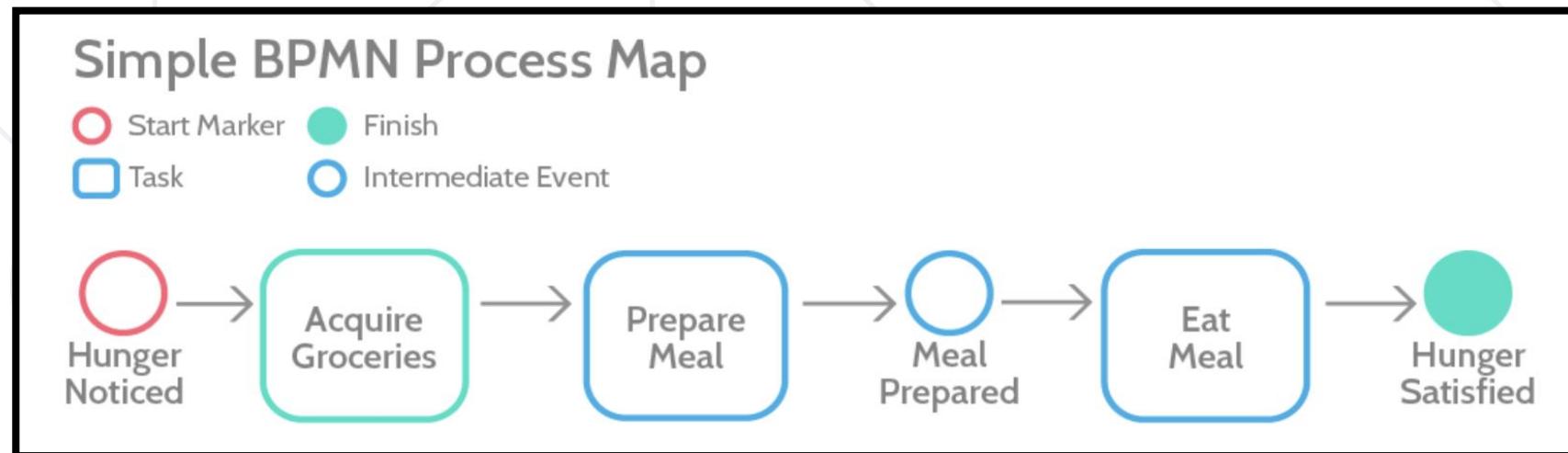




Introduction to BPMN

What is BPMN?

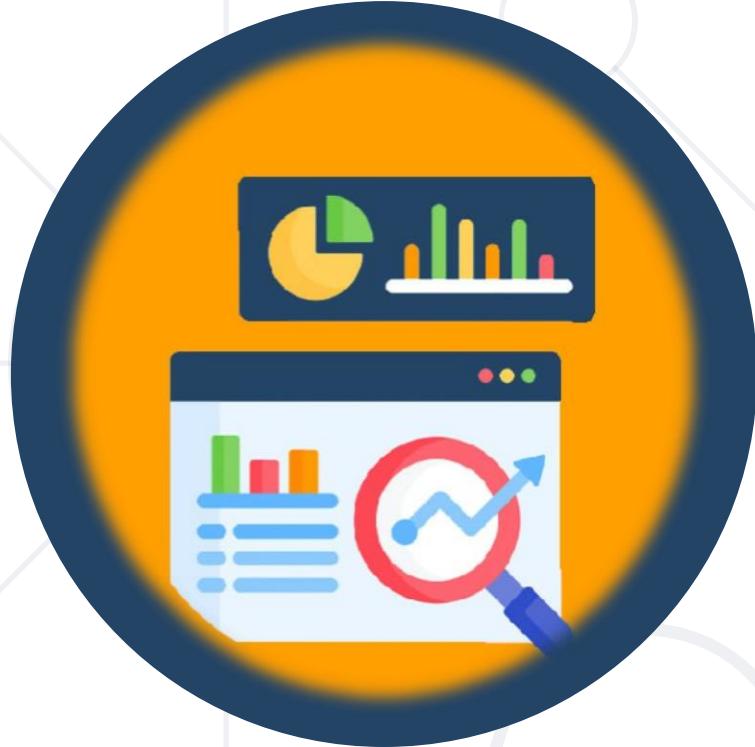
Business Process Model and Notation is a graphical representation/mapping for specifying business processes in a business process model.



Who is BPMN intended for?



Primary goal was to develop a notation capable of mapping business processes that would be readily understandable **by all business users**, from the **business analysts** that create the initial draft of the processes, to the **technical developers** responsible for implementing the technology that will perform the processes, and finally to the **business people** who will manage and monitor those processes.

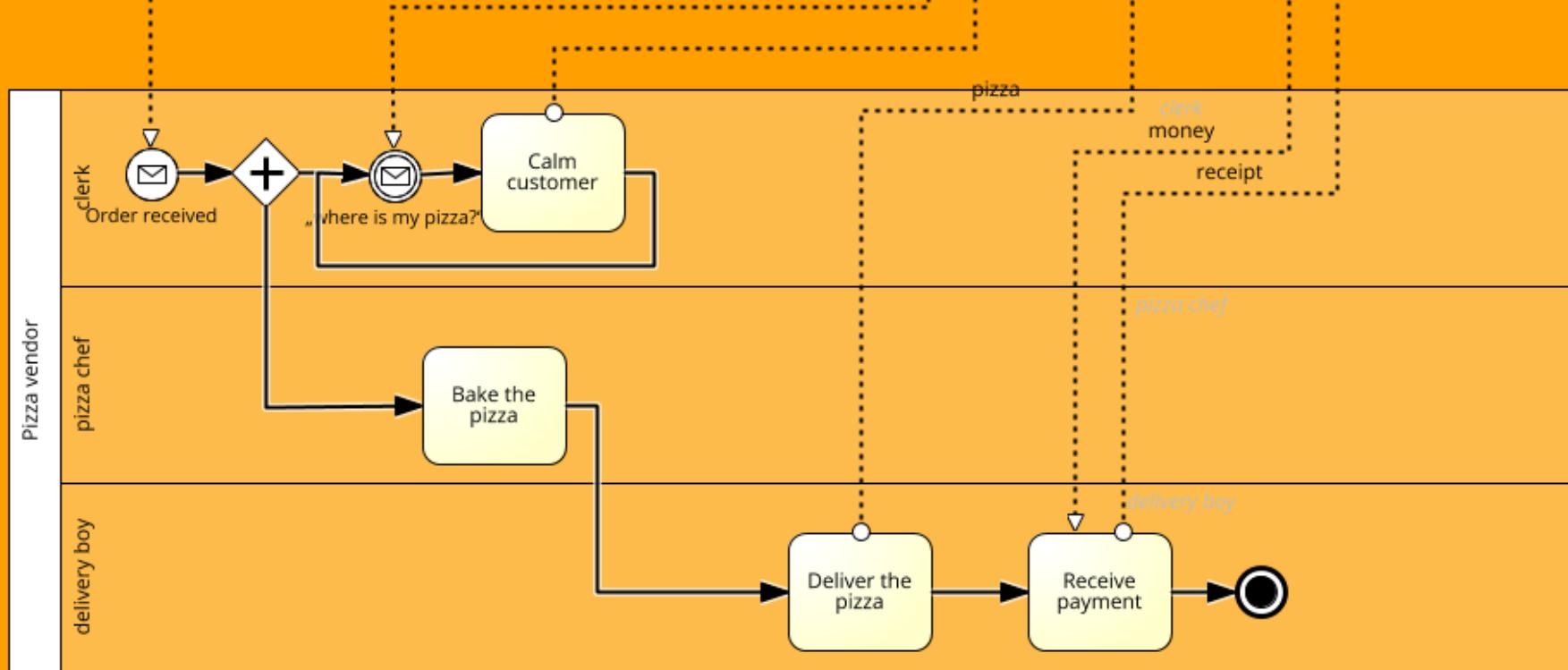
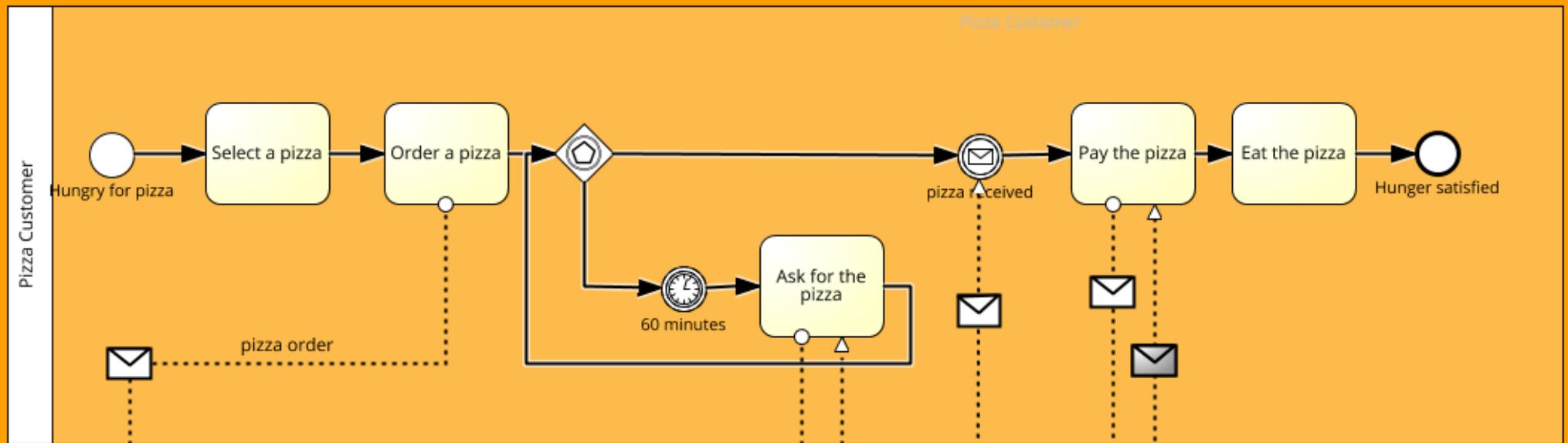


Why is BPMN important?

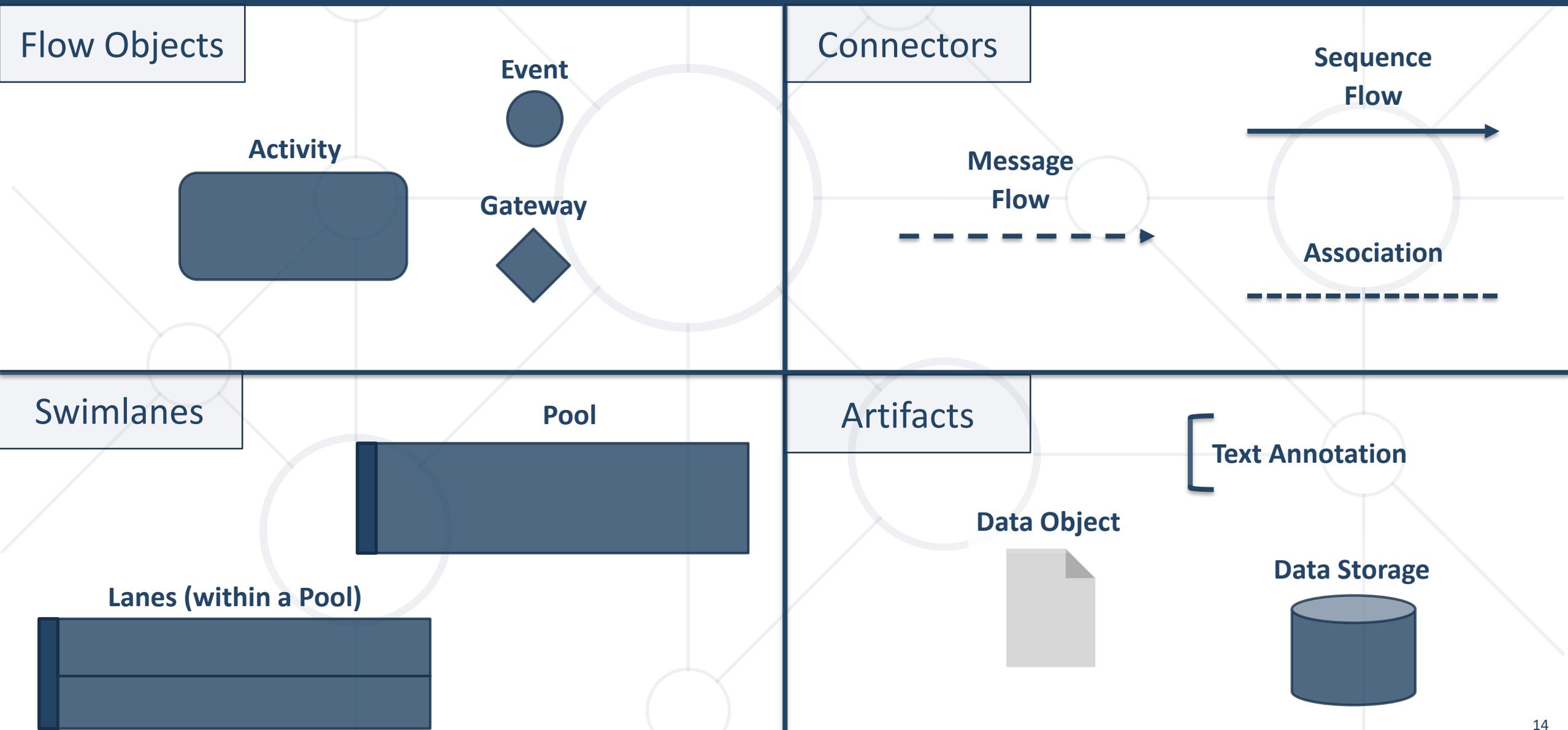
Why is BPMN important?

- Standardization
- Process Visualization
 - Save time by **eliminating unnecessary tasks**
- Process Analysis and Improvement
 - Get a **clear vision** of exactly how everything in your business works
- Collaboration and Documentation
 - Reduce the rate your employees **forget, overlook, or wrongly execute work**

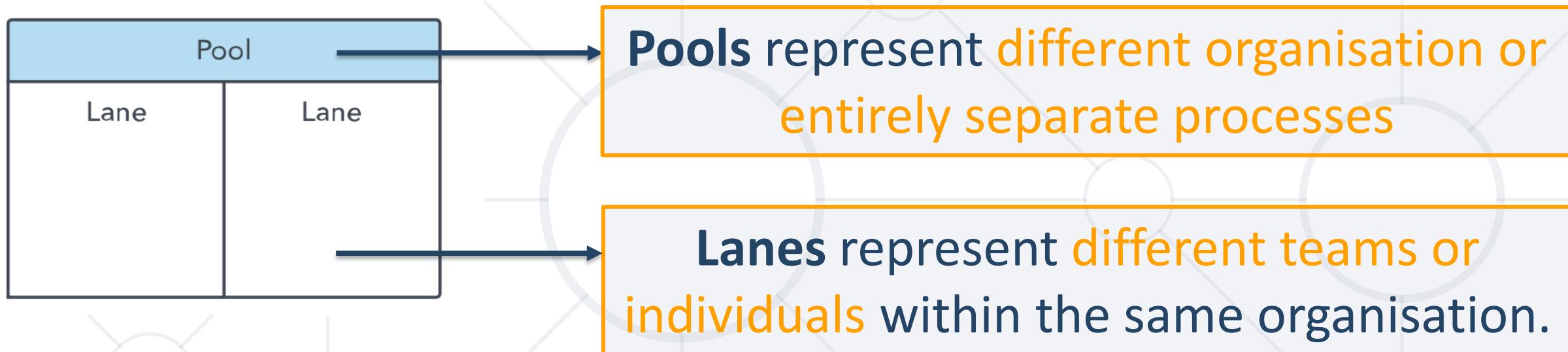




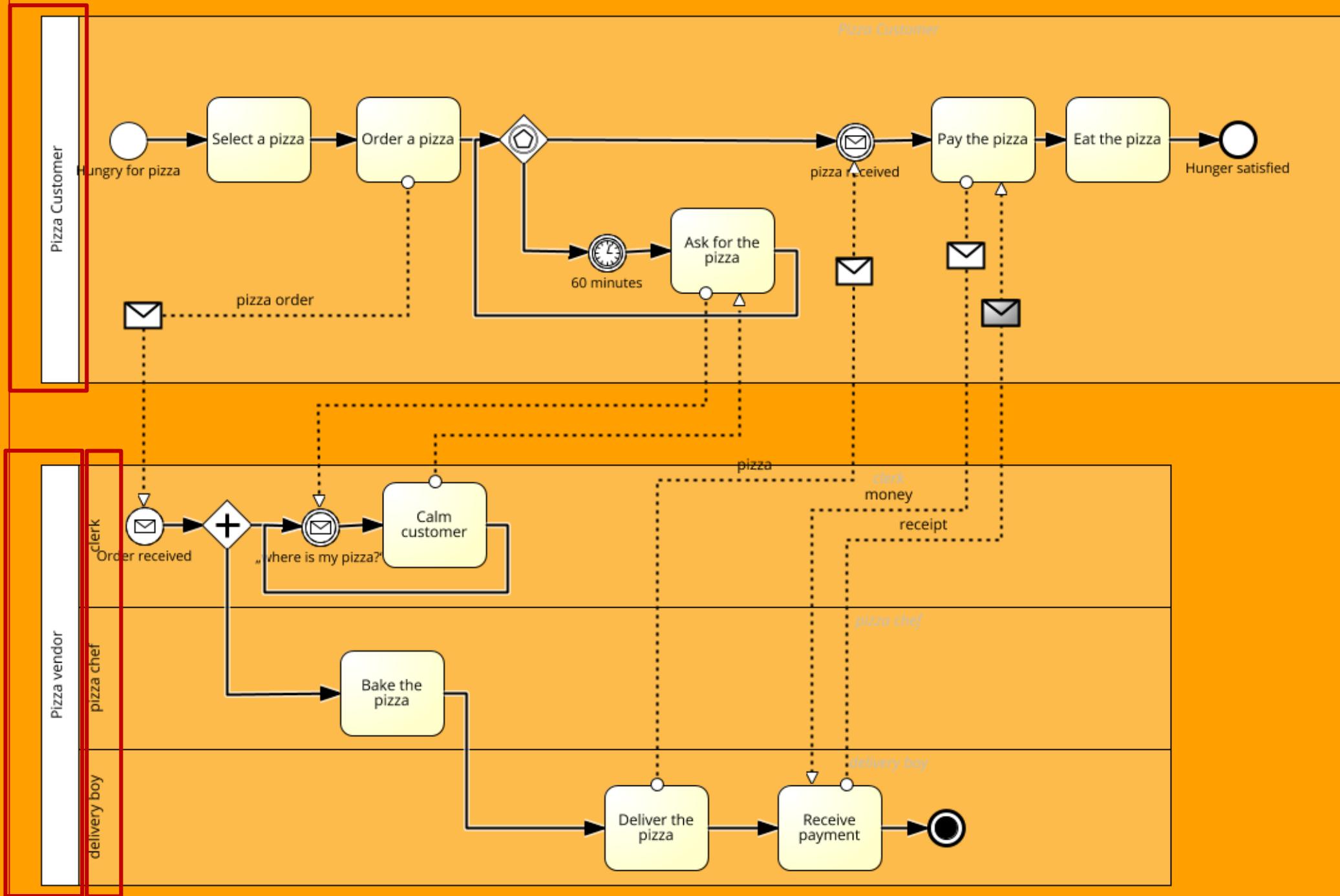
BPMN Basic Elements



BPMN Swimlanes



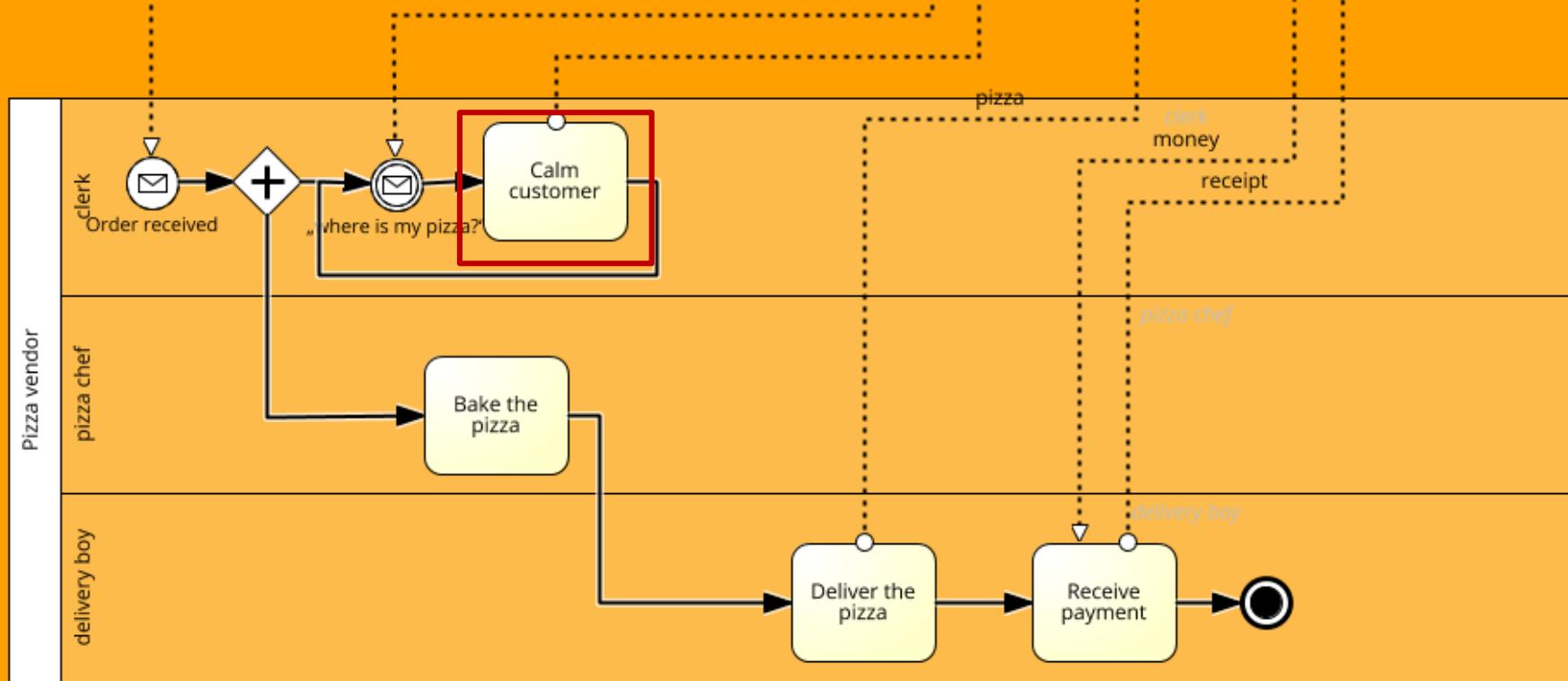
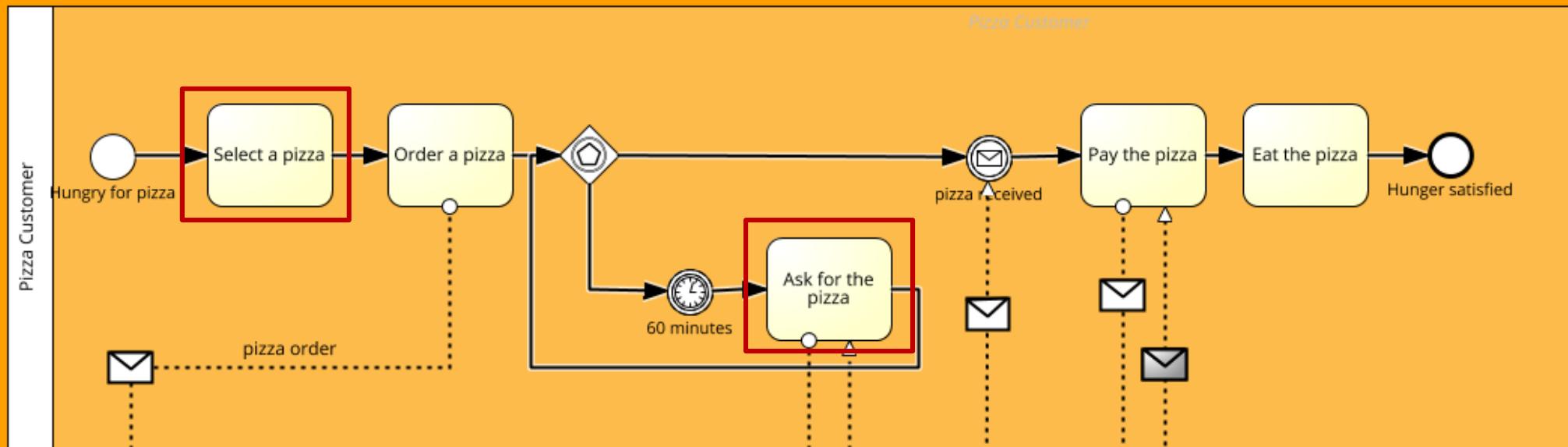
*If we were to map a **Customer Support process**, there would be one pool representing the **Business** and one pool representing the **Customer**.*



BPMN Flow Objects – Activities

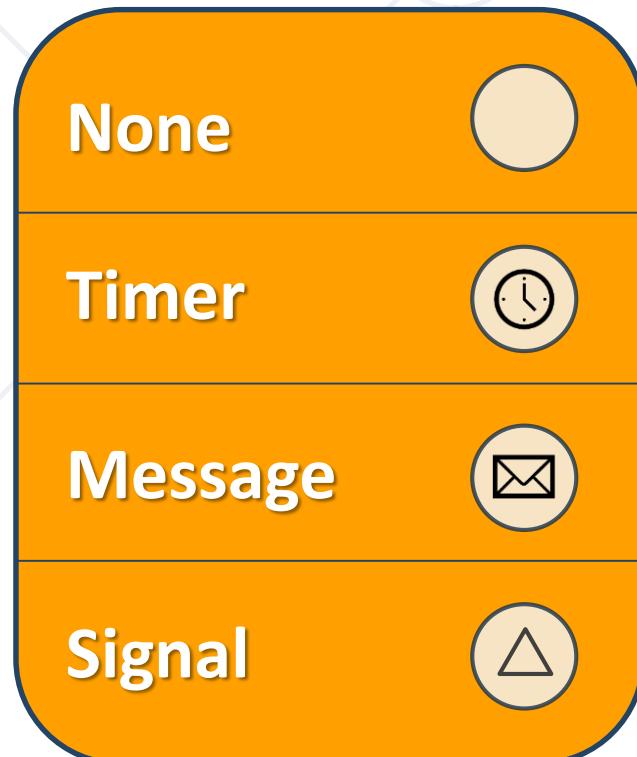
An **Activity** is work performed within a business process.



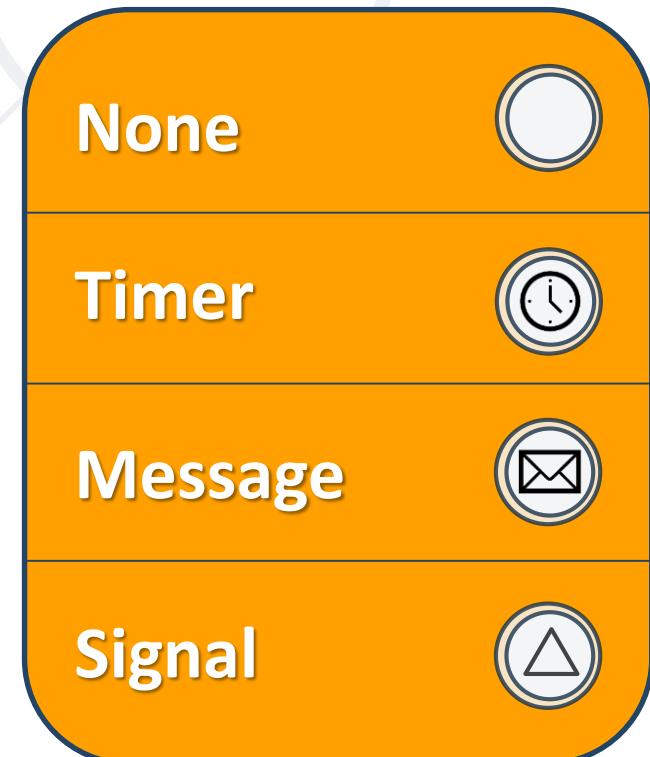


An **Event** is a trigger that **starts, modifies or completes** a process.

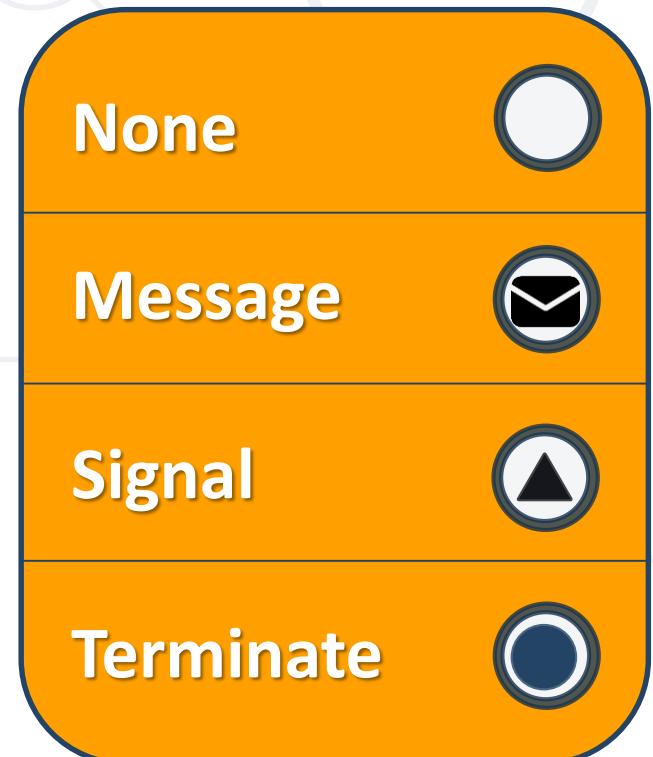
Start Events

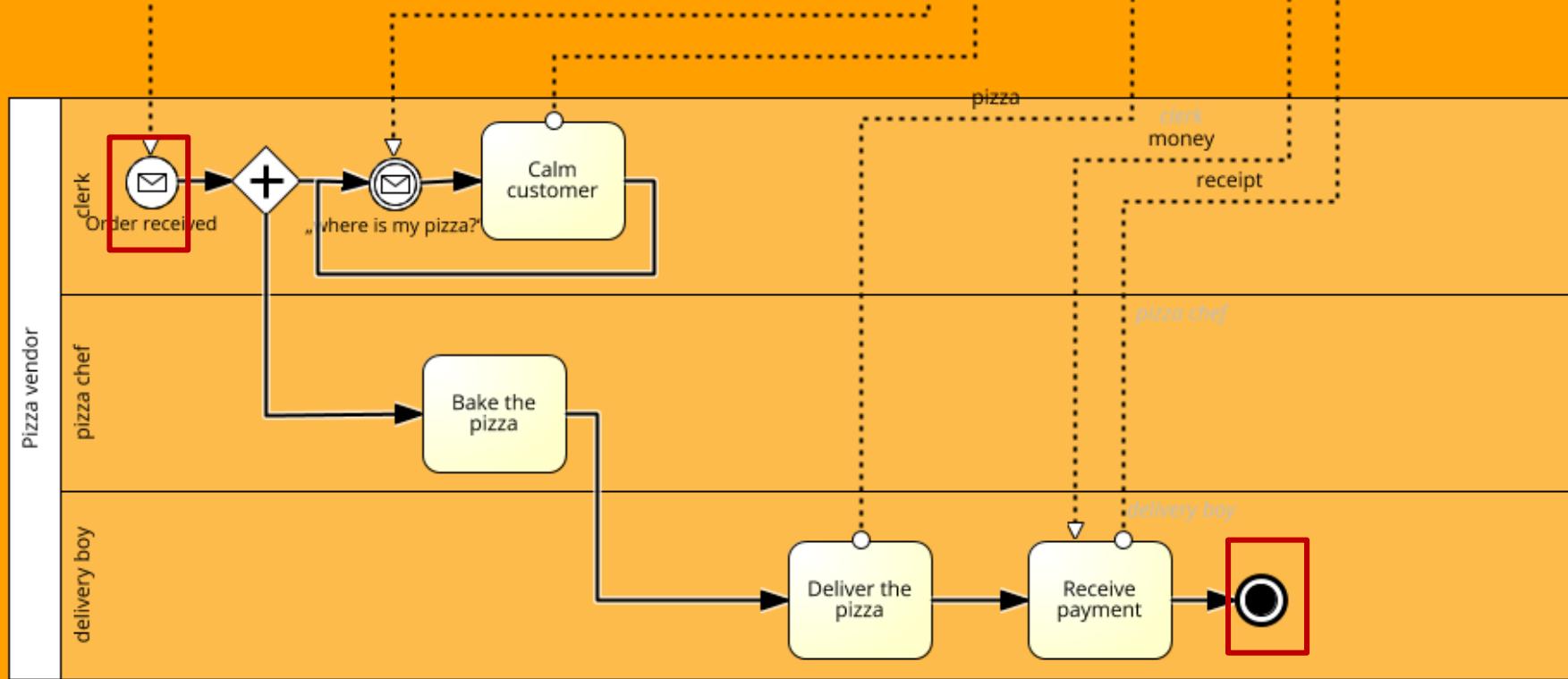
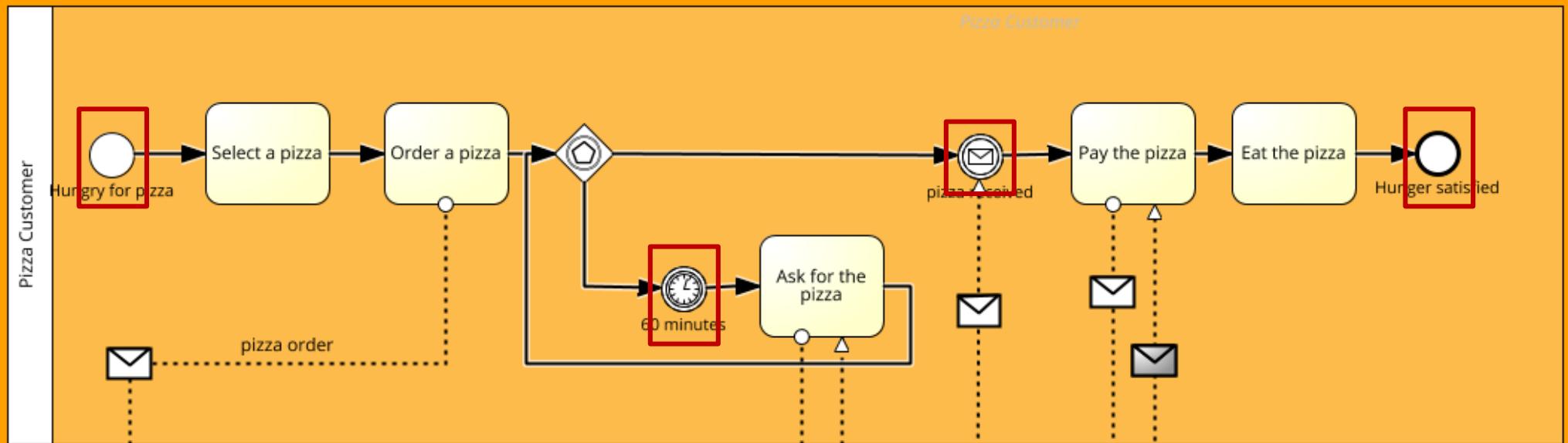


Intermediate Events



End Events





BPMN Flow Objects – Gateways

A **Gateway** acts as a **decision point** that decides which (outgoing) decision to take based on the **result of the evaluation** of the given situation.



Exclusive



Event based



Parallel



Inclusive



Exclusive
event based



Complex

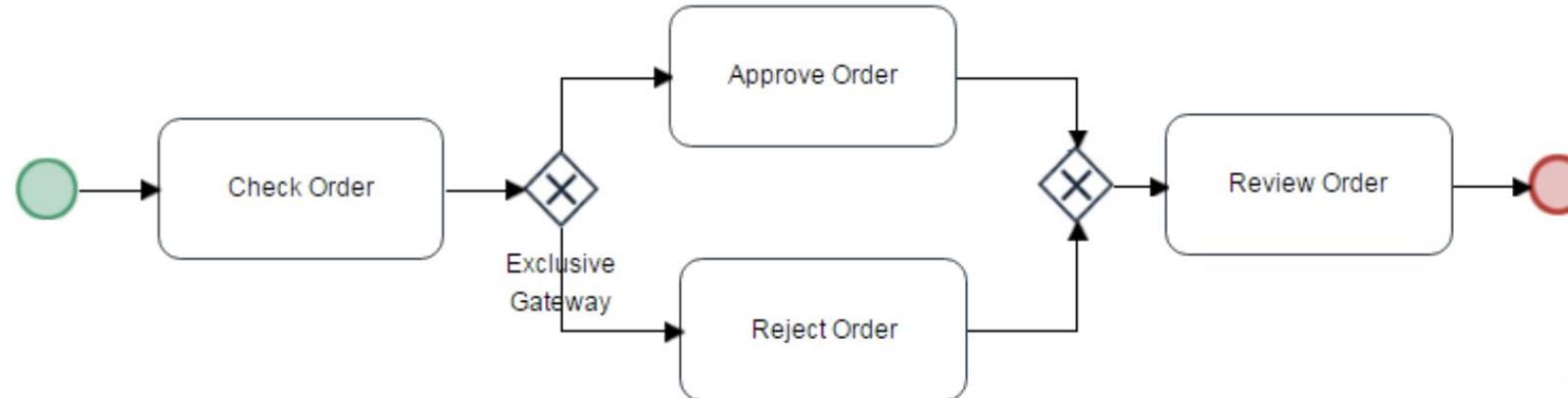


Parallel
event based

BPMN Flow Objects – Gateways



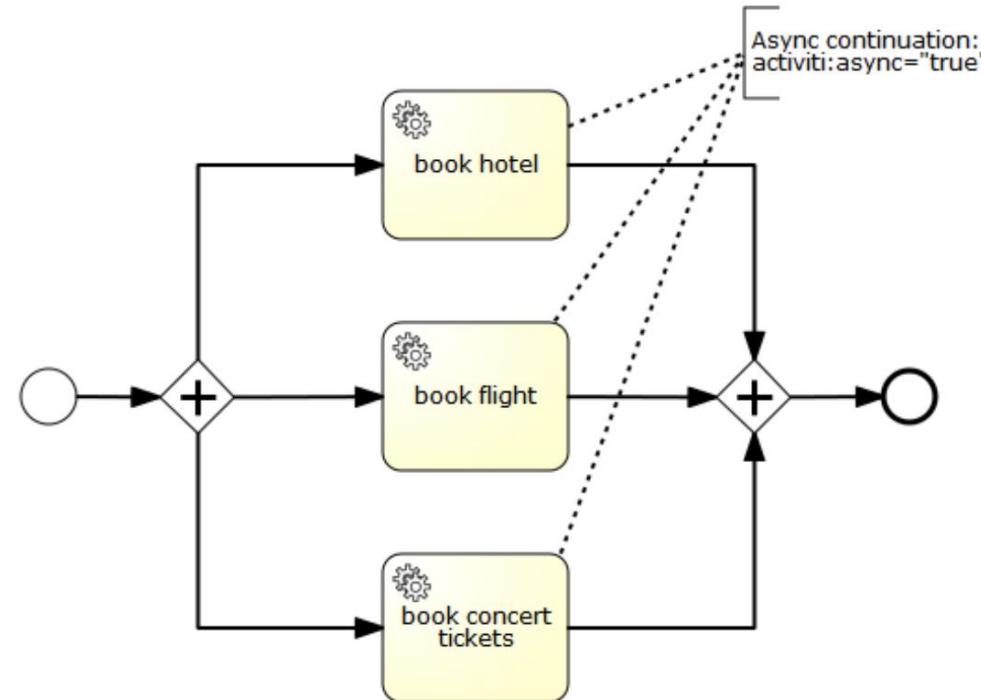
Sometimes a process can go only one of two (or any number of way) ways. For example, either you approve and order or reject an order. Both tasks cannot happen.



BPMN Flow Objects – Gateways



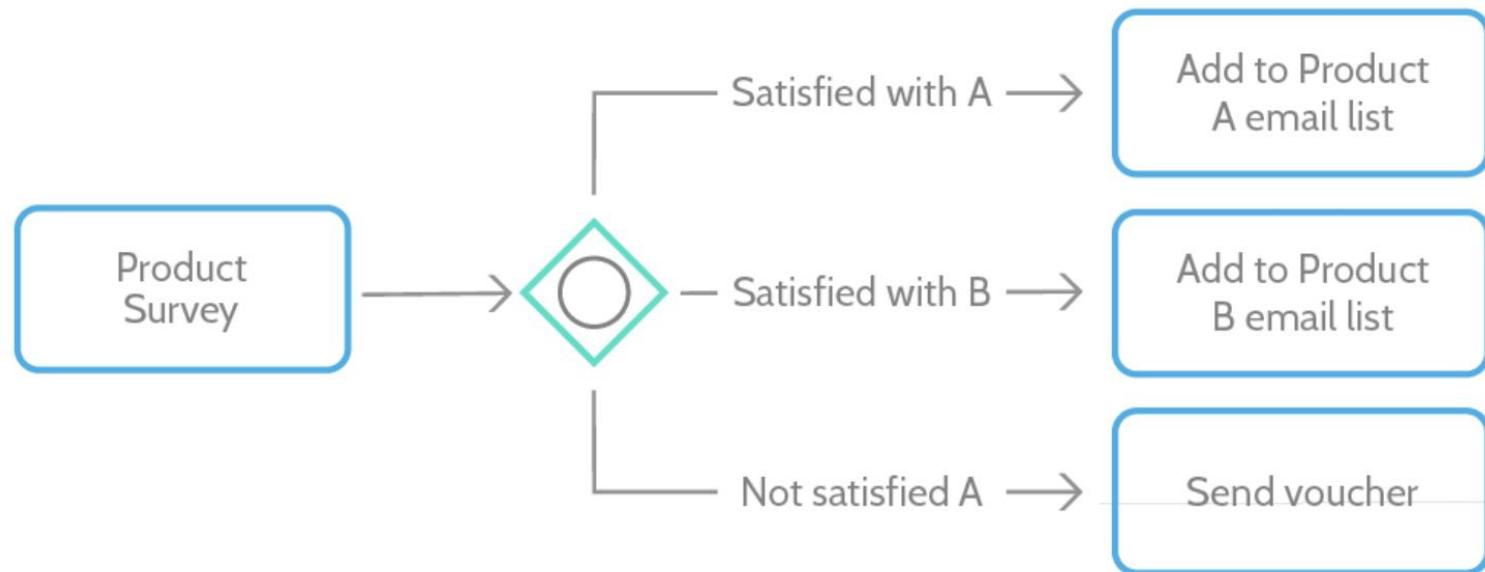
If a task isn't dependent on another task, there is no reason for them not be done in parallel (at the same time) when the process begins.



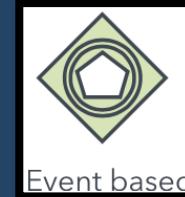
BPMN Flow Objects – Gateways



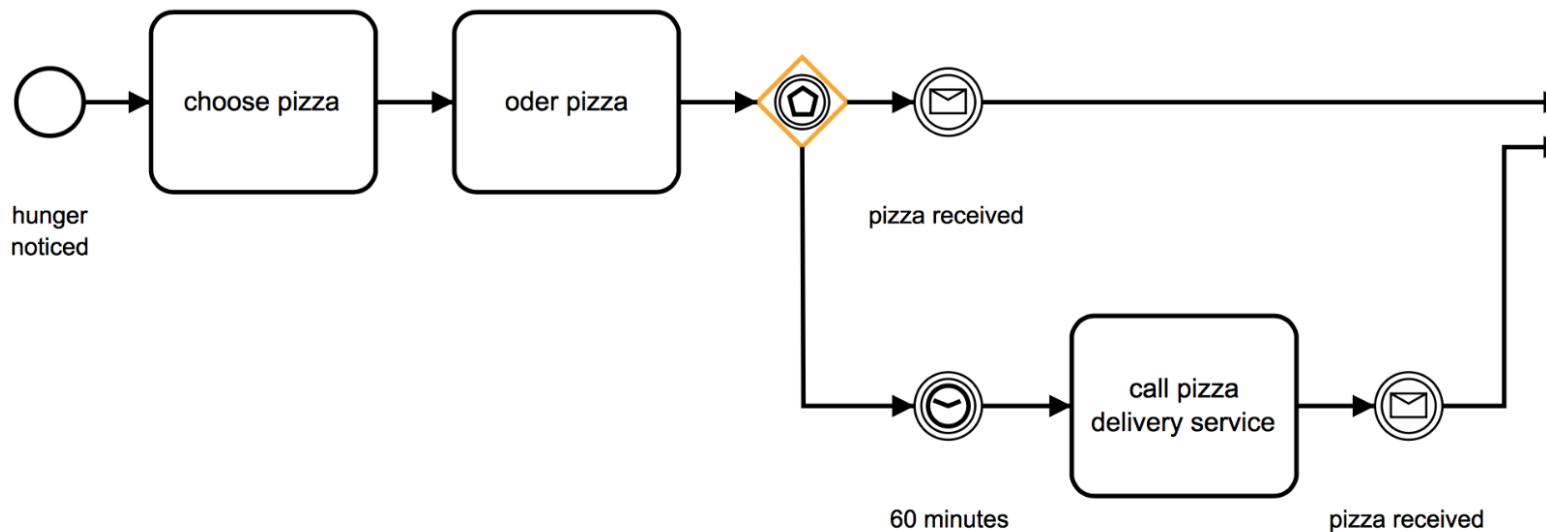
An **Inclusive Gateway** breaks the process into multiple branches, with an explanation of which condition must be met for the flow to continue down the branch. Allows for multiple possible outcomes to be selected.

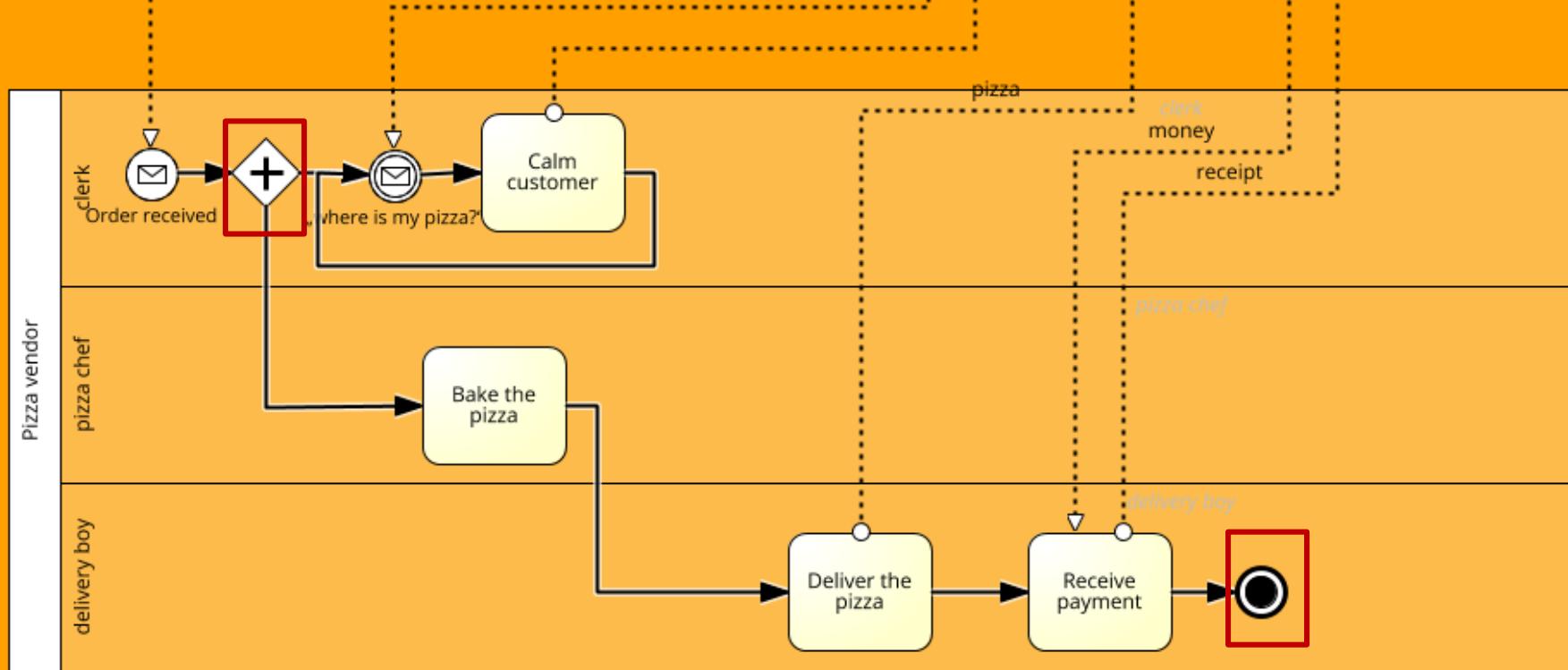
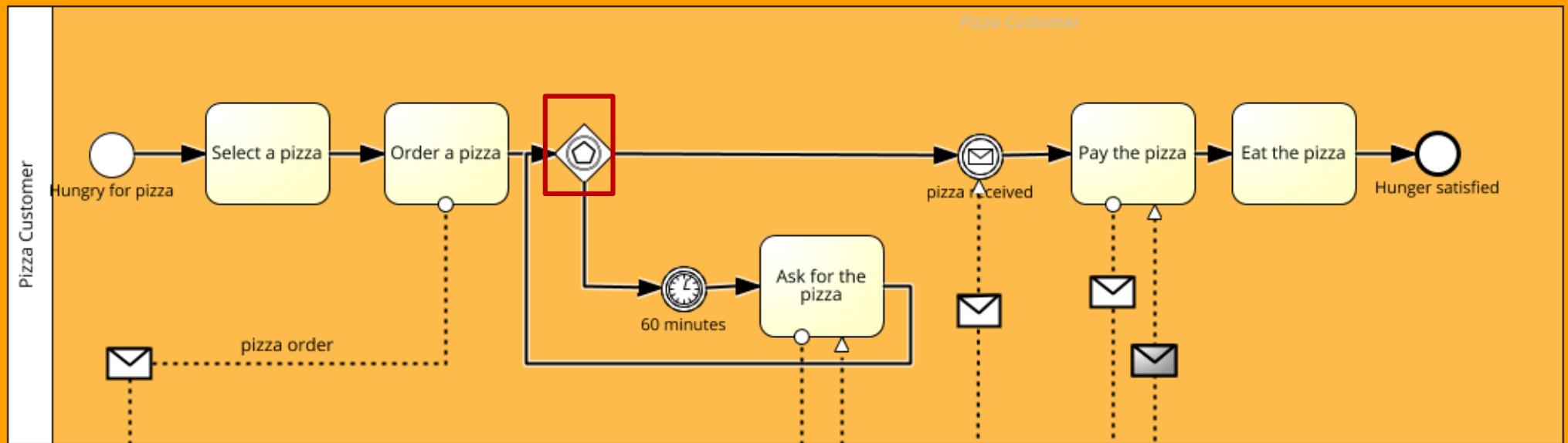


BPMN Flow Objects – Gateways



Unlike previous gateways that process a decision based on information received, this gateway makes a decision based on which event takes place next.

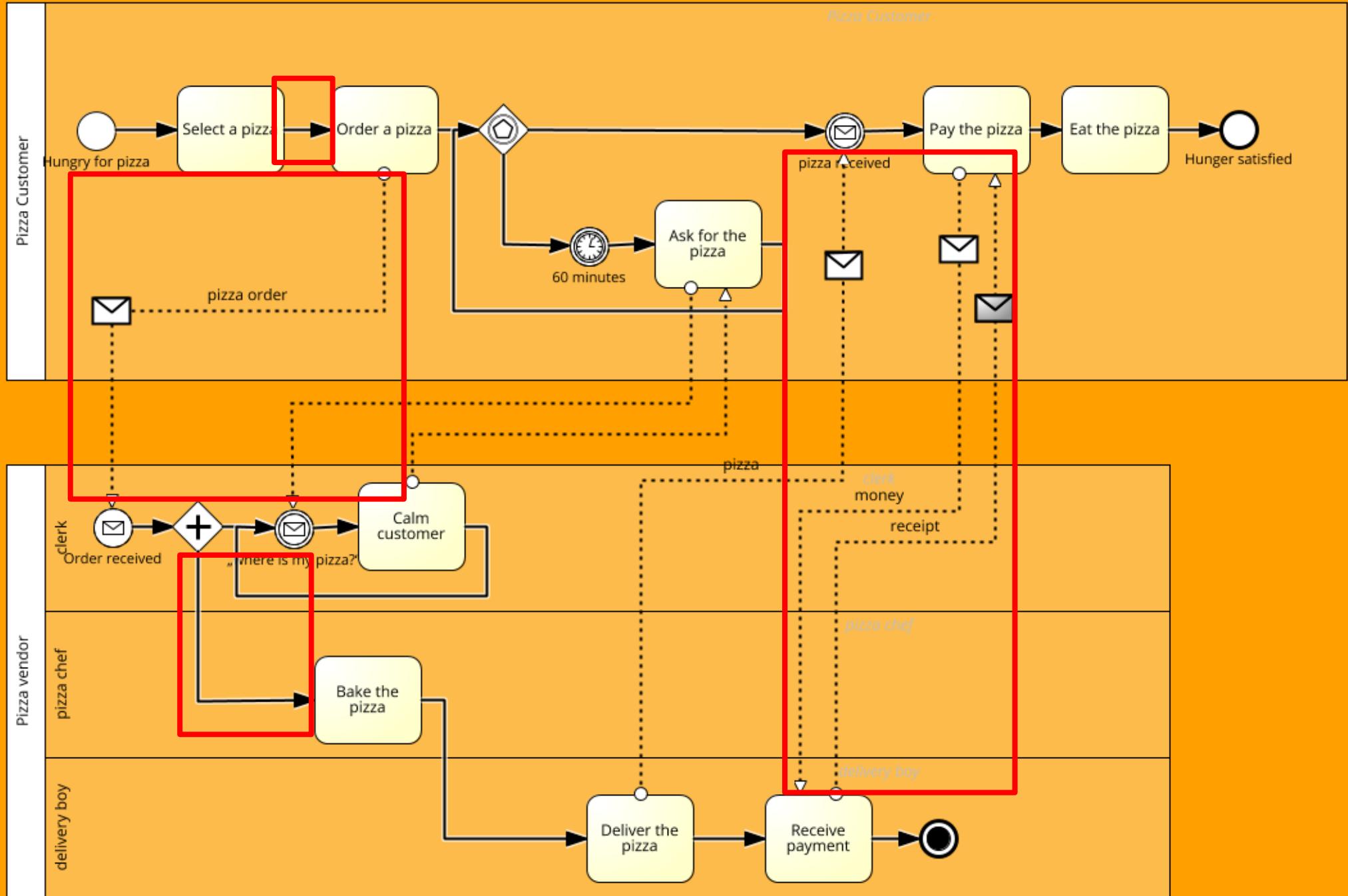




Sequence Flow: used to show the order (sequence) of flow objects (activities, events and gateways) in a process.

Message Flow: used to show the flow of communication between two participants or entities (e.g., an organisation and its suppliers - separate pools)

Association: used to link artifacts (data and other information) with other diagram objects, including flow objects (activities, events, and gateways).



Additional information that developers add to bring a necessary level of detail to the diagram.

Data Object

Mechanism to show how data is required or produced by activities. They are connected to activities through Associations.

Text Annotation

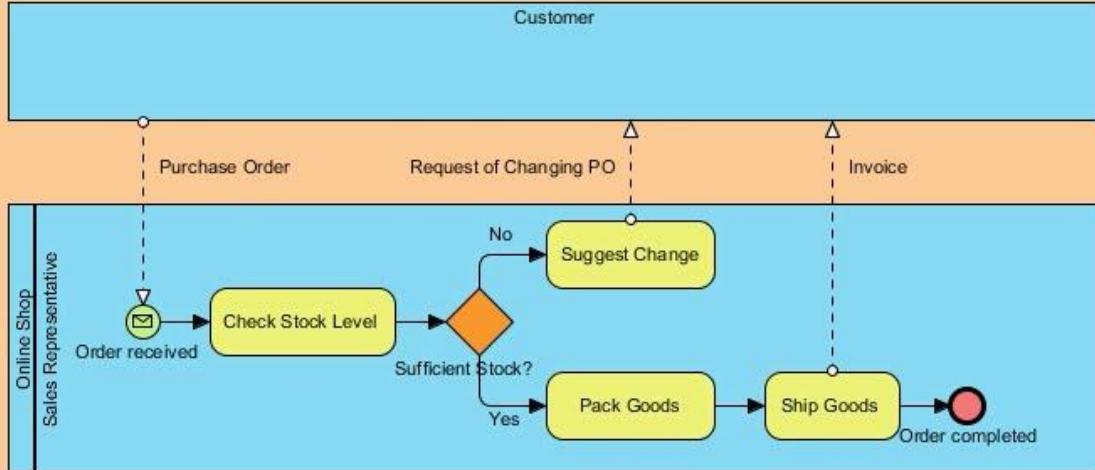
Mechanism for a modeler to provide additional textual information for the reader of a BPMN diagram.

Gap Analysis

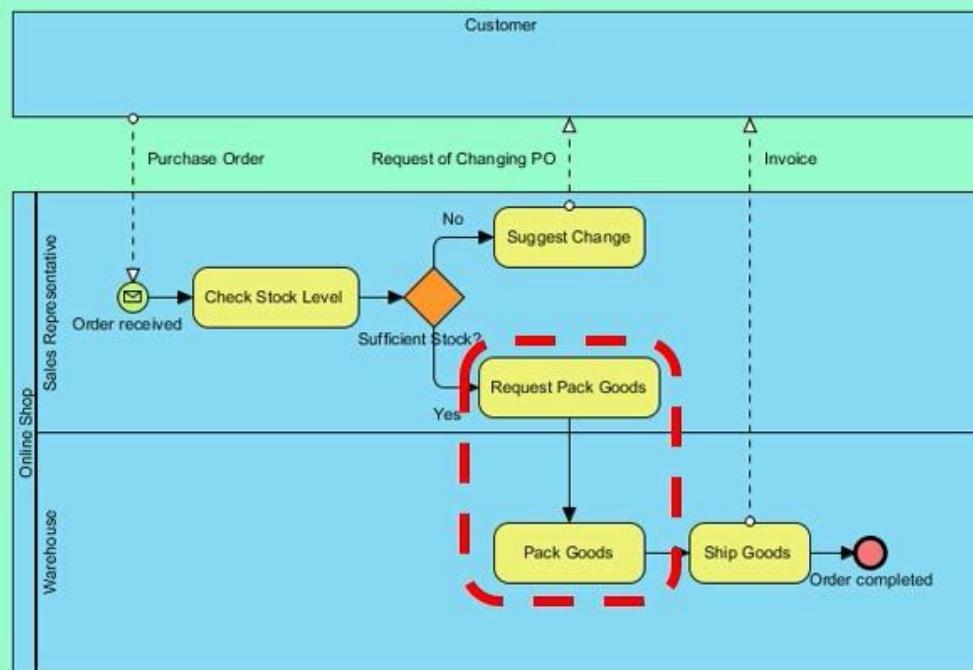


As Is – To Be BPMN

As-is



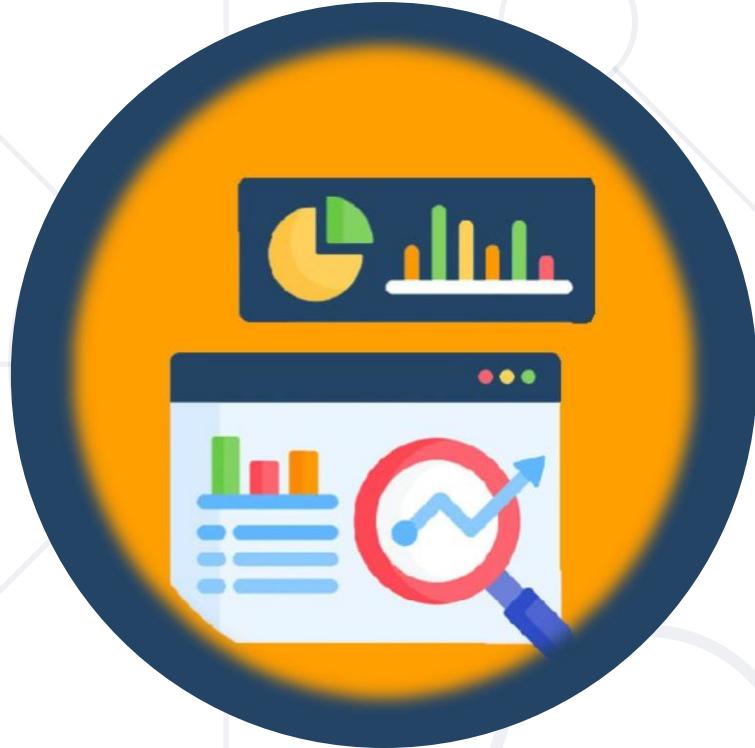
To-be



Important for the Project!

- In the As Is – To Be section in the BRD, you should do these things
 - Write a short paragraph on the **Existing Process**
 - Write a short paragraph on the **Desired Process**
 - **Short summary of Action Points**
 - **As Is BPMN**
 - **To Be BPMN**





Visualization Tools

Visualization Tools



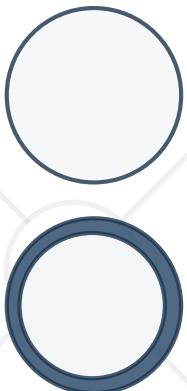


Practice

Live Exercise in Class (Lab)

Imagine you have to do BPMN for **Invoice Checking Process**.

Events



Activities

Re-send
invoice to
customer

Block invoice

Post invoice

Park invoice

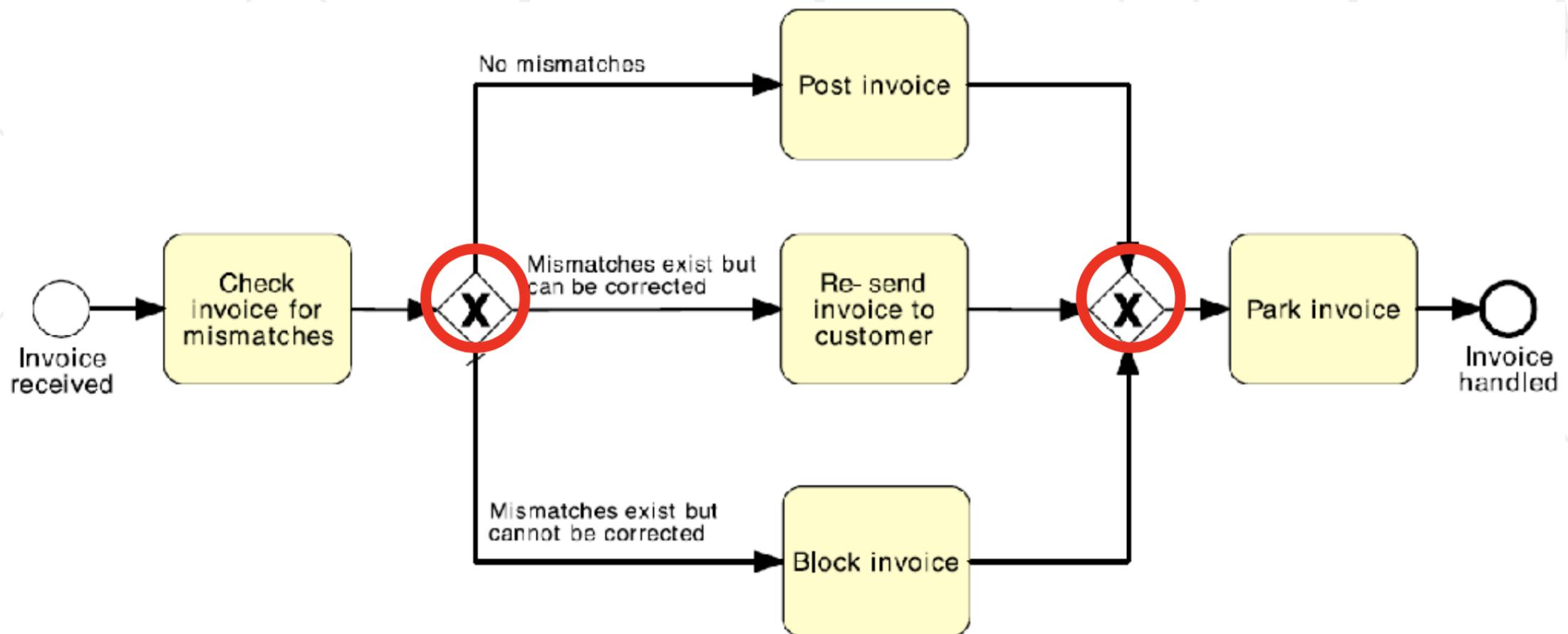
Check invoice
for
mismatches

Gateways



Solution of Task 1

- A *split* gateway represents a point where the process flow diverges while a *join* gateway represents a point where the process flow converges.

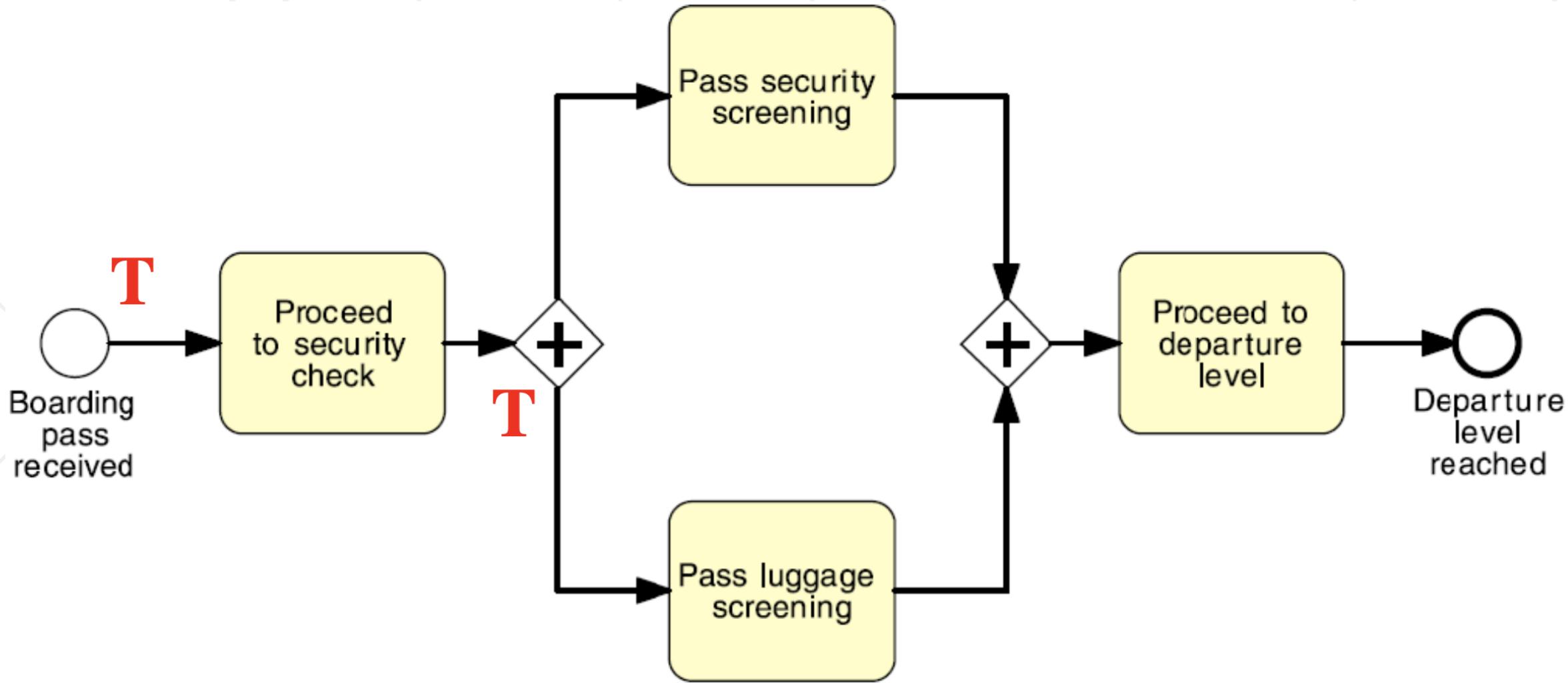


Task 2

Imagine you have to do BPMN for **Airport Security Check**

- **Two Events**
- **Four Activities**
- **Two Gateways**

Solution of Task 2

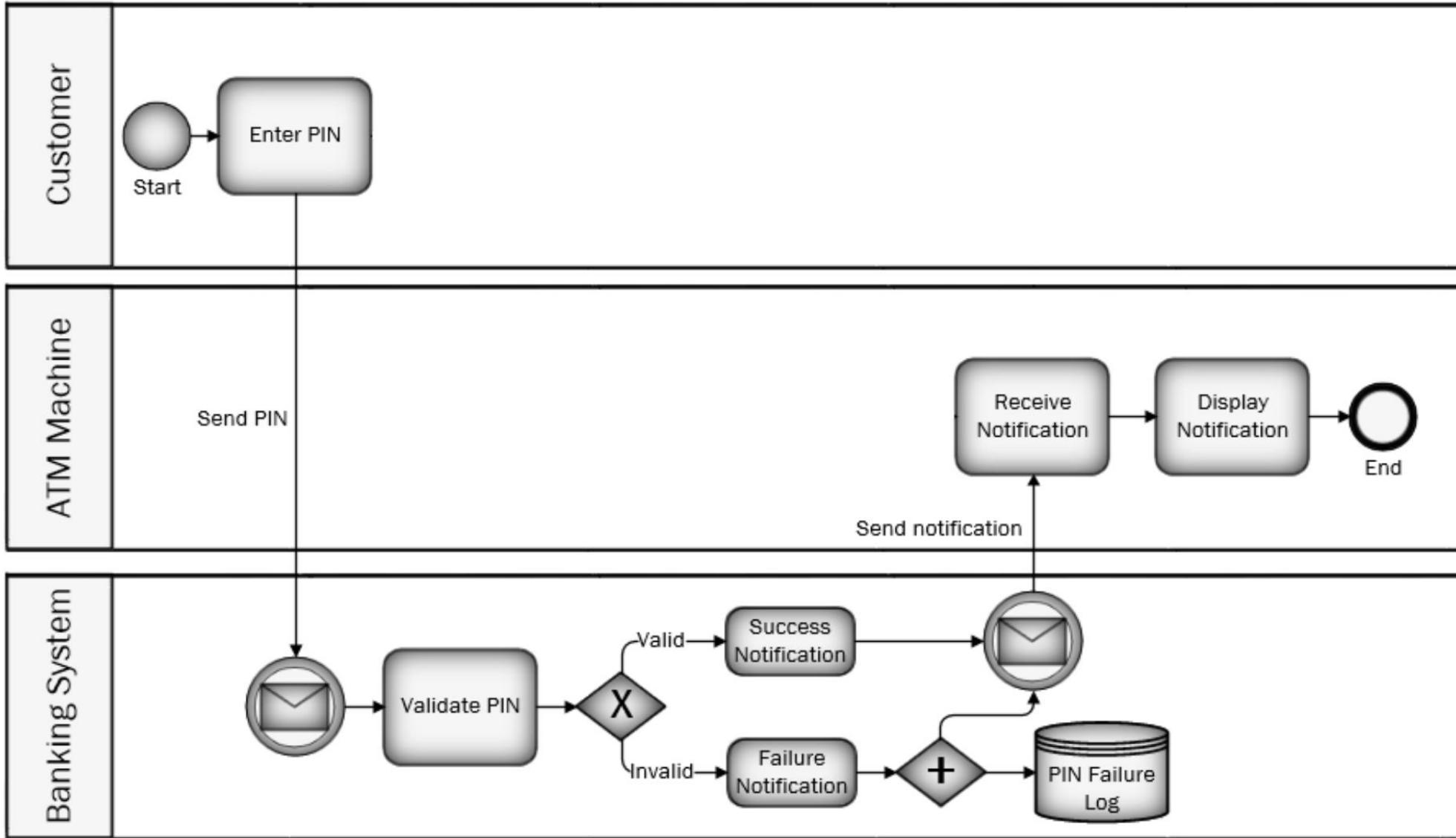


Task 3

Imagine you have to do BPMN for **Verifying PIN at ATM**

- **Three Pools**
- **Four Events**
- **Six Activities**
- **Two Gateways**
- **One Data Storage**

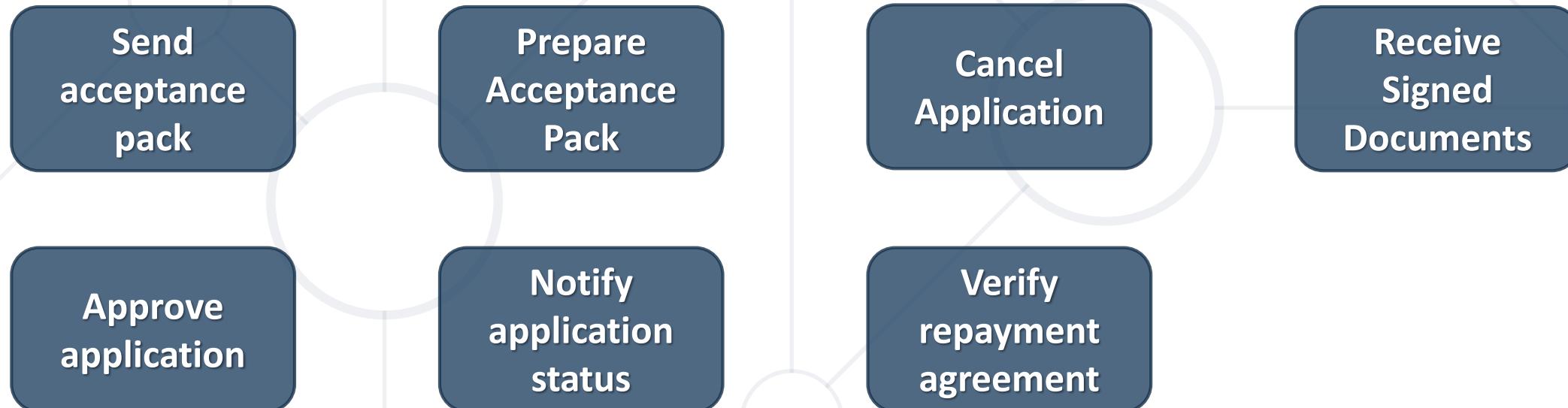
Solution of Task 3



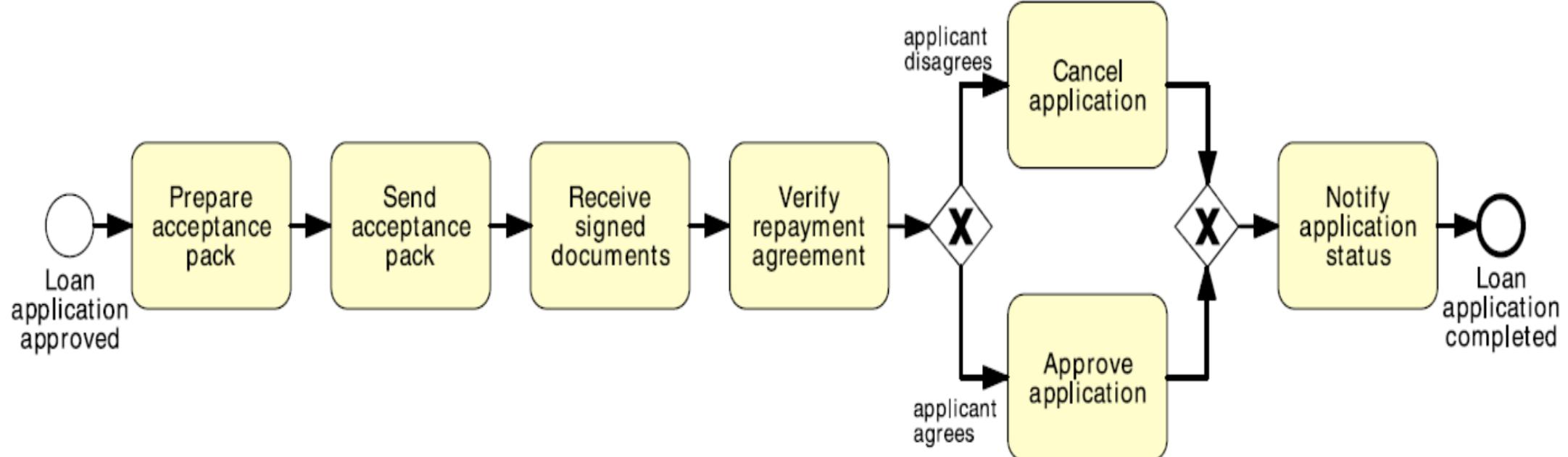
Task 4

Imagine you have to do BPMN for **Assessing Loan Application**.

- Two Events
- Seven Activities
- Two Gateways



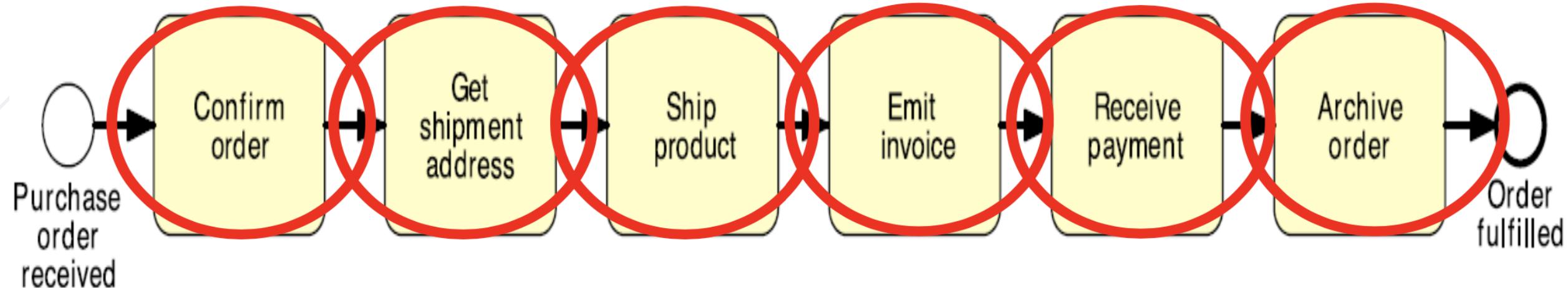
Solution of Task 4



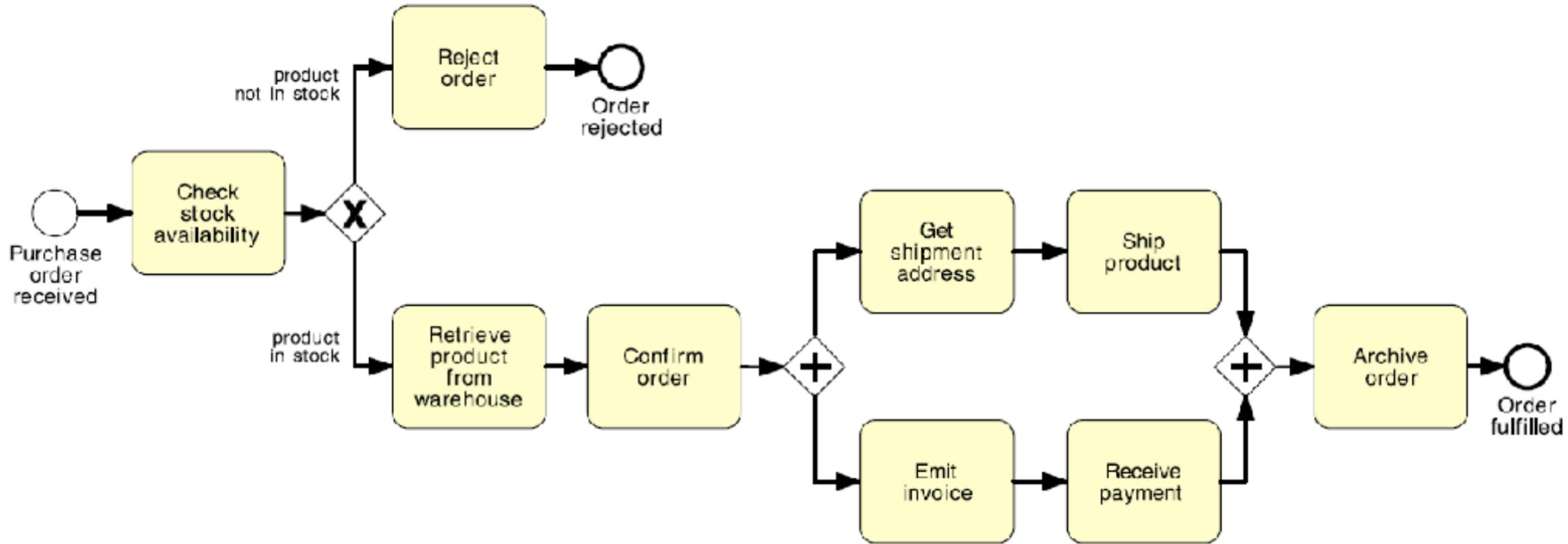
Task 5

Imagine you have to do BPMN for Order Fulfilment Process.

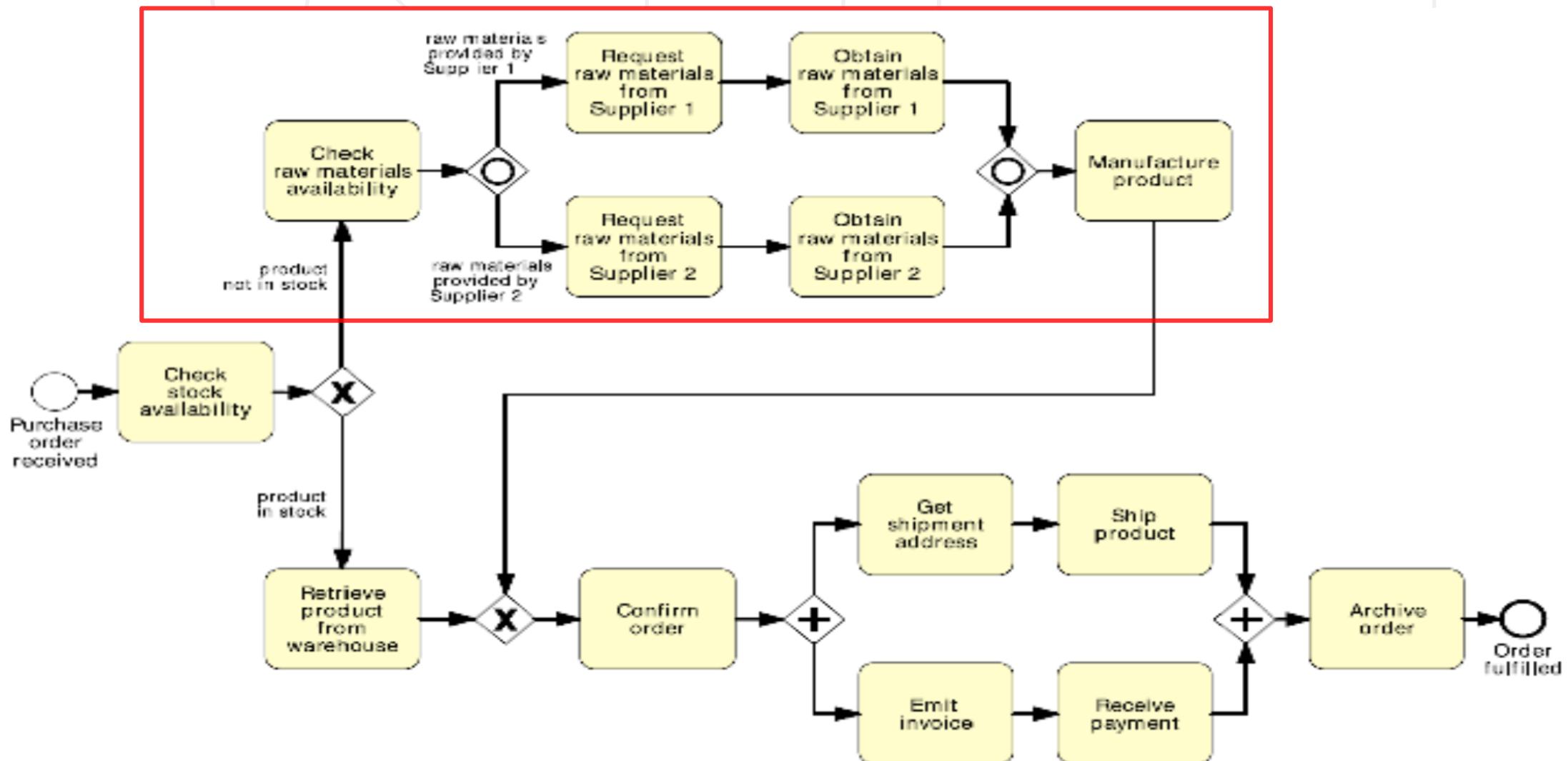
- Three Events
- Nine Activities
- Three Gateways (one Exclusive and two Parallel)



Solution of Task 5

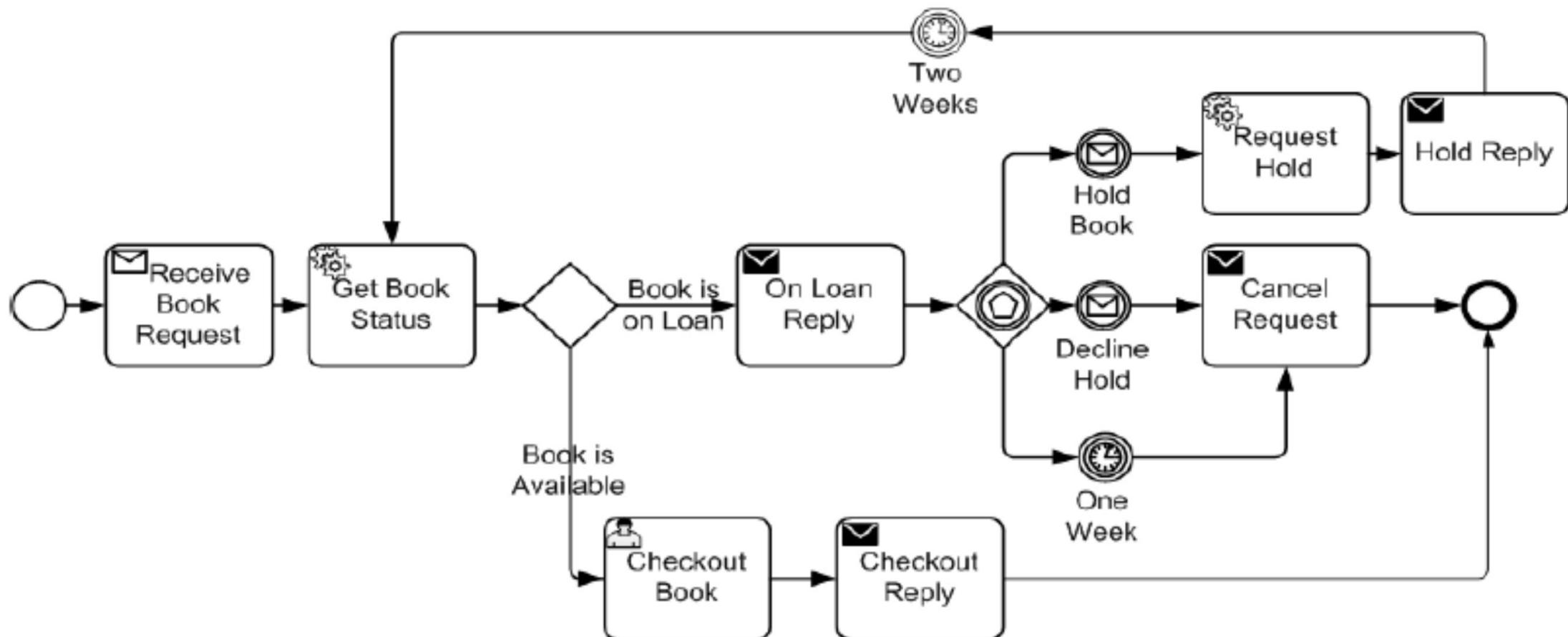


Order Fulfilment Process - Expanded



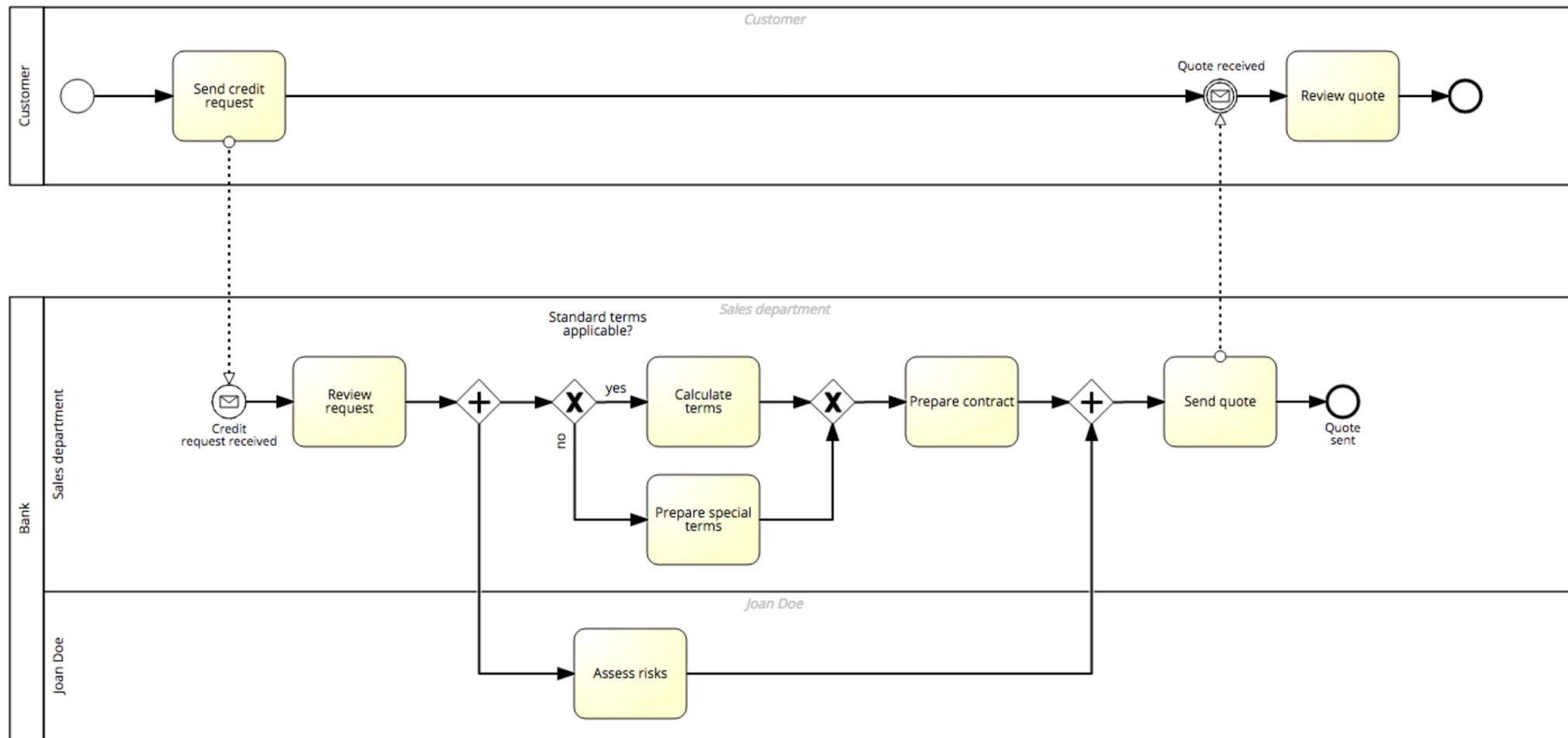
Homework Task 1

Describe in short paragraph what is the BPMN showing (use terminology for the BPMN symbols and why they were used)



Homework Task 2

Describe in short paragraph what is the BPMN showing (use terminology for the BPMN symbols and why they were used)



Summary

- **Visual Modelling** helps in understanding complex activities such as **Business Processes**
- **BPMN** is a graphical representation/mapping for specifying business processes in a business process model.
- Consists of **Flow Objects, Connectors, Swimslanes** and **Artifacts**.



- **As Is – To Be** process can be illustrated with BPMN



SoftUni Diamond Partners



**SUPER
HOSTING
.BG**

INDEAVR
Serving the high achievers

 **SOFTWARE
GROUP**

 **BOSCH**



**Coca-Cola HBC
Bulgaria**

 **AMBITIONED**

createX

**DXC
TECHNOLOGY**

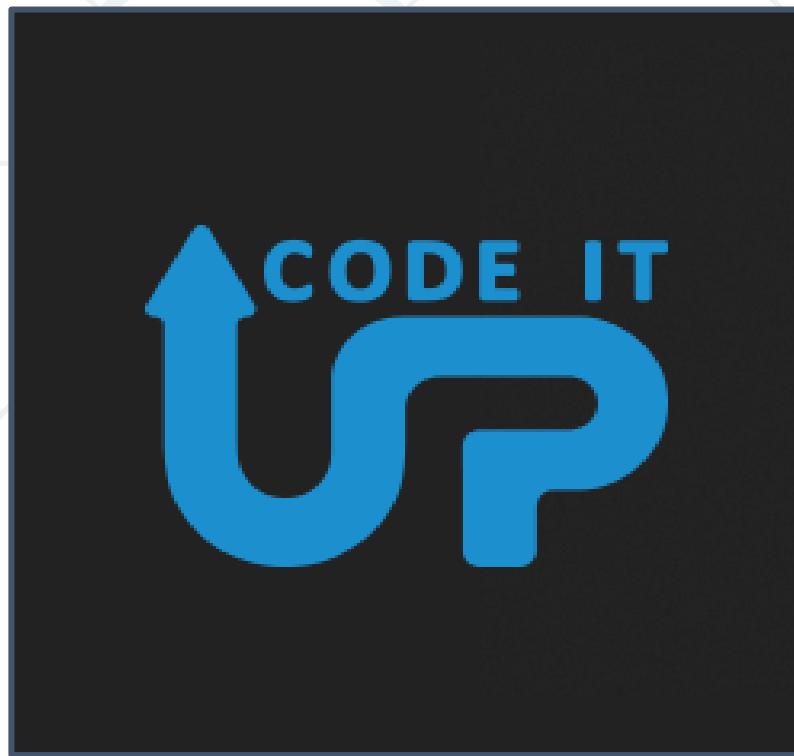
 **POKERSTARS**
POKER | CASINO | SPORTS
a Flutter International brand

 **DRAFT
KINGS**

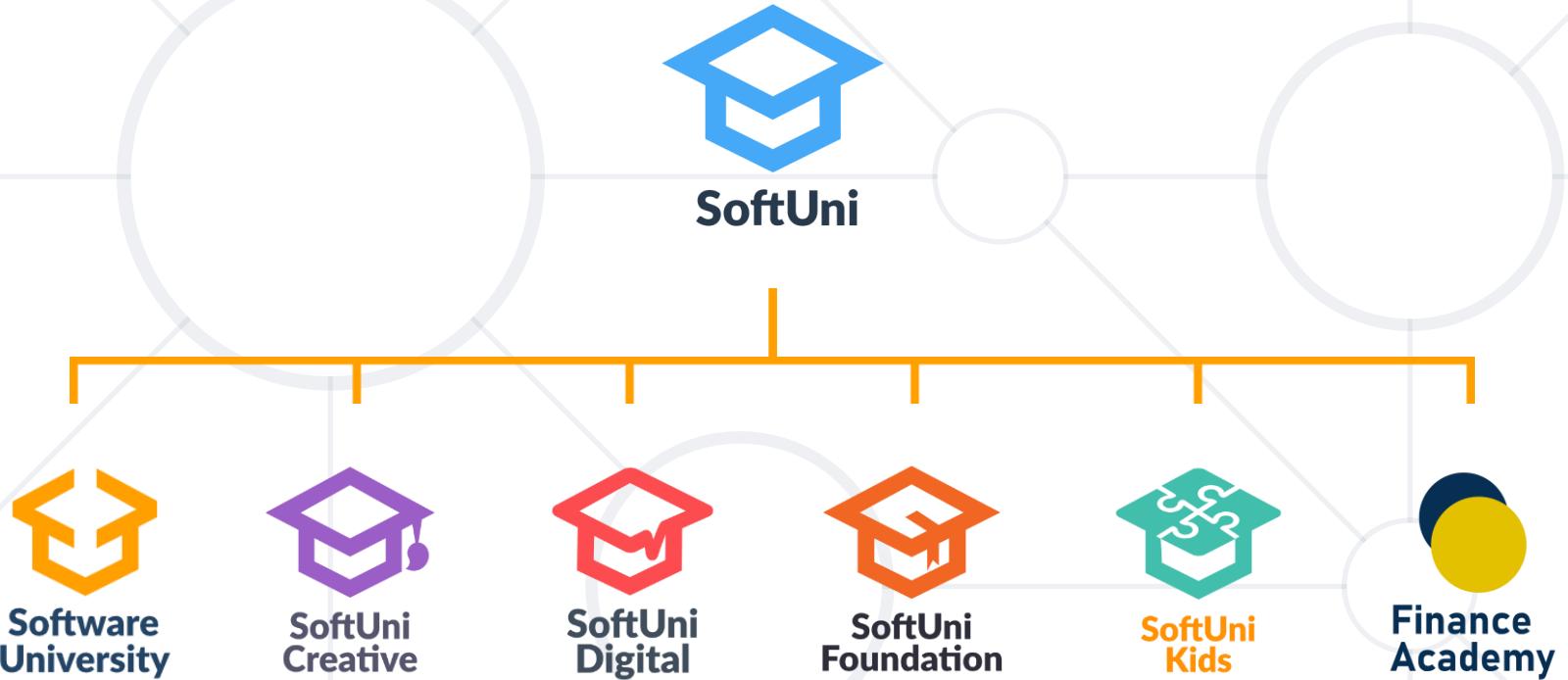
 **Postbank**
Решения за твоето утре

 **SmartIT**

Educational Partners



Questions?



- This course (slides, examples, demos, exercises, homework, documents, videos and other assets) is **copyrighted content**
- Unauthorized copy, reproduction or use is illegal
- © SoftUni – <https://about.softuni.bg/>
- © Software University – <https://softuni.bg>



Trainings @ Software University (SoftUni)



- Software University – High-Quality Education, Profession and Job for Software Developers
 - softuni.bg, about.softuni.bg
- Software University Foundation
 - softuni.foundation
- Software University @ Facebook
 - facebook.com/SoftwareUniversity
- Software University Forums
 - forum.softuni.bg



Software
University

