Visual Paradigm

Introduction to BPMN Part II - Swimlanes
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In a swimming pool, there are lanes designated for swimmers. Swimmers get their own lanes to swim in without swimming across another. The concept of swimming lanes also exists in BPMN.

Swimlanes are rectangular boxes in BPMN that represent the participants of a business process. Swimlanes can contain flow objects that are performed by that lane's participant, except for black boxes that must have an empty body (we will discuss black boxes later in this tutorial). Swimlanes can be arranged horizontally or vertically, and they are semantically the same but just different in representation. For horizontal swimlanes, the process flows from left to right, while in vertical swimlanes, the process flows from top to bottom. Examples of swimlanes include the customer, account department, payment gateway, and development team.

There are two kinds of swimlanes in BPMN: Pools and Lanes.

Pools
Pools represent the participants in a business process. It can be a specific entity (e.g. department) or a role (e.g. assistant manager, doctor, student, vendor).

Inside a pool, there are flow elements that represent the work that the pool needs to perform under the process being modeled. However, there is one kind of pool that has no content at all. This is known as the blackbox pool. The blackbox pool is often used when modeling entities external to the business process. Since it is external, its internal flow does not have any impact on the process being modeled and can be skipped, producing a blackbox. The use of a blackbox depends on the perspective the process takes. For example, if you need to model the process of how a customer places an order, the flow of the customer will be modeled, making the chef pool a blackbox. The following business process diagram gives you an example of a blackbox pool where the customer is a blackbox. Since the process focuses on how the chef prepares a meal, what the customer does is none of the process's interest.

Lanes
Lanes are sub-partitions of pools. For instance, when you have a pool called "Department," you may have "Department Head" and "General Clerk" as lanes. Like pools, you can use lanes to represent specific entities or roles involved in the process. Lanes may contain other lanes to form a nested structure when needed. However, BPMN primarily helps you model a business process, and you should not try to build nested lanes just to model the structure of your organization. If you want to model the organization structure, use the organization chart instead.

Case Study - The True Aqua Distilled Water Company

The True Aqua Distilled Water Company, a young supplier of distilled water in the city, sells distilled water for both home and business use. In an effort to increase their market share from 5% to 10% within the next 12-18 months, the company is seeking to improve operating efficiency and customer satisfaction. To achieve this goal, they have identified the need to improve their distilled water ordering process. As the business analyst responsible for this mission, you have gathered the following information about the current ordering process after meeting with the True Aqua Distilled Water Company.

> The customers can either call the ordering hotline or send us Email to order distilled water. Currently, 90% of the orders come from phone calls, while 10% orders are placed by Email. The customer service assistant who receives the order will check whether the customer is an existing customer or a new one. If the customer has never placed order before, the customer service assistant will create a customer account for him or her prior to processing the order.
>
> The delivery of distilled water is carried out once a week on every Wednesday. So, on every Wednesday morning, the customer service assistant will forward orders to the Logistics Department for delivery. Once the manager in the Logistics Department has received the orders, he will arrange the delivery by assigning workers to manage different orders, printing and posting the schedule. The workers receive the calls and deliver water to the customer accordingly.

Now, you need to model the process in BPD with BPMN. In this section, you will be guided through the steps to create the necessary swimlanes in BPD. The modeling of process flow will be described in the next part of this tutorial.

1.   Create a new project by selecting **Project > New** from the application toolbar. In the **New Project** window, click **Create Blank Project**.

2.   Create a new business process diagram by selecting **Diagram > New** from the application toolbar.

3.   In the **New Diagram** window, select **Business Process Diagram** and click **Next**.

4.   Enter *Distilled Water Order Process* as the diagram name and click **OK** to create the diagram. You will see the following window.

Here is a description of different parts of the user interface:

1	Application toolbar	The application toolbar provides you with accesses to various operations in Visual Paradigm.
2	Diagram Editor	The area where you edit your diagram.

By reading the details of the ordering process collected from users, you understand the collaboration between customers and The True Aqua Distilled Water Company and are able to identify the following entities that need to be modeled in the BPD, as they are involved in the process: Customer, Customer Service Assistant, Logistics Department, Manager (in the Logistics Department) and Worker (in the Logistics Department). You should model them with

BPMN pools and lanes. Let's create the Customer pool first. Select **Horizontal Pool** in the **Diagram Toolbar**.

Click on the BPD (in the Diagram Editor) to create a pool. Enter *Customer* as the pool name and press **Enter** to confirm.

Note that a pool extends the entire length of the diagram horizontally. You may create separate pools for Customer Service Assistant and Logistics Department. But to highlight the fact that they are under the same company, it would be better to create a pool for The True Aqua Distilled Water Company and make Customer Service Assistant and Logistics Department lanes of the pool. Create a pool below *Customer*. Name the pool *The True Aqua Distilled Water Company*.

Let's create lanes. Right-click on the pool *The True Aqua Distilled Water Company* and select **Add Lane** from the popup menu.

Enter *Customer Service Assistant* as name. Press **Enter** for confirmation. Create the lane *Logistics Department* below the *Customer Service Assistant* lane. Right-click on *Customer Service Assistant* and select **Insert Lane After** from the popup menu.

Enter *Logistics Department* as name. Press **Enter** for confirmation. The lanes are too wide. Let's resize them. Press on the lane border and drag upwards to resize the lane *Customer Service Assistant*. To resize the second lane, press on the bottom pool border and drag upwards.

Up to now, the diagram should look like this:

Inside the Logistics Department, there are two entities who take part in the process. They are the manager and worker. For this reason, you should create them inside the lane *Logistics Department* as nested lanes. Right-click on the lane *Logistic Department* and select **Add Child Lane** from the popup menu.

Enter *Manager* as name. Press **Enter** for confirmation. Right-click on the lane *Manager* and select **Insert Lane After** from the popup menu. Enter *Worker* as name. Press **Enter** for confirmation. Up to now, your BPD should look like this:

Other Parts of Introduction to BPMN

1. [Part I - Introduction to BPMN](#)

2. [Part III - Flow and Connecting Objects](#)

3. [Part IV - Data and Artifacts](#)

Resources

- [The True Aqua Distilled Water Company - Part II.vpp](#) (with this part completed)

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