

## **PROCESS MODELING**

*Process modeling* is the graphical representation of business processes or workflows. Like a flow chart, individual steps of the process are drawn out so there is an end-to-end overview of the tasks in the process within the context of the business environment.

A process model allows visualization of business processes so organizations can better understand their internal business procedures so that they can be managed and made more efficient. This is usually an agile exercise for continuous improvement.

Process modeling is a vital component of process automation, as a process model needs to be created first to define tasks and optimize the workflow before it is automated.

Business process modeling gives organizations a simple way to understand and optimize workflows by creating data-driven visual representations of key business processes.

Business process modeling (or) process modeling is the analytical representation or put simply an illustration of an organization's business processes. Modeling processes is a critical component for effective business process management.

### **Benefits of Process Modeling**

The act of process modeling provides a visualization of business processes, which allows them to be inspected more easily, so users can understand how the processes work in their current state and how they can be improved.

Other benefits from process modeling include:

- *Improve efficiency* – process modeling helps to improve the process, helping business workers to be more productive by saving time
- *Gain transparency* – modeling provides a clear overview of the process, identifying the start and end point and all the steps in between
- *Ensure best practice* – using process models ensures consistency and standardization across the organization
- *Create understanding* – by using the common language of process, it makes it easier for users across the organization to communicate with each other

- *Business orchestration* – supports the coordination of people, systems and information across the organization to support business strategy
- *Process Agility* – If BP analysis is a norm within an organization, they will eventually develop a culture of innovation and change. By being able to constantly tweak business operations, you'll be able to evolve in the face of technological change.
- *Beat the Competition* – As a result of all the other benefits we've mentioned, you'll be able to beat and outlast your competition in the long-run.

Process modeling generates comprehensive, quantitative activity diagrams and flowcharts containing critical insights into the functioning of a given process, including the following:

- Events and activities that occur within a workflow
- Who owns or initiates those events and activities
- Decision points and the different paths workflows can take based on their outcomes
- Devices involved in the process
- Timelines of the overall process and each step in the process
- Success and failure rates of the process

## **Business Process Modeling Techniques**

### *Business Process Modeling Notation (BPMN)*

The pictorial representation using the BPMN (Business Process Modeling Notation) method comprising of standardized symbols to represent different activities and interactions is popular among large enterprises around the world.

It is a relatively simple usage of lines, arrows, and geometric shapes that all communicate the flow and nuances of the process.

### *Flowcharts*

Creating a flowchart is simple and most business users will feel right at home. The only drawback is that flowcharts are useful for simple representations but lack the ability to model

complex interactions in a single diagram. Flowcharts can showcase multiple workflows separately and need to be consolidated to truly represent the entire business process.

### *Gantt Charts*

Gantt Charts are used by business experts as it helps break down a complex task into multiple sub-tasks clearly linked by their dependencies. Each one of these subtasks has a specific time frame within which the task needs to be completed.

Gantt Charts are best for representing tasks that are driven by tight deadlines as each task should be completed within a specific timeframe to achieve the desired results. It is also easy to edit and see the effect on timelines and dependencies. Companies that work on strict deadlines can easily keep track of workflows to make sure there is no delay.

### *PERT Diagrams (Program Evaluation and Review Technique)*

PERT Diagrams are widely accepted in the business community right after BPMN.

A major advantage of using this technique is that instead of creating theoretical solutions, it is used to represent a realistic timeline for a process to be completed. Users can create workflows using multiple methods and sources to identify the method that will help them complete the tasks in the least time.

### *UML Diagrams*

UML Diagrams are one of the popular techniques of Business Process Modeling.

UML is an object-oriented representation chart that depicts the relationship between the “actors” and “systems” and has different types such as Use case diagrams, Sequence diagrams, Communication diagrams, and so on.

Other techniques include:

- Data flow diagrams—Yourdon's technique
- Role-Activity Diagrams (RAD)
- Role-Interaction Diagrams (RID)
- Integrated Definition for Function Modeling (IDEF)
- Colored Petri-nets (CPN)
- Object Oriented Methods (OO)
- Workflow Technique
- Simulation

### **How to do Business Process Modeling**

There's no one-size-fits-all solution for business process modeling. At the end of the day, it really depends on what you're trying to achieve. Typically, however, if you're going for process improvement or re-engineering, there are 3 steps you'd take:

1. *Model Existing Process* – Use one of the BP modeling techniques to put the process you're working with down on paper (or software).
2. *Identify Inefficiencies & Potential Improvements* – How well is the process performing? Is it reasonable efficient? Is it meeting operational goals? Are there any steps in the process that's overly wasteful?
3. *Design To-Be Process* – Design the new and improved process depending on your findings in step #2, and finally put it into practice.

Here are some scenarios where you might want to try one of the methods used for Business Process Modeling.

- Implementing a completely new process or project
- Identifying bottlenecks in current processes and getting rid of them
- Check the cycle times and resources used for further optimization

- Identify redundant processes and consider automation solutions
- Find where investments and expenses are high in order to reduce wherever possible
- Improve overall product and service quality by improving process efficiency