

BPMN: Thought Process behind Decision Making






Introduction

In the previous article "BPM sets you apart" we discussed how BPM plays an important role in bridging the gap between users and developers. Since BPM uses a process approach, it makes it easier to define the requirements. BPM has gone one step further to standardize the requirement methodology with standard notations –BPMN (Business Process Modelling Notations) and a lot of thought process are put in place to make it very descriptive and simple to use. In this article we will talk about the thought process behind the decision.

BPMN

The Business Process Modelling Notation (BPMN) specification provides a graphical notation for expressing business processes in a Business Process Diagram (BPD). The objective of BPMN is to support business process management by both technical users and business users, by providing a notation that is intuitive to business users yet able to represent complex process semantics. BPMN depicts the end to end flow of a business process. The notation has been specifically designed to coordinate the sequence of processes and the messages that flow between different process participants in a related set of activities. The major notations used commonly are – Events (to start and stop the process) Task/Activities, Gateways (to manage the flow), etc.

Thought process behind Decision Making:

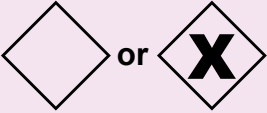

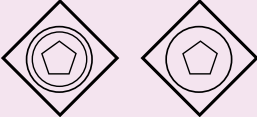


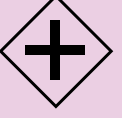
As mentioned above, BPMN represent complex process semantics, and for this article we will focus on one of the notation which is related to decision making- GATEWAYS. Traditionally we used to have a Diamond box \diamond for a decision or split in the flow and this used to be the only notation to show there are two ways out of it, for those who has seen AETINS value chain notation, they would relate the decision notation with  (yellow box with a circle on top), which represents thinking (decision is involved) but again this was the only notation we used for all kinds of splits. BPMN, on the other hand, produced descriptive notations for different reasons of split or merge in the process; they have divided this one diamond box into 6 type of boxes. Let us understand in detail the different kind of gateways:

Gateways

Gateways are used to control how Sequence Flows interact as they converge and diverge within a Process. Gateways can define all the types of Business Process Sequence Flow behavior: Decisions/ branching (exclusive, inclusive, and complex), merging, forking, and joining. Thus, while the diamond has been used traditionally for exclusive decisions, BPMN extends the behavior of the diamonds to reflect any type of Sequence Flow control. Each type of Gateway will have an internal indicator or marker to show the type of Gateway that is being used. A single Gateway could have multiple input and multiple output flows.



The Different type of Gateways

Exclusive Gateway	<p>The most commonly used of all; An exclusive gateway is used where only one path can be taken for any given instance for eg. 'Question: Can policy be issued? Answer would be either yes or no" all the outcomes must be mutually exclusive</p>	
Inclusive Gateway	<p>An Inclusive gateway is used when we may have more than one possible outcome i.e. mutually inclusive, For example – let us assume we have a rule whereby, if claim amount is above 50,000 then we need senior manager to approve. Otherwise a junior manager can also approve but complication will arise if for example, amount exceeds 75,000. Then we need at least 2 senior managers to approve, in that case the flow would take us to different users which can be easily implemented by using Inclusive gateway.</p>	
Event based Gateway	<p>The Event-Based Gateway represents a branching point in the Process where the alternative paths that follow the Gateway are based on Events that occur, rather than the Process data (as with an Exclusive or Inclusive Gateway). A specific Event, usually the receipt of a Message, determines the path that will be taken. Basically, the decision is made by another Participant, based on data that is not visible to Process, thus, requiring the use of the Event-Based Gateway. Eg., if a company is waiting for a response from a customer they will perform one set of Activities if the customer responds "Yes" and another set of Activities if the customer responds "No." The customer's response determines which path is taken.</p>	
Parallel Event based Gateway	<p>The Parallel Event Gateway is a type of race condition. In this case, however, when the first Event is triggered and the Process is instantiated, the other Events of the Gateway configuration are not disabled. The other Events are still waiting and are expected to be triggered before the Process can (normally) complete. In this case, the Messages that trigger the Events of the Gateway configuration MUST share the same correlation information.</p>	
Complex Gateway	<p>The Complex Gateway can be used to model complex synchronization behavior. An Expression activation Condition is used to describe the precise behavior. For example, this Expression could specify that tokens on three out of five incoming Sequence Flows are needed to activate the Gateway.</p>	
Parallel Gateway	<p>A Parallel gateway is used for simultaneous tasks, if two or more tasks needed to be done parallel then we use parallel gateway for eg. If claim is approved, message should be sent to customer and voucher to be sent to finance department for both of them to act together.</p>	

Summary

A decision gateway has been divided into 6 gateways and every different gateway has its own use and utility. In order to have clear understanding of the process flow, our requirements should be very descriptive, no longer talk about only one outcome. We have discussed about mutually exclusive outcomes, where we can have only one output, then we talked about inclusive gateway, where we can have more than one outcome, a parallel gateway for simultaneous tasks, complex gateway for more than one input to trigger the outcome, event based gateways which depends on messages not data. This has been really amazing how the thoughts have been put behind these semantics. Now it depends on the modeler how effectively he can use these notations to enhance the process modelling, which also depends on the modelling tools if they can really make use of these semantics and can include as many notations as they can in their palette. Decision making has always been the most crucial part of any business. With this kind of work, we can be rest assured that our 'decisions' will also be managed very well with BPM. In our upcoming article, we will share a case study which explains all the gateways with insurance examples.

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We offer a single end-to-end Insurance Solution that covers all lines of business: Individual Life, Group Life, Investment Linked and General. It spans across functions like illustration, quotation, new business, policy servicing, claims, agency management, commission and benefits, accounting and services. Our business is to help Insurance Companies to strategise and operate by leveraging on Information Technology, a key enabler to achieve transformational growth through Operational Excellence and Innovation.

AETINS has gained valuable business and technological expertise by building extensive knowledge and experiences that we capitalise on in delivering solutions to meet customers' needs, expectations and budget.

- Our mission is to "Innovate Insurance Companies to strategise and operate by leveraging on Information Technology".
- Through our experience and expertise, AETINS has successfully completed many projects of different scales and complexity.
- AETINS recognises that specialisation and mastery in the Insurance and IT industry is imperative.
- Our aspiration is to enable business transformation for Insurance Companies across the globe.



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