

Three Tricks for Developing Better Models

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It's rare to find an immediately available, true and correct description of a process under study. Most organizations have a procedural guide that defines what's supposed to be done and by whom, but that's about it. What's worse, when a process spans more than a single organizational element, it's rare to find a worker or managers who are fully familiar with the way a process performs beyond his own realm of responsibility. Because there may be a vast and undiscovered difference between the way an organization's procedural guide reflects a process is supposed to work and the way it actually works, it's a good idea to see it for yourself. **One of the best and most useful methods of validating the essence of a process is by walking from one end of the process to the other taking quick notes as you go.**

Walk the Process to Discover the Real Flow

The value of this step lies in the first hand knowledge gathered by the modeler where deviations may lie between what is expected and what is actually going on in a process and what issues may lie at the core of the process that make it work the way it does.

Some people feel that it is faster to call a group of process experts into a room and then build the process by listening to the group describe the process. **Our experience shows** that this actually takes longer (by several times) and is less accurate. The modeler usually has a better feel for how the model should be constructed and why a certain structure should be used and this knowledge can be better implemented when 10 people aren't standing over his or her shoulder.

Walk the Process, making quick notes of the process flow. Urge the process expert to start with the most common flow. Note exceptions and come back to those exceptions later. Collect the duration of the activity, splits, combinations and resources used. Collect *what* is happening at each activity.

As the modeler **Walks the Process**, it is useful to collect all data entry forms used. If the form is electronic then, do a screen print and highlight the fields that would be entered or changed. Make notes about the form or document used by placing a number the form and the same number on your notes where the form is used, linking them for later reference. Similarly, if other tools, devices or helps are needed, collect samples or make note of the requirement.

Process duration is best collected by using three points to estimate the duration of an activity. Ask the question "How long does it usually take to perform this operation?" Then ask "What is the shortest amount of time it has taken to accomplish this task?" Finally ask "What is the longest amount of time it has taken to accomplish this task?" These three times can now be arranged into a triangular distribution that will be used in ProcessModel. The distribution will be written T(min, most likely, max). That time value will eventually be placed in the time field of the general tab. **Capturing the variability of a process is crucial to creating an accurate model.**

It is advisable to spend no more than two hours walking the process, taking notes, before building the model. Longer "walks" tend to put time pressure on the expert and leads to slow gathering in the later hours. Besides, a huge process can be **walked** if the modeler explains that they only need the **flow** (not the political history of the company and feelings about the steps). If the modeler allows the process expert to ramble, 15 to 30 minutes can be lost before you are aware of the diversion.

How much detail should you gather? You need to consider how the information will be used. If you are trying to gather enough information to improve the process by yourself, then you will need enormous amounts of information. This is not advisable. You usually don't have enough time to gather this type of data.

If you are trying to help the process expert improve the process then you will need a lot less information. **This choice is always preferable.** Allan H. Mogensen, the father of work simplification said "The person doing the job knows far more than anyone else about the best way of doing that job and therefore is the one person best fitted to improve it." You are going to act as the catalyst to help that person (or people) improve the process. You will need to collect **where things go, what the step is, and how long it takes** for that process step. You will need to **collect major decisions, percentages for those decisions, timing, resources used.**

Build the flowchart

Build the model the same day the information was collected. If you wait until the next day you will lose critical detail needed to accurately portray the process.

Build the process so that the **most common path goes from left to right across the top of the chart.** You should be able to sight a laser across the top activities of your model. When someone looks at your charts they will always know that **the most common path is the one on the top.** All other paths will be recognized as less traveled. Avoid doubling back and crossovers if possible. Exceptions to the main line should depart from the main flow by starting down then going to the right. A second benefit comes from developing the process from left to right. It is easier to pin up a large process on a wall if you don't have to get a ladder and a spotter each time a review is presented.

Animate the model

The third trick may seem odd to begin with, but will make perfect sense after you have used it. As a matter of fact, you may find this the most valuable asset in your process improvement tool kit. OK, here it is.

Build the first model without timing. All processing times and decisions should be left at the default. Enter an **arrival time** that spreads the arrivals sufficiently **to see only one entity at a time** in the model. Change the route move time to reflect the length of the route. A one inch route would be one minute while a 10 inch route would be 10 minutes and so forth. Animate the model to test the flow. Once you are convinced that you have accurately reflected the notes from walking the process then take the computer to the process expert (or bring the process expert to your computer if you have a desk top) and have them watch the process run. **Every time** we have followed this procedure we have **uncovered errors** in the process description. **People that have spent weeks drawing a flowchart have spotted problems in the flow in the first two minutes of animation.** The animation helps people to understand the flow at a deeper level.

Don't do any detailed model building until you have verified the flow is correct. Adding detail before correcting the flow is like changing the forms after the concrete has been poured. It's not impossible to fix, but it takes many times more effort than is necessary.

Use this model to verify the flow and to make certain you have all of the data to build the detailed model. You will generally find that you need additional pieces of data not considered in the first walkthrough. **This is the fastest method we have uncovered for capturing and modeling the real process.**