

Capture the Process

In many cases Information Technology projects are started because some process is inefficient or broken. It takes too long for an order to get fulfilled. The customer database has conflicting and ambiguous entries. Maintenance budgets are spiraling out of control.

A common approach to fixing the problem is to survey what new applications are available, select and configure one, and then hope that things improve. All too often the results are disappointing. Some of the original deficiencies do go away, but others crop up in their place. Where before a process ran inefficiently, now it does not run at all. Time and money must be spent to remove the new glitches. And once things are running, the improvements often are less than originally hoped for.

This state of affairs results from jumping on solutions before the problem is well understood. Before you can design a solution, you need to know in detail what it is you are trying to fix. You have to capture the existing process --- diagram the nominal flow, trace every exception, quantify the resource costs of each step, and identify the design alternatives.

Diagram the Nominal Flow

You probably have a mental picture of all of the major steps of the critical processes in your enterprise and could sketch out process flows if asked to do so. But these high level views are insufficient for what is needed. In order to capture a process, you need to get down on paper each and every step no matter how small.

Rather than polling for the requirements for a new system, focus your team instead on tracking what happens from, say, the time a customer hits the submit on the order web page until the product shows up on his doorstep. Each and every computer program run is a separate step as is each human activity along the way. Trace the flow all the way through from beginning to end. Do not worry about corporate boundaries, or who "owns" every step. For this first time through concentrate on the nominal flow, what happens if everything goes right. Record your results in a traditional flow chart or activity diagram.

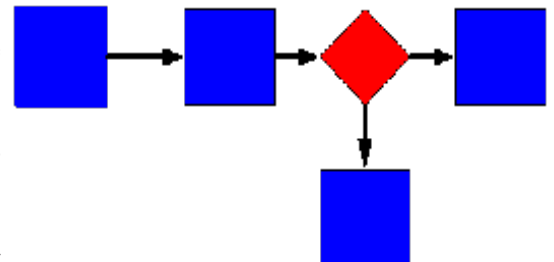


Figure 1 Process Flow

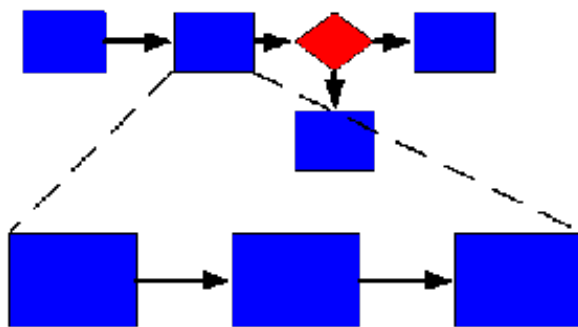


Figure 2 Multilevel Process Flow

Trace Every Exception

Once the basic flow has been captured, revisit each step in turn and ask what can go wrong. Generally you will find that what was a single step such as "enter order" in the original flow now becomes several steps with branches and additional steps for handling the exceptions.

It is very important to trace each of the exceptions from beginning to end with the same thoroughness you used for the nominal flow. Very often the inefficiencies and delays in the process come from the exception handling, not mainline processing.

And of course there can be exceptions in handling exceptions as well. You might have to adopt a multilevel approach to presenting the information in a coherent fashion.

Quantify the Resource Cost of Each Step

This part of capturing the process is the most difficult, but it is the one that guides you to the best design solutions. For each of the steps identified in the process, collect the data that allows you to assign the total volume, processing time, and cost in dollars for performing the step. Some of these numbers will be hard to come by because the underlying data is not easily available. Do the best you can. Estimates are better than no guess at all.

When you are done, tabulate your data in a similar fashion for new ways of doing things. Look at each branch point in your process flow. First, ask the question of what will be saved if the entire branch is eliminated. If resolving ambiguous customer names takes a lot of effort, and there are a lot of them then the potential savings is high. If reentry of a mistyped name occurs infrequently then the payoff from catching such mistakes might not be great.

Second, for each step in the process calculate what the savings would be if the processing time or cost were cut in half (or some other convenient fraction). Rank the results by cost and time saved.

Focus on the top two or three resource consumers in your list. These are the real driving requirements for your design. Begin the design process by investigating solutions that address these driving requirements only and leave everything else untouched. Such solutions possibly will have the lowest costs and minimum impact on ongoing operations.

But do not stop there. Sometimes the solutions with the highest payoffs indeed are the ones that start with the clean sheet of paper and build new processes from scratch. Construct some of these as well. Armed with the process capture, you will ensure that nothing will be left out.

Now you have a set of viable design alternatives from which to select an implementation that will be successful.