PROCESS MAPPING

Simplifying compliance with ISO9000

by **Mickey Jawa, CEO, SatiStar Management Consulting**

Creating effective and accurate process flow diagrams is part science and part art. This is an important skill that can be mastered. The ISO9001:2000 standard assumes that all companies pursuing registration will understand and be able to document their processes using this technique.

The ISO9001:2000 standard requires that you document your main business processes and the interactions between those processes. Over time we have learned that the simplest way to document your processes is by using a process flow diagram (also sometimes known as a process map).

It has been said that a picture says a thousand words, and our experience in using these pictures (PFDs) of how processes work bears this out. A single page process flow diagram typically replaces between 7 and 10 pages of text!

So why are so many quality manuals still being written as text-based documents? Simply put, people haven't been trained on the techniques of process flow diagramming. Quality and other managers are somehow magically expected to be experts in creating these process flow diagrams (PFD).

A Standardized Set of Symbols

There are many ways to depict processes in a flow diagram format, but it's important to remember that the primary reason for creating these diagrams is to facilitate communication. It's important for people to be able to read and quickly understand the diagram. The symbols in your process flow diagram are the words in the language of processes.

If you've created PFDs in the past, you're probably familiar with a number of symbols. Quality professionals, Engineers, IT professionals and Financial auditors are accustomed to PFDs in their work. Each of them tends to use a variety of symbols – usually different from the symbols that others use. If you're trying to communicate and want that communication to be clearly and easily understood by everyone within your organization, it's best to use a standard set of symbols company-wide.

For this reason, we recommend that you use the following symbols:
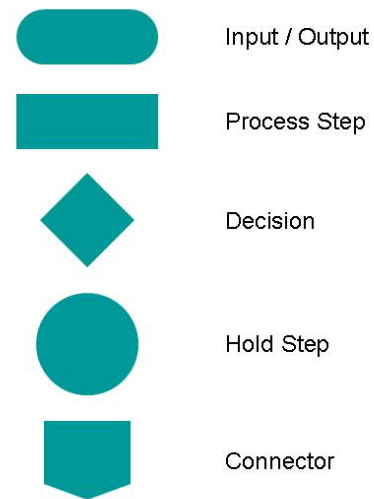
This language uses only 5 words – very easily understood by everyone. If you decide to use other symbols beyond this set, we recommend that you include a legend on your process flow diagram to ensure that there is no confusion for the reader.

- The ovals represent the inputs and outputs for your process.
- Rectangles or boxes are the activities or steps in your process.
- Diamonds are where you make decisions (such as pass/fail, red/amber/green, etc.)
- Circles represent hold steps where you're waiting for something (such as approval) prior to moving on to the next symbol.
- The "homeplate" is a connector that allows you to connect from one page to another for lengthy diagrams. Insert a number or letter in the homeplate at the bottom of page 1 and the same number or letter on the homeplate at the top of page 2.

- Arrows depict the direction of the flow of your process.
- Some arrows are actually "loops" that either return you earlier steps in the process (rework), or bypass steps.

Creating Process Flow Diagrams

The easiest way to create PFDs that represent reality is to interview the people who actually do the work. They're the experts in the process. Do not make the mistake of having someone who doesn't run the process every day create the PFD. We call these "fairy tale PFDs" – they only represent what someone thinks the process probably looks like. This mistake ensures that you'll be doing a lot of tedious rework later.

The "art" of constructing PFDs is getting people to think in a logical sequence of steps, rather than in a haphazard manner. This is often much more difficult than it sounds.
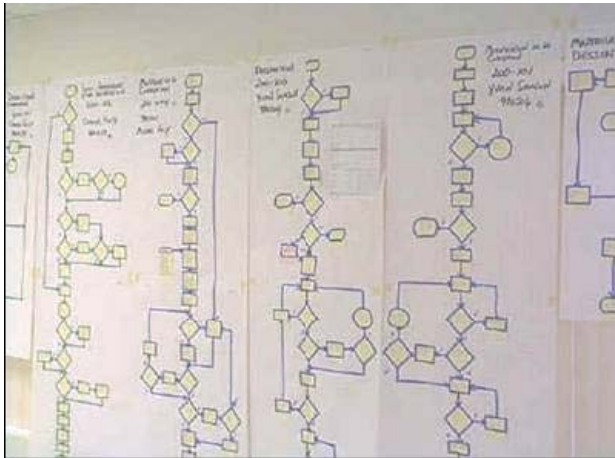
One very effective way to map out processes with people is to interview them and write down every step of what they do on standard 3"x3" square yellow "post-it" notes and attach them to flip chart paper. Each process step gets its own post-it. After you've captured what they do, you can now use a marker to outline the border of the post-it with the appropriate symbol shape.

You can then check the sequence of the steps in your diagram with the people who touch the process to ensure that you've captured it correctly, and that it depicts all of the variations in how different people run the same process. Post-its make it very easy to move the steps around until everyone's happy that the diagram represents reality.

Once you've got the proper sequence of all of the process steps you can now use your marker and draw in the connector lines and arrows.

Finally, you should go back and tape down all of the post-its on your diagram – they have a nasty habit of falling off in humid weather!

Add a title that includes the date, your name and the names of everyone you interviewed – so that you can follow up later if you have more questions.

Computer Generated PFDs

Contrary to popular opinion, it is much slower and more difficult to create PFDs using computer process mapping software such as Microsoft Visio. But, at the end of the day, you'll want your process flow diagrams to comprise part of your ISO9000 documentation. We recommend that this be a subsequent step that follows the creation of the post-it versions – that can and should be done later.

Process Improvement

PFDs make it easy to examine processes for improvement opportunities, and are a base for implementing Six Sigma, Continuous Improvement, Lean Manufacturing, Business Process Reengineering efforts, etc.

Mickey Jawa is the CEO of SatiStar Management Consulting, and has over 25 years of experience in a wide range of industries. He has assisted companies worldwide in implementing Business Performance Improvement, especially in the area of cycle time reduction.

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