

Auditors, Turtle Diagrams and Waste

Less is more

by Mike Micklewright



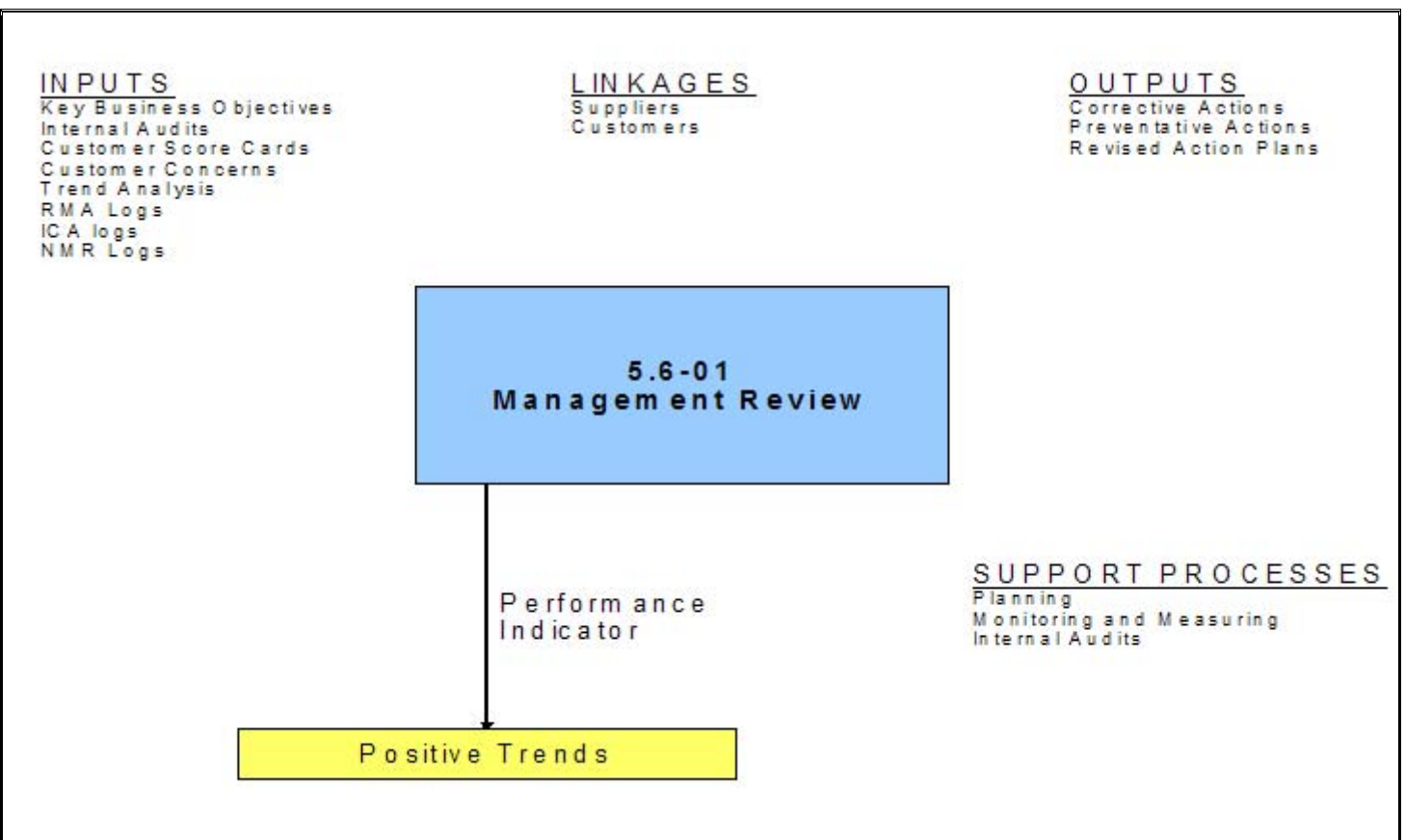
In the past several months, registrar auditors strongly recommended to three former or current clients that they develop and install turtle diagrams for each of their processes. Two auditors from one registrar actually taught a former client how to develop a turtle diagram during a surveillance audit.

In the stand-up quality comedy routine that I perform for ASQ's section meetings, conferences and corporate events, I reveal my sarcastic list of "seven basic habits of highly effective registrar auditors." Habit no.2 is, "Inform the auditee that you aren't allowed to give advice, and then give advice." I then reveal a double-billed cap, and say that, in the spirit of ISO 9001 clause 7.5.3, "Identification and traceability," registrar auditors should be required to identify their service at the time of provision.

So, when auditors are auditing, they should show the "auditor" side of the cap. As soon as they start giving advice, they should flip the cap around and show the word "consultant." Registrar auditors must not give advice, because by doing so, they lose their objectivity.

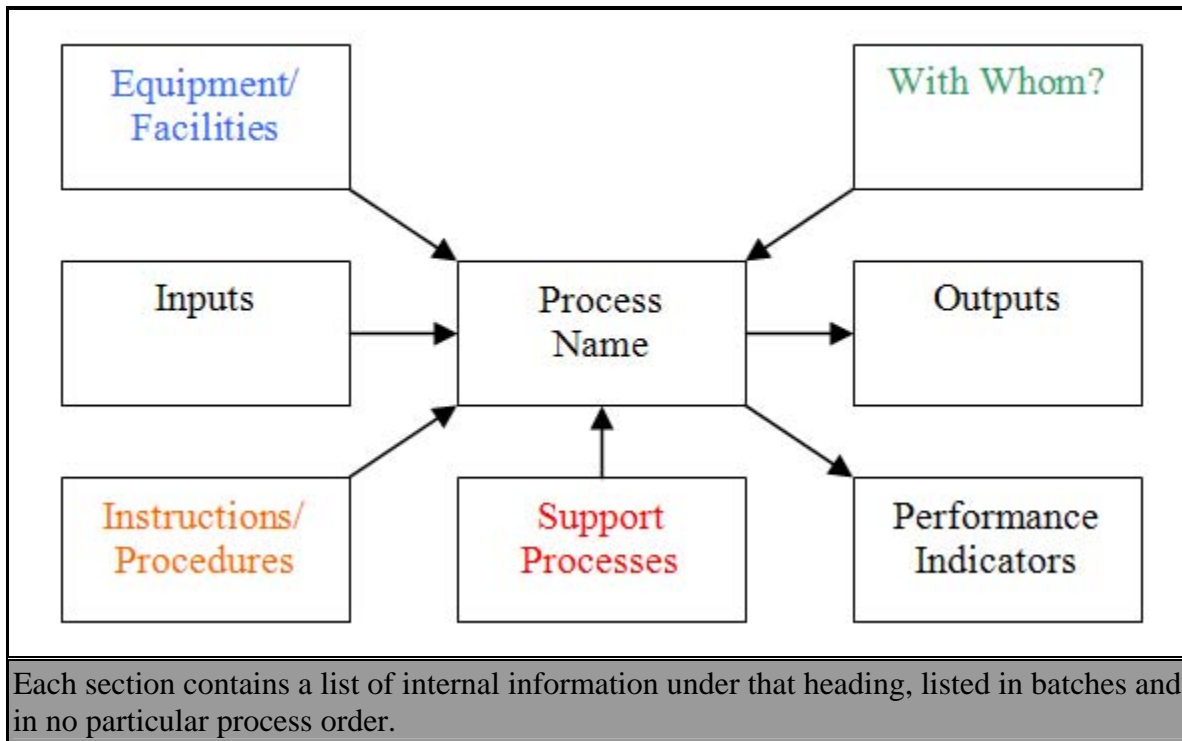
What is a turtle diagram?

Two registrar auditors suggested the turtle diagram format below. The typical turtle diagram has inputs and outputs surrounding the process in question. How does this diagram do what the procedure or agenda forms don't? Such diagrams defeat their own purpose—they aren't written in process format. For example, how do the three "support processes" and the two "linkages" fit in, and when do they fit in? Furthermore, the document is written in batch form rather than process flow.



Two registrar auditors developed this turtle diagram during a surveillance audit for their clients. It is easy to see how it would be helpful for the auditor and his report, but it isn't easy to see how this adds value to the company's quality system.

Following is a more typical turtle diagram, containing the following sections (turtle parts):



Of the three companies that developed the turtle diagrams for their auditors, none of them have found any value in them. The diagrams aren't used to train employees or in any other capacity within the company. In some case, they have even confused employees. They serve no value, except to the auditors.

Don't change your quality management system (QMS) for your auditors. Change your QMS only to make your system more effective and then ensure that it meets your standard requirement goals, not some auditor's interpretation of them.

Why do auditors suggest turtle diagrams

Because it makes their job easier. As part of the process auditing approach, they need to show proof in their records that you have identified the inputs, outputs and objectives of each process. If they can just copy your turtle diagram, their job is lot easier and there is more time to talk about the weather.

If registrar auditors ask you to develop turtle diagrams or any other document:

- 1) Ask them to show where in the standard it says that you need such a document.
- 2) Ask them to show you their own turtle diagrams, as examples, of the contract review process used in your company, the auditing process currently being used, the customer complaint process you might use and the issuance of the registration process you expect to be used in the near future.

Does ISO 9001 require turtle diagrams?

No, it doesn't. If you read the standard, you will find no reference to a turtle diagram anywhere. In fact, the closest the standard comes to anything that might be interpreted as a turtle diagram is in section 0.2, of the process approach section: "An activity using resources, and managed in order to enable the transformation of inputs into outputs, is considered as a process. Often the output from one process directly forms the input into the next." This is a great definition, and it doesn't state that a turtle diagram must be drawn to demonstrate these processes.

Clause 4.1 of the general requirements section of ISO 9001 states, "The organization shall a) identify the processes needed for the QMS and their application throughout the organization b) determine the sequence and interaction of these processes." This can be done thousands of ways. There is no requirement for a turtle diagram.

What is a procedure?

We all know the classical definition. It's a document that explains who does what, when and where. It's a document that defines a process and cuts across functional or departmental lines (whereas, a work instruction can be done by one person or one department).

A well-written procedure will have most of the requirements of a turtle diagram in the body of the document.

Below, is an excerpt out of a company's process control procedure. Compare the colored words in this procedure excerpt to the parts of the turtle diagrams above.

Production manager	3. Issues the job to the specific machine . Affixes the material identification and traceability sticker on the traveler . Makes a copy and gives to quality control (QC) . Sends the original copy to the shipping and receiving department . Issues the set-up sheet to the set-up technician .
Quality control	4. Prepares the production folder (consisting of measuring equipment including mylars , when necessary, in-process sheet , marked-up prints , job instructions , data collection sheet , when necessary, and production gauge sheet).
Quality control	5. Verifies that the part number and revision level of these documents are accurate when compared to the traveler . Searches for any new requirements on the traveler and, if necessary, takes the appropriate action, including the changes to documents in accordance with the drawing control procedure (clause 4.2-03 of ISO 9001) .
Quality control	6. Verifies and calibrates, if necessary, any gauges that require checking prior to issuance to production, in accordance with the control of measuring and test equipment procedure (clause 7.6-01) .

The "process name" is the title of the document, the "inputs" and "outputs" are obvious when reading how the document flows from one step to the next, and the "performance indicators" can be located in the "purpose" section of this procedure, in a single objectives and goals form, or in a balanced score card organized by process.

So what's wrong with turtle diagrams?

They're slow and wasteful, because they're redundant. They are antilean. The information in a turtle diagram should already be in your procedures. You don't need them, and they probably won't be used. They only help auditors to do their job, while adding complexity to your QMS.

Most QMSs are way too big and they're growing larger, more complex and nonuser-friendly. When entropy, the law of disorder, sets in and you have no way to control it, and your auditor strongly suggests more documents, it further complicates your QMS. If the QMS becomes too complex, it won't be put into practice.

One of my clients, after reading my article on the "Two-Page Quality Manual" hired me to reduce his corporate quality manual. His quality manual was 75 pages in length. He had added a 20-page Six Sigma policy manual and, at the Registrar's suggestion, added 27 pages of turtle diagrams. When I told the corporate management representative that his 27 turtle diagrams served no value and they were probably not used at all within the company, he admitted that this was correct. He had added them into the system primarily because of the auditor. I eventually showed him how to reduce these referenced documents from 122 pages to 5 pages, eliminating redundancy, not important content. By simply getting rid of waste, his document is now user-friendly and meets all the requirements of the standard.

Turtles move slow, and turtle diagrams make your system slower, because they add waste to your QMS.

Lean quality systems

You need to ensure your QMS becomes lean. This doesn't mean vague. It means getting rid of the redundancy, of which you probably have a lot. No requirement, specification, instruction or procedure should ever be repeated in another document. Turtle diagrams are redundant. I've seen some companies repeat a specification in five or six different places (e.g. print, work order, inspection sheet, control plan and work instruction). In this chaotic system, anytime a change is made, some documents don't get changed as they should.

Your obligation as a quality manager is to do your job to ensure your QMS is lean, useful and user-friendly.

Registrar auditors need to do their job

Regarding the client that received training on how to draw turtle diagrams from two auditors I found out about this only after recently providing them with internal auditor training. Five years ago, I consulted with them until they got their registration. Since then this company hadn't written a single preventive action, had only two internal audit findings and they were still registered.

Registrars need to do their job by putting companies on probation or decertifying them if they have major nonconformities. This is their job and they must uphold the spirit of the standard, their true customer. They must stop consulting and advising, and start auditing correctly to ensure that companies are truly qualified to claim registration to a standard.

Use lean principles in your documentation system

In effect, some auditors' advice encourages excessive nonvalue-added documentation. Most auditors have had little or no training in lean and elimination of waste. Anything or anyone encouraging waste (e.g. turtle diagrams or a 50-page quality manual) is only encouraging ineffectiveness.

Many of you have allowed entropy into your QMS by blindly accepting whatever auditors suggest. Remember that for any nonconformity written or advice given, auditors have to quote a requirement that isn't being met. Simply ask them to show you in the standard where turtle diagrams or a lengthy quality manual is required.

It's your responsibility to ensure an effective system. Effectiveness is only possible when the system is easy to use. Look for the waste. Look for the inefficiencies and the ineffectiveness within your system. Teach your internal auditors about lean, value-added actions, value stream management, waste elimination, 5S, and quick changeover, so that they can help you achieve your goals.

About the author

[Mike Micklewright](#) is an independent consultant based in the Chicago area who specializes in improving internal auditors' abilities and programs, and in demonstrating to companies how to "lean out" their documentation system to make it more effective. He specializes in lean, Six Sigma and anything ISO 9001-related.

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