

Quality Auditor Review

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Simple Audit Tools

Audit Thinking

There are a multitude of methods and tools that auditors can use to analyze data. Most of these tools and methods (scatter diagrams, control charts, histograms, etc.) require more time to use than is available during an audit. However the auditor can use simple tools to analyze and quantify objective evidence when possible.

Analyzing data can help the auditee understand the importance of an issue identified in the audit and provides additional data the auditee can use to make decisions regarding the management of the area audited. Six simple tools that can be easily used are: counting, percentages and ratios, sorting and grouping data, matrix, comparing, and estimating cost (dollars).

Counting consists of computing a raw number based on observations during the audit. For example: There were 3 findings in the service area; Five products checked were out of specification; There were 10 units on-hold for rework.



Use of percentages and ratios can enhance the counting data by quantifying it. For example: The service area accounted for 3 of the 5 findings found during the audit; 20% (5/25) of the products checked were out of specification; Of 100 units produced, 10/100 (10%) were assigned to be reworked.

Sorting and grouping data can provide additional insight by focusing on problem areas. For example: All 3 findings in the service area concerned the new pump product line



(group by product line); Five products were out of specification for different parameter failures (sort by specification item); All 10 of the items were waiting rework due to a high amperage reading (group by failure code/mode).

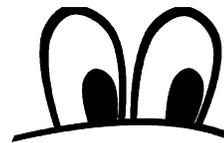


Drawing a matrix provides additional visual representation of the data collected by sorting and grouping. For example: The product identification numbers could be listed in the left hand column and the specification parameters failed in a row across the top; The 10 items awaiting rework could be listed in the left hand column and the failure codes in a row across the top.

Comparing other areas, products, product lines, or time periods can point to system problems. For example: The other lines did not have any units on hold waiting rework; The other products lines had the same level of on-hold items waiting rework; Last month there were an average of two units on hold at any particular time. With this last piece of information the auditor could compute the percentage increase



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From the News Desk

The ASQ Quality Audit Division announced the 7th Annual Quality Audit Conference to be held in Louisville Ky. on February 26-27, 1998. The conference theme is "Bringing It Together" and promises to have more preconference tutorials and topic choices than ever before. Call ASQ at 800.248.1946 for more information.

Analyzing data helps point to the system problems

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The Audit Guy Dennis Arter

The Audit Boss

As an auditor, you have three customers to serve: your company, the auditee, and your client. The first two customers seem quite reasonable. But what is this client thing?

Officially, by the auditing standard Q10011, the client is the one who commissions the audit. In



simple words, this means your "Audit Boss." In all but the smallest of organizations, we need someone who is responsible for the auditor,

and someone to make assignments and receive reports. This is all part of the system of checks and balances.

A committee approach to this client concept rarely works. The accountability is spread too thin in a committee. The client doesn't have to be from the management ranks, but usually is. Often, the client is the ISO Representative or the Quality Manager. The client could also be a Plant Engineer or a Production Coordinator. Most companies have only one Audit Boss, for both internal and external audits.

The Audit Boss is charged with scheduling audits. She receives requests from the many functional groups within the firm and publishes an audit schedule. We can never audit everything we wish, so priorities must be set. Resources, such as people, money, and time, must be allocated. This is a big job, especially when being an Audit Boss is one of many assignments.

The Audit Boss is then responsible for assigning specific audits, from the published schedule, to an audit team. Sometimes, just a Team Leader is assigned and he draws a team of audit helpers from the rest of the company. It makes good sense to have the Audit Boss certify the Team Leader as qualified. The Team Leaders can then make sure their team members are also qualified.

Can the Audit Boss also conduct audits? Sure, as long as he doesn't conduct a majority of the audits. Otherwise, the checks and balances are lost.

Most of the audit planning is done by the audit team, with occasional checks by the Audit Boss. She should have little to do with the fieldwork, except when huge problems come up. The Audit Boss need not approve, or even see, the preliminary report given at the exit meeting; although, courtesy and good sense suggest that the Audit Boss should receive a "heads up" on significant findings.

After the fieldwork and the exit meeting are done, the team must then prepare a formal, written report. The Team Leader signs this report and presents it to the Audit Boss. Officially, the audit assignment is complete when the Audit Boss accepts your written report. The Audit Boss should always send the report to the auditee. Subsequent use of audit team resources for corrective action follow-up is up to the discretion of the Audit Boss. As an auditor, you will probably be involved with follow-up, but it is not required.

The client is an important component of an effective audit program. Having an Audit Boss contributes to the necessary checks and balances. It adds accountability to your audit program. You will do a better job knowing the Audit Boss is there to back you up.



Dennis Arter is the newsletter feature writer and author of the best selling book Quality Audits for Improved Performance.



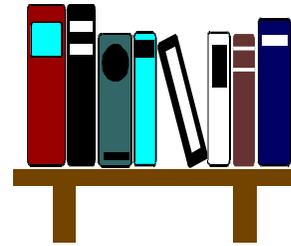
Dennis has been an independent quality assurance consultant since 1984. His primary service is instruction in the field of management auditing for a wide variety of clients, including government, manufacturing, energy, research, aerospace, and food processing. He is an ASQ Fellow and active in the

Quality Audit Division. His home page is at <http://home.earthlink.net/~auditguy/> or he may be

**Auditors
have
customers
too.**

Quality Audit Primer

Auditing tips and reminders



Audit Planning: Audit Logistics: Auditee Inputs

Audit logistical planning is necessary for both audit team coordination and establishing auditee communication links. Good planning will result in a smooth, seamless audit performance. Poor planning will make the audit team appear less professional and might jeopardize meeting audit objectives. Auditors need to arrive at the right place, with the right equipment and information, at the right time, and for a suitable duration of time to get the job done right. To help the auditor properly think through what is necessary to start the audit process, it is prudent to outline a detail logistical plan.

Once you have authorization for the audit in the form of letter, memo, or an audit schedule, you should contact the auditee representative. First you need to inquire about the documents and records that you may require (e.g. quality manual, prior audit reports, and corrective action logs). For first party audits the documents and records may be available through the audit function. You may need to request them for second and third party audits.

Next, the auditor should assess the situation to identify any complexities that will affect the audit performance. Complexities affecting time and schedule may include number of employees (affect the number of interviews), distances between audit areas (travel time between interviews), number of production lines or services provided (added interview time to sample lines and services), and new processes/products/ services that may need additional verification and interviewing.



The auditor should identify: 1) any regulatory, safety, or health requirements, and 2) any security clearances (e.g. Top Secret Cosmic Crypto) or local approvals needed to enter specific areas. Some organizations require health releases and/ or a safety awareness orientation (hazards and emergency procedures). Safety equipment such as: ear plugs, safety shoes, lab coats, and safety glasses may be required. Local rules such as: no short sleeve shirts, no tank tops, no shorts, no skirts, and no high heeled or open toe shoes

must be followed.

The auditor should ensure that everyone is speaking the same language. If language issues are overlooked, the effectiveness of the audit may be significantly hampered. Language differences occur not only in international auditing but also in differences between the auditor's and auditee's vocabulary, command of the language, idiom, culture, and terminology. For example, how would an interviewee respond to, "Is suitable equipment used in the process or service? Have you prevented the inadvertent use of non-conforming products?"

If you must travel to the audit location it is a good idea to ask about suitable hotels in the area. Avoid expensive hotels, flea traps, and hotels requiring a long commute to the audit site. The auditor should request a map to the location of the audit (including travel times). If the audit site is large, the auditor may need a facility or building map as well..

For all audits you will need to identify a place for meetings (opening, closing, team). The meeting rooms must be large enough to accommodate the planned attendance and needed resources (chairs, electrical receptacles, telephones, etc.)

Later, but prior to the on-site interviews, you will need the auditee's agreement of the audit plan and the interview schedule.

The above discussion addresses Part A of the Pre-Audit Logistics Checklist, auditee interface (see newsletter enclosure).

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in items on hold from month to month.

Determining the dollars at risk due to the problem identified during the audit is the most powerful information and may be hardest to quantify. If the auditor knows the average cost of rework, the auditor could report the cost of the higher rework levels. If there is not Cost of Quality system, the auditor can ask for cost data from the auditee.

Frequent use of the six simple tools to analyze data will add significant value to your audit re-

**Planning
Improves
Performance**

Field Reports:

The Good.. The Bad.. The Ugly..

Audit Anxiety

By Terry Regel

The first interview of the audit with the Purchasing Manager proved interesting, not that there were any "unexpected" interruptions. In spite of the manuals, logs and other information readily available in the office to provide evidence of an effective system, the manager's body language indicated that this was not a good time to begin an interview. Delaying the interview would not cause the psychological tensions to lessen.

From our knowledge of the company, we knew this manager was not only competent, but had been innovative in the implementation of some practices. Those practices had helped the first five sites successfully complete their initial audits. He was experiencing anxiety imposed by the success of the systems the management team had helped to create, which was the opposite effect one would expect. Raising the comfort level of this manager would help to ease the minds of the others so that we could conduct an effective audit.

Instead of launching into the audit immediately, the checklist was laid aside on the adjacent ta-

ble. For ten minutes of the allotted time for the interview, the manager was encouraged to relate his hobbies and work experience. Gradually, the conversation turned to the company and the system that had been implemented, the interactions with other sites, customers and suppliers, and how information was recorded and where. As the discussion progressed, I casually reviewed the manuals, logs, and purchasing records. When we had used nearly fifteen minutes above the allotted time, I gathered my materials in preparation for the next interview, thanking the Purchasing Manager for his time and the information that had been provided. Surprised by this statement, he asked when the audit was going to begin. I assured him that all the necessary information and evidence had been provided.

This interview proved to be one of the best of the audit. As the audit progressed, the Purchasing Manager's evidence was corroborated, yet the information had been provided in a casual, relaxed manner because the auditee felt that we were "just talking." Following that interview, I shared with the other auditors these hidden anxieties and the successful method of collecting data. By the audit team addressing the hidden anxieties, the audit progressed smoothly and the audit team received excellent ratings on their performance.

Terry Regel is a consultant.

Send stories you would like to share, comments or suggestions to our PO Box or the e-mail address.

Quality CrossWord

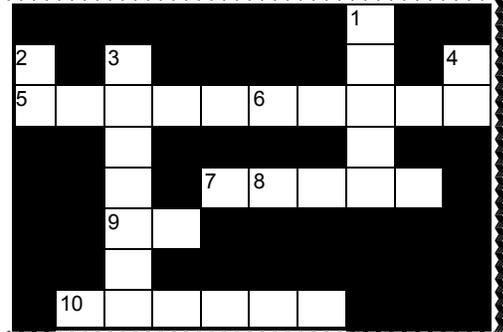
Across

- 5. Base
- 7. Data
- 9. Exist
- 10. Type of problem/ failure

Down

- 1. Erected
- 2. USA Joiner
- 3. "_____ is fitness for use" Juran
- 4. A switch position
- 6. Smallest article
- 8. Smallest article revisited

Solve the CrossWord and discover the quality quote by Steven George.



Ans: _____ A Quality System is built on a foundation of facts.

