

THE MYRDDIN GROUP

Using Statistical Tools

The spreading use of the Baldrige and ISO 9000 approaches have created a common protocol for improving processes. These are team-centered methods that require effective functioning in work groups. Teams and team members have to develop a familiarity with some of the problem solving tools that are commonly being used in the world today. It is this understanding, when coupled with the energy that comes from healthy human dynamics, that provides the motive force that changes companies and organizations. Neither alone will do the job. Both are required. What follows is a brief overview of the most common tools that are being used today.

14 Statistical and Management Tools

The 14 commonly used tools that are widely used around the world provide a common set of rules across large corporations. While this creates convention, it does not by any means limit the potential for human creativity or inventiveness. The first advantage to having the entire workforce use the same tools for problem solving and analyzing work processes is that it creates a robust lowest common level of this type of activity across the whole company, wherever its parts may be located. Secondly, cross-functionality among functions that don't normally work together increases when all parts of the company analyze and report using the same tools and formats. Third, once a company has such a lowest common denominator it can then build on it and upgrade the tools when necessary to maintain its competitive trim.

When all of the tools for these basic analysis and improvement activities are commonly used the unique features of each stands out more and the creativity increases as people learn the distinctions.

Process inventiveness is a core competency these tools can develop but it is only useful when it serves the needs of the customer and the company. Using the tools just for the sake of using them, "tool chasing" if you will, does not serve either the customer or the company.

In organizations where the people have significant experience in using these tools, the focal point becomes one of using them to do real root cause analysis. There is a line of progression in their introduction into the company. Following this line helps to insure that time is not wasted in meetings explaining concepts to some who may not understand them yet. It starts with those in a department learning and using the tools in their own immediate environment. As department members become familiar with their use, they are ready to work with members of other departments who have also learned them. Together they are ready to begin working on cross-functional teams. The last stage is when they have the experience as a cross-functional group to understand how to use these tools so well that they begin to tailor their use to their specific issues.

As effective as they are though they do not allow a single big picture to emerge for the entire work force. The sense of the big picture is important

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because without it, people may feel inundated by the job of learning these different tools. It may appear to them as a “tool of the week” phenomenon with management unable to make up its mind on which tool to use. It is up to management to regularly and effectively communicate the connection between the use of these instruments and the big picture.

The use of these 14 tools can move a company through these five levels of development.

- Just make products and keep track of things so you can continue to compete.
- Fight fires and start to notice some root causes before troubles arise.
- Determine performance by financial and process competitiveness and capability.
- Use the impact on customer approval to make numerous improvements and achieve a customer focus.
- Refine the supply chain from your departments and the cross-functional network to suppliers through to customers.

Analysis for the sake of analysis is not the intent of these tools. They are there to help reorient the company from a reactionary and opportunistic approach to running the business to a more thorough and robust way of competing. Using the tools for data analysis only leaves out the opportunity to develop the business along the five transformations just listed. Using the tools in a scientific fashion to test theory, however, means using them to transform the business. Here they are.

1. Histogram	8. Process decision chart
2. Control Charts	9. Flow diagrams
3. Check-sheets	10. Systemic diagram
4. Pareto diagram	11. Affinity diagram
5. Fishbone diagram	12. Relations diagram
6. Scatter diagram	13. Matrix diagram
7. Graphs	14. Matrix data analysis

Used early on in a Statistical Process Control program, the first seven help orient the work force to a more scientific process in the conduct of their problem resolution and analysis work.

Using these tools properly is long and hard work for it means to make the mundane aspects of the work and the company sharp and competitive. This requires time and patience but it is well worth the effort.