



Resistance as a Learning Opportunity

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Many people treat resistance to change as something to overcome. They prepare for battle and arm senior executives with the tools to "beat people into submission." Perhaps what is really happening is that the people introducing the change are not open to it—and are the real source of resistance. This article discusses why resistance exists, its benefits, and how to use it for improvement.

Imagine a small group within your organization coming to you and saying they have the solution to your problem. You don't think that there's a problem, so you are both insulted and highly resistant to the actions you are told to take. The group may try an intervention activity to convince you of the problem. To get rid of them, you just go through the motions of their suggestions and change—but return to old habits as soon as the group stops looking.

The process improvement equivalent to this situation usually occurs when an engineering process group (EPG) approaches software and systems engineering professionals with a set of defined processes that solve their development, maintenance, and management problems. The professionals don't believe they have problems, so they resist the EPG's efforts. The EPG tries, in many ways, to coerce the professionals into compliance. The professionals may decide to go through the motions in order to get rid of the EPG, but return to their old ways once the EPG stops looking.

Another situation is when your EPG does not appear to face resistance. Perhaps you didn't recognize the resistance in your organization because it was disguised in feigned compliance.

Whatever situation you are in, the resistance is natural, understandable, and, surprisingly, desirable. We should not view resistance as something to overcome, but as an opportunity to improve the organization.

Developing Standard Processes

Many organizations have great success working process improvement in accordance with the SEI's CMMI. Central to the CMMI is the principle that the organization should have a standard set of defined processes that their engineering and management professionals use to build products and provide services. Using these standard processes makes teams more productive in a shorter time, and improves the predictability of results.

Organizations expend a great deal of

effort and cost to develop a standard set of processes. They form process action teams to define the processes. The EPG provides training on the processes and conducts pilot projects to ensure their usability. Managers and technicians change their normal operating procedures to adapt. They justify all of this expense by citing the anticipated improvements in the product and productivity.

However, some professionals resist these *improvements* in favor of *business as usual*. Organizations take precautions to avoid these instances of resistance through change management principles and enforcement practices. Despite these precautions, there will be resistance to changes in engineering and management processes. The organization's reaction to this resistance indicates how successful it will be with long-term process improvement.

Causes and Levels of Resistance

Resistance to changes in engineering and management processes is a natural reaction because changes challenge a professional's ego. Just suggesting a change insinuates that their current practices are wrong. Since professionals seldom feel that their current practices are wrong, they are unlikely to see a need for change. No matter how positive the change or compelling the argument, the threat to the professional's ego will cause resistance.

However, the level of resistance differs among professionals:

- Those who are open to improvements drop their resistance quickly and adopt the change.
- Cautious professionals drop their resistance and adopt the change when they see that it is an improvement.
- One set of professionals will maintain their resistance no matter how much evidence is given that the change is positive. These resisters make process improvement the enjoyable challenge that it is.

Addressing Resistance Through Coercion

When an EPG encounters resistance, their

first reaction is to find some way to overcome it. They address the resistance through a series of intervention sessions. They try to coerce the resisters by talking about their assumed problems. They quote CMMI, invoke the words of senior management, and threaten to impact the resisters' performance review.

The EPG members often turn to coercion, but these attempts are more likely to toughen a resister's stance. The resisters stand firm in their beliefs and may even flaunt their resistance. In order to satisfy the EPG, resisters may go through the motions of the process but are unlikely to retain any change in behavior without constant attention.

Linking Resistance to Problems

An EPG must suppress its own natural reaction to *beat back* resistance. They must consider the resisters' perspective, who likely feel under attack. Maybe they feel like the resisters in *Star Trek: The Next Generation*, who heard the Borg say: "Resistance is futile ... you will be assimilated." The EPG should look for the root cause of the resistance; usually when it is found, the EPG stops appearing to attack and starts resolving problems.

One likely cause of resistance could be that the resisters actually do not suffer the ills the defined process addresses. It makes no sense to provide professionals a software configuration management (SCM) process when they are doing a good job of SCM. The resisters are not in denial; they truly do not have a problem.

Similarly, the resisters may be experiencing the problem the process resolves, but it is not their biggest problem. This may be best described as the Pareto Principle (also known as the 80-20 rule) in reverse. The EPG provides a solution to the 80 percent of the work that causes 20 percent of the problems. For instance, the EPG may provide a defined peer review process that would help the resisters, but does not provide as much help as a requirements elicitation process.

It is also possible that the defined process addresses the right problem but is the wrong solution. For example, I once

was having SCM problems on a project and needed help. Management mandated the use of a particular tool to help resolve everyone's SCM problems. Unfortunately, it was a UNIX tool on a network system while my project was an RSX-11, stand-alone system. My resistance to the mandated solution was strong and justified. The solution caused as many problems for me as it was supposed to solve.

Obviously, there will be times when the resisters are simply in *total denial* of engineering and management problems. Instead of viewing this as something to overcome, use these resisters for comparisons and possible solutions.

Learning From Resistance

The EPG can transform both the root causes of resistance and total denial into learning opportunities. When the resisters do not have a problem and the solution is not a solution for them, resisters provide the EPG with another addition to the organization's set of standard processes.

When the process addresses the wrong problem, the resistance helps the EPG to prioritize which processes to define and improve next. Resistance due to the wrong solution allows the EPG to adjust its defined process to address a new problem area.

Resisters in denial can also provide a learning opportunity. By using resisters as reviewers, the EPG can learn that certain steps in the process do not add value. The EPG should approach these resisters with questions such as: "How do you handle this situation?" or "What would help you in this situation?" The answers allow the EPG to adjust and improve the defined process, and possibly gain buy-in from the resisters.

Resisters in denial provide the EPG with a performance baseline for comparison when determining whether a defined process is an improvement. If the defined process is an improvement (and this is not always a safe assumption), the resisters should realize they do have a problem and look to adopt the defined process.

Additionally, this baseline comparison allows the organization to determine if the improvement is significant enough to warrant extended use. I'll always remember the time I changed a sort program that shaved three seconds from a five-minute program. It was by definition an improvement, but it did not warrant the effort to develop or implement the change¹. A baseline comparison lets the organization perform a quantitative cost-benefit analysis for its decision-making process.

Conclusion

When encountering resistance while deploying a defined process, the EPG should not complain or prepare for battle; they should instead work to determine the root cause of resistance. By addressing the root cause, the EPG can learn about another acceptable process, problems in its defined process, or where future improvement efforts need to be focused. The resisters can be used to baseline the defined process' level of improvement. There is even the potential that the resisters will become users.

The EPG should rejoice when it encounters resistance. It has discovered a learning opportunity. ♦

Note

1. When you look at shaving three seconds off a 300-second activity, there is not sufficient change to consider it an improvement. A 1 percent change usually does not fall within what an organization considers to be an improvement as specified in the Organizational Innovation and Deployment process area. Organizations will usually set their improvement thresholds around 10 percent before deeming a change to be an improvement and deploying it.

About the Author



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