

Wicked! No, not the Musical—the Problems.

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Wicked problems have been around a long time—just not in the technical side of engineering. There we are accustomed to technical complexity but not true wickedness. Until 2008, you could manage your engineering practice the same way you managed an engineering project—using the same verifiable data, having the same predictable outcomes. No longer. Today, the business of engineering is facing “Wicked Problems.” The problems are tough to define and there don’t seem to be any solutions.

This business...is constantly faced with problems that have no apparent solution, in spite of hours and hours of discussion and arguing back and forth. We seem to go in circles and end up back where we started time and time again....Is there a route out of this infinite do loop?—*A Business Leader at Gore, parent company of Goretex* (Pacanowsky, 1995, p. 39)

This is 2012, not 1995; but perhaps you feel caught in the same do loop. Which of these things would you say about that troubling issue your company is dealing with? Check the box in front of every statement that applies.

- You can't seem to agree on a clear and concrete definition of the problem.
- This problem just doesn't seem to end. You think you've arrived at a solution. Then before you can take a deep breath, here it comes again.
- There doesn't seem to be any right answer. In fact, now you are asking yourself the question: “What course of action will I least regret?”
- Not only is there no right answer, there

is no tried and tested formula for arriving at the best answer.

- This problem is like no other. Nothing in your past experience seems to apply.
- There is no time for trial and error now. Every move you make counts. You just wish you knew (ahead of time) how.
- You peel away one layer of this problem and there is another. Or two. Or more. There is not one root cause; there are many and interrelated contributors to the issue.
- Along with the many contributors, there are many possible explanations. And every person in your group has a different opinion about which explanation is most likely.
- None of these complications gets you off the hook. You will be held accountable and the consequences are significant.

How many of these did you check? John Camillus, corporate strategist and Harvard professor, tells us that five is enough. (Camillus, 2008, p. 99) If you checked five or more of these characteristics, consider yourself face-to-face with a Wicked Problem. (Horst Rittel, the German physicist/researcher/planner, was the first to use this term.)

Wicked problems don't have “right answers.” Not only is there no right answer, there is no tried and tested formula for arriving at the best answer. Defining the problem is perhaps the biggest part of the problem. With no clear problem definition and no formula for arriving at the best answer, you don't know what is relevant and what is not. You may not know what really mattered until you arrive at some outcome and look back. In fact, you may not really be able to define the problem until you've reached some resolution of it. Aaargh!

We are more comfortable with the Tame

Problems (another Rittel term) of yesteryear. Unfortunately, the tame approaches we used four or five years ago won't get good results with the Wicked Problems of today. We must decide and move ahead with less data, less time and less clarity. Wait for more; lose the opportunity.

In fact, applying tame approaches will only make things worse.

- You are likely to lock into a particular definition of the problem or a particular solution way too soon. Probably several times. Back to the drawing board again. And again. And again.
- After every meeting—in which most participants take detailed notes—you will hear sharply different perceptions of what happened: the issues, the key decisions, and the proposed courses of action. “What meeting were they in?” you wonder.
- You waffle between keeping the team small enough to reach consensus and enlarging it to get more input and more diverse input.
- You—and others—get so frustrated and so emotional that civility and team process suffer. Sometimes disappear. (Pacanowsky, 1995, p. 39)

All of this can get you down. You're a problem solver. You get things done. What is going on here? Give yourself some credit. You haven't gotten less competent; the issues have gotten more complex. We like the way Laurence Peter put it:

Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them. — *Laurence J. Peter, Peter's Almanac, September 24, 1982*

Undecided or not, you still have to do something. So how do you find a path forward?

You can strategize, plan and implement. In fact, you need to do these things. But the strategies, the plans and the implementation won't look like they did before. And you won't arrive at them in the same way.

First, take a look at your pyramid organizational structure. It worked well for delivering tame engineering solutions. (Remember, tame isn't necessarily easy.) It's not likely to work well when you are confronting Wicked Problems. That pyramid holds the top (you) accountable for strategy; it holds the middle accountable for tactics; and it holds the bottom accountable for implementation. But too much is happening too fast. There's just too much information for you to process by yourself. No wonder you're tired! No time for the rest of your organization to wait around while you collect all the data, analyze it and figure out what to do. The window of opportunity will be gone! No time for discrete steps to unfold in lockstep order. You need to simulcast strategy, tactics and implementation—at all levels and all of the time. (*Pacanowsky, 1995, p. 37*)

Next, look at your leadership style. You are probably an excellent transactional leader. You are great at goal-setting and planning; you efficiently execute processes; you're good at structuring and managing the organization; you wrote the book on command and control. That style worked well with engineering problems. Wicked Problems, on the other hand, are indifferent to it. (Not to worry; transactional leadership will continue to serve you well in very many situations.) Wicked problems, on the other hand, demand transformational leadership. They will yield only when you explore possibilities, energize, promote different points of view, empower, collaborate. Only then can you find your way through this iterative and confusing tangle of problem definition, potential solutions, actions and outcomes. (Beinecke, 2009)

Finally, take a look inside your head. The mindset of logic, linearity, command and control has served you well. In some situations it will continue to do so. You can still attack a Tame Problem and deliver the solution. A Wicked Problem, however, sim-

ply isn't vulnerable to attack. When you find a Wicked Problem at your doorstep, remember that you will be living with it for a long time. Invite it in, sit with it, listen to it, talk to it, offer it a cup of tea. How? That's where we will pick up in the next issue with *The Wicked Problem Whisperer*. ❖

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