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Process Innovation

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The Trouble with People

Part 7 in a series on P-TRIZ

Confronted by powerful problem solving techniques like TRIZ, human relations can sometimes get in the way. This article explores some of the psychological factors and suggests one way to align stakeholders in the problem-solving process. Failure to take account of these human traits can denude systematic innovation methods of their potential.

People just don't like asking for help. It's an admission of another problem or worse, a personal failure. People, being what they are, struggle on by themselves. They huddle in introverted teams, close knit silos and in-crowds, unwilling to open themselves to the *process* of innovation. When problems get tough, and, if their behavior does not change, they turn to hope as a solution, expecting answers to emerge just by waiting or by thinking hard. Some wish the problem would "just go away" or that, very soon now, it surely must be "overtaken by events". Surely a "more important issue" will emerge for them to focus on? People who exhibit these traits like to "move on" to bigger, better and more grandiose agendas. They fail to follow through. They often justify this by stating that they are "following my company's objectives."

Systematic problem solving does not come naturally. The idea that any problem can be solved if the appropriate methodology and knowledge is brought to bear is a bitter pill to swallow. Ineffective problem-solvers go out of their way to avoid this truth. They do so, because to admit otherwise would require them to search outside of their immediate resources for a solution. Wouldn't it be far better to believe that no solution is possible? To admit all problems are solvable requires people to act. There is then a risk of failing to adequately step up to that challenge and thereby expose a dereliction of duty.

People know that when they move outside of their immediate peer group in search of a solution they face risks. After all, a solution may be found in the work of others! Finding a solution just around the corner can be embarrassing if you have been hunting for a long time – even if you haven't been trying very hard because you are "certain there is nothing to help." Everyone wants to be seen to be the person who solves the problem. Why take the risk? How much better for the problem to simply evaporate!

Problems really are a problem. People are all too aware that if they do attempt the search for a solution the effort may be long-winded and eventually fruitless. And who needs that? Then there's the problem of knowing where to start. Simply by exploring the problem in depth people can open themselves to aspects of the problem that reflect badly on them. This is because *searching* means *interacting* with others. In seeking help, people must be explicit about the details of the problem, details they may not wish to reveal if part of the problem lies in their back yard. And a detailed description of the problem may also provide clues for others that allow them to solve the problem and for "someone else" to become the hero. People are fearful.

Collaboration is difficult to achieve without trust. Those who reveal problems and those who can solve problems must find a way to work together. It's tough work.

Innovation is the structured search for solutions

Turning problems into a structured search for solutions is the job of any innovator. Persuading yourself (and those around you) that the problem just cannot be solved and/or it is very complex and unlikely to be implemented, is a far easier stance to adopt. Positioning the problem outside of your resources and ability to resolve the problems often feels far more comfortable.

People often deliberately set out to avoid other people's solutions. They fear the implications of having to implement them. By doing so, work is reduced all around, both in the search for a solution, and in the implementation. Reducing work is good, isn't it? And did I mention risk? What happens if a solution from some other team puts your operation at risk? On the other hand, if you know, deep down, that all problems have been solved in the past, or can be solved in the future, people can become obsessive. This flip side can be equally hard to manage. Over-eager innovators will try to find solutions to every conceivable problem they see around them, becoming ineffective in any one task. They become a part of the problem.

So what happens if you give up on the problems you see? That way can only lead to feelings of anxiety, guilt and stress. Ignoring a problem is hard for anyone who is intellectually honest. The innovator is a hypocrite if they leave unsolved problems on the table. Innovators who know of solutions or root causes will always seek to apply their knowledge.

When a close-working team is approached by an outsider with a bright idea, the team? better have a process of introducing the solution if it is important for the idea to be adopted. Without such an innovation process, the conversation between those with problems and those with solutions can be dysfunctional, or at least, less effective. The problem solver has no context for suggesting a solution, and those with the problems do not trust solutions coming to them from others, as they view it, out of the ether. Innovators must therefore do more than throw ad-hoc ideas into a complex problem situation. They must have a process for introducing new solutions. Even if they come forward with the greatest ideas, the solutions will rarely be adopted properly unless a process is followed.

Innovation requires a structured collaboration

It is quite possible for people to conclude that a proposed solution is not relevant to them, even if it is, in reality, perfect for their needs. This can happen in cases where they have not been a part of the conversation that led to the idea. They are unlikely to be listening even if they are nodding. And it is worse if they were told of the solution in the past, but failed to apply it. They will then invent excuses for the present. No matter how right the innovator may be, they will be wrong or irrelevant in the eyes of many unless they can find an appropriate way to transfer knowledge about the relevance of a solution. It's not always as simple as "not invented here." It is sometimes more like "ships passing in the night."

The early part of any innovation collaboration is critical. Ideally, innovators should put all talk of solutions to one side and concentrate on contributing to an exploration of the problem. This can be frustrating because the innovator may already know a lot about the solution. Hold back they must. If enthusiasm meets ignorance, there are only two possible outcomes. The innovator will become overly excitable and frustrated. He will end up regarding the thick-headed team as dullards. Vice versa, those with unresolved problems will regard the innovator as a crazy maverick. Only a process can create the appropriate working relationship.

Companies that understand the value of a process for innovation find ways to continuously match problems to solutions and solutions to problems. The innovating teams within those companies blend problems and solutions to create value for themselves and their customers. Solution knowledge must be transferred to those with problems and vice versa. Innovation is a process of knowledge transfer.

Managing the knowledgeable

Managing knowledge is one thing. That's all about portals and databases. Managing your knowledgeable people is quite another. Not everyone can know the details of all problems and of all solutions. Everyone has partial knowledge. Few have knowledge of all problems facing a company, and fewer still have knowledge of the appropriate solutions. It is vital to understand who can contribute what kinds of knowledge.

There are people who know of and promote solutions but who are utterly incapable of finding the appropriate problem contexts in which their solutions can be adopted. Their solutions may be wonderful but they sit unused on the shelf to the frustration of everyone. Then there are people who know of problems but who find creating a path to a particular solution almost impossible. They live with the same problems year on year. Then there are those who know that something is wrong, but cannot put their finger on it. They have not revealed the problem in a way that allows it to be mapped to a solution, even if a perfectly viable solution exists.

The knowledge of solutions and the skills to know how to find new solutions rarely intersect with those who have, or can reveal, problems. Bringing the two parties together is a central problem in innovation management. An ability to reveal problems should be co-located in areas where problems are obscure. An ability to reveal solutions should be co-located in areas when problems have been revealed. Problem knowledge must be transferred to those with the problem-solving methods. Solution knowledge must be transferred to those with problem-revealing methods.

Enter TRIZ

TRIZ can be a powerful agent in transferring problem and solution knowledge. TRIZ models can describe both solutions and problems. Moreover, TRIZ models can describe problem contexts and solution contexts. Here is one example – how to bash heads together.

Perspective alignment

When an important problem emerges, organizations often throw teams together with little thought and ask them to "just get on with it and solve the problem". The team members are drawn from very different backgrounds. Although they are jointly tasked to work on a common problem, they often have very different perspectives on the problem. Is it possible to foster a process of alignment leading to an agreement about the underlying causes of the problem and most promising path for its resolution? If the problem touches their work, competition creeps in. If the team members really are not prepared to work together there is very little that can be done. However, if a working relationship can be established and the team is willing to consider different views around the table, perspectives can be aligned, but only if a rigorous approach is adopted.

A willingness to work together is necessary, but insufficient. When the stakes are high, dysfunctional team behavior will delay the inevitable. Unless perspectives are aligned, individual performance will degrade to the point where it is impossible to make progress. The team will split into factions, with people going off in the direction they advocate with no consideration of factors outside of their context. Managers shouting objectives may not be enough to carry the day.

We all know people who are natural leaders. They can carry a dysfunctional team through thick and thin. Such individuals are rare. Even when they are around, which is also rare, a process for stakeholder management and governance is vital in any significant project.

Unless you have lived through a project "going nowhere" and on which there is a high expectation from senior management, you are unlikely to realize the degree to which stakeholder alignment is needed. The normal cut and thrust of business pales into insignificance when compared to the range of human behavior possible when future change is challenging the status quo and many opinions vie for attention and budget. People who would normally never lie tell the most appalling porky-pies. Messages fly around, carefully designed to influence those who support pet causes. Advice is rife from every corner. Everyone has a theory about the catastrophic consequences of not adopting *their* remedy.

In problem projects, some shrinking violets, fearing conflict, will retire to a position of safety. They simply won't accept, or face up to, the deep discussion (and time) required to identify root causes and shape an appropriate solution. Loud mouths sometimes win out. Other times, an intellectual team member will put forward arguments which simply cannot be ignored. This creates more tension. As the ideas fly around, the team ends up in one of two equally dangerous situations. They either become frozen, unable to act and unsure of the next step, or they drive inexorably down the wrong path, believing that any progress is better than inaction. Sometimes it is best to do something, rather than nothing. Other times it can be a disaster, especially if management believes the project to be a foundation for future activity and a test case for new ideas.

Process reengineering projects are particularly susceptible to stakeholder alignment malcontents. One definition of an end-to-end process is the organized group of related tasks that work together to create a result of value to customers. Re-designing work is central to improving its performance. Business processes touch roles, jobs and vested interests. Reengineering takes a hard look at who does work, when the work is done, where the work is done, whether the work is done, what inputs are required, what outputs are required and how the interconnections between work steps work together and with what intensity. No wonder then that everyone will have a view about reengineering proposals.

Without a process to decide on a reengineering path, debate can go round and round without resolution. Analysis paralysis can set in.

Will a process work?

Not everyone is convinced that a rigorous process can resolve powerful differences of personal opinion. A prominent government sector human resources professional has stated that leaders should deal with most staff conflicts by "bashing heads" together rather than getting bogged down with process. He argues that the vast majority of complaints should be dealt with within twenty four hours and not left to fester. People who subscribe to this view argue that processes created to promote fairness in decision making could easily lead to issues being blown out of proportion, which would, in turn, foster resentment. Many leaders therefore believe that managing conflict should be about the issues, not the processes being seen to happen. In ninety-eight percent of cases managers should take time to understand the issue, work out a solution and then negotiate a settlement quickly.

A culture where people will contribute, rather than remain silent, needs to be fostered. How many times have you observed people patting themselves on the back having reached the end of a project, only to realize that this "mutual admiration society" has resulted in nothing more than a *compromise* solution leaving the underlying root cause unresolved? Herein is the conflict at the

heart of stakeholder alignment. Can people agree on a solution that goes beyond compromise and fundamentally changes the status quo?

If we want real results, easy acquiescence to poor decisions must be avoided. It is a breeze to get alignment if people are quick to compromise. Neatly side-stepping the issue, avoiding rocking the boat and going easily along with decisions which, in their heart, they cannot fully support, is a sure fire way to keep your management happy – that is, until everyone understands what is going on!

To reach more *ideal* solutions, it is important for people to stand up and be counted. They need to promote uncomfortable solutions. Yet this behavior can be perceived as negativity by team members, or worse, criticism. Rather than a virtuous cycle of alignment, a vicious cycle of divergence occurs. Here is the problem:

Outwardly stating a strong opinion which cuts to the root of a problem is both useful and harmful. Views about problems expressed with intellectual rigor can often point the way towards real, but hard to accept, solutions. The innovator is, by necessity, a pessimist. He must focus on the dark side in order to increase the light. How else can progress be made unless the team is exposed to truths they may not wish to hear? These powerful opinions are useful, but they are also harmful. This sets up conflicts among the team which must be resolved. The solution itself may resolve contradictions in the problem, but it cannot be applied unless the contradictions within the application of the solution are accepted by the team impacted by change.

The innovator must be careful in his use of language. Whether or not the team sees the underlying problem, it must be expressed in a way that reinforces a sense of inexorably moving forward towards a remedy. It is important only to suggest the *pathway* to a solution, not the solution itself. Instead of saying “here is a problem,” the innovator should explain the causes and effects that led to the problem in the past, in the present and what will happen in the future if the problem is left unresolved.

If a specific solution is revealed too early, it is likely to become the source of debate rather than the problem itself. If this does occur, things could go either way. It would then be a matter of luck as to whether the solution is deployed correctly. Since leading firms cannot rely on luck, a process that guarantees a correct outcome is required. Ideal solutions, no matter how hard to accept, must be implemented. Human emotion must not be allowed to obscure the logic. Successful companies cannot allow good ideas to fail due to ad-hoc circumstance. Mature organizations have a process for such innovation injection. It is especially true in process re-design.

In less mature organizations, where a process for alignment is lacking, those who are creative can become somewhat anxious about the likely future path of their ideas. Anyone who has worked hard to advocate a solution doesn’t want to see the ideas distorted by diluting the remedy. Those who come forward with promising ideas are keen to take ownership and see them through to implementation. Throwing ideas over the wall to another group is hardly a recipe for success. Innovators don’t want the ideas co-opted by others or used to serve other purposes.

The tension over ideas in multi-stakeholder problem-solving is most evident when agenda items have been festering for some time. Expectations are now running high. The personal credibility of the innovator is at stake.

In the time the idea has been floating around, without anchor, a range of views about its value will no doubt have been aired. If these views have been out in the open, some of the stakeholders will have already formed their fixed view. There will be supporters, neutrals and naysayers. This will drive the innovator to seek new ownership of his pet project. He will seek authority over the idea

so that he can control its application and potential. Yet the success he seeks will require a degree of buy-in and support from others. That may not be forthcoming unless their views are factored into the overall equation and they can be brought onboard the endeavor.

While new perspectives are valuable and could contribute to an idea, they can only do so in the context of a process which moves towards meaningful goals. All too often, as stakeholders join the change project, views are "tacked on", leading to a bloated idea incapable of being implemented. The idea that was once so bright, shiny and full of promise starts to look like a white elephant. To avoid this, some team members will suggest degrading the idea by de-scoping the objectives. The originator of the idea faces many challenges at just a juncture. If he lets go, the idea may fail and will reflect badly on him in the future. No one will remember the details of why the idea failed, or who was really at fault. People will say "that idea of Joe's, I told you it sucked all along". On the other hand, if Joe sticks to his guns but does not enjoy the support of the wider team, there is a risk that the idea will never get implemented. If this happens just a few times, the innovator will quickly garner a reputation for ad-hoc creativity, but poor implementation. People will say "Joe is great, but don't let him run projects or give him too large a budget." This is precisely what the innovator wants to avoid. Hence, without a process, the innovator can struggle to find his way for a key idea amid uncontrolled and ad-hoc action and reaction.

And the potential conflicts don't stop there.

Human nature being what it is, some team members will deliberately set out to distort the strong ideas of others. If a project gets the green light, and if it gets funded, others may seek to derail it or subvert it to another agenda. If the project identity is strongly associated with one individual or team, expect resistance.

Ideas are rarely converted into ideal projects. Often the results from an idea, distorted and twisted through implementation, are a mixed bag. Knowing this in advance, people will jostle for position – claiming ownership of the good parts and disowning the bad parts. The innovator is rarely in complete charge of his insights. And the strongest ideas are often those which attract the most controversy and distortion.

Managing these conflicts is a critical activity in any critical project. Leadership has to be based on involvement. If we don't involve people in the journey then we will fail. This is the process of *perspective alignment.* It is a process that aligns the views of stakeholders, first on the problem itself, then on possible directions for a solution and only then on an exploration of specific solutions. Executed well this process can set the context for a mutual exploration of what success means for the organization.

Is there an answer?

Conflict and lack of alignment among stakeholders shows itself in many ways. The cause is dysfunctional processes and relationships. The symptoms include redundancy of effort, lack of defined objectives, numerous obstacles blocking processes, abdication of commitment and responsibility to achieve outcomes, a general lack of focus, lack of creative brainstorming, little in depth discussion, inconsistent decisions and scattered efforts. Ultimately, each person pursues their own selfish solution. How can this cycle be broken?

Some experts in "change" will claim that a team leader with a clear vision of the strategic direction is all that is necessary. This will, in their view, create "buy in" from the stakeholders. My own experience is that this is not the case. When views are genuinely divergent, no amount of persuasion is enough. The experts in change generally fail to explain how such "buy in" is achieved. Team building can help, but its effects are limited. Other experts will point to the need

for respect among colleagues. It's all very touchy-feely, softly-softly. It's not at all clear that the experts have a repeatable and reliable process. The age-old adage that "if you don't know where you are going, you may end up somewhere else" is unlikely to carry a team through a complex multiple stakeholder problem-solving process.

How to begin? If everyone agrees that "more minds are better than one", a start can be made on the problem-solving process.

In the age of constant business change, teams are forming, dissolving and re-forming in an endless cycle. Teams are formed of people who hardly know each other. They are required to cooperate, yet have no work-life experience shared in common. How can these people be expected to work together effectively unless they are given a framework? Despite much talk of the benefits of "multi-disciplinary" and "cross functional" teams, few teams in real life get much support to the alignment process. A process can help.

The perspective alignment process

Blue-chip American companies are now embracing TRIZ, a 60-year-old innovation theory pioneered by a Russian inventor, Genrich Altshuller. Yet they are not using classical TRIZ in its raw form. Rather, they are experimenting and building their own TRIZ *applications* –ways of using TRIZ in their own business within other business processes.

Flexibility is one of the strengths of TRIZ. There are many ways to use TRIZ in innovation and problem-solving. Some of these applications would no doubt surprise Altshuller if he were alive today. In my work at Computer Sciences Corporation I have identified around forty-eight such use cases. One of these applies TRIZ to align the views of powerful stakeholders in critical projects and in business-critical decision making.

Think of TRIZ applications as *recipes* for using the ideas from TRIZ theory in a predictable fashion. Recipes are important, for without them, companies are faced with a powerful engine, but no vehicle with which to drive in the enterprise. The Six Sigma community learnt the same lesson decades ago. Statistical analysis of exceptions, the heart of Six Sigma, would never have taken off in the corporate world without a reliable process for Six Sigma-branded projects in which managers could place their trust.

P-TRIZ application: Perspective alignment

Everyone will have a theory about how to align a dysfunctional team. There is no single or simple answer. What is presented here is based on P-TRIZ, an adaptation of TRIZ for process innovation.

As we have seen, differing perspectives are both useful and harmful. To understand how to align around a common purpose, let's model the contradiction and try to resolve it.

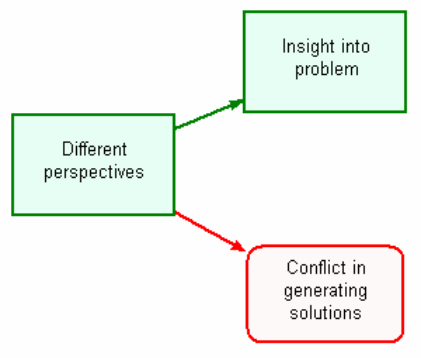

Figure 1 – Perspectives are both useful and harmful

This is what TRIZ says about this problem:

1. Find an alternative way to obtain [the] (Differing perspectives) that offers the following: provides or enhances [the] (Insight into problem), does not cause [the] (Conflict in generating solutions).

2. Try to resolve the following contradiction: The useful factor [the] (Differing perspectives) should be in place in order to provide or enhance [the] (Insight into problem), and should not exist in order to avoid [the] (Conflict in generating solutions).

One solution is to separate problem definition from solution exploration. This can be achieved by introducing a new phase into the process, forming a clear demarcation between problems and solutions. This concept is inherent to P-TRIZ. Problem statements are used only to generate solution pathways, not solutions. The advantage of this approach is that the problem can then be integrated from multiple perspectives *before* solutions are discussed. Pathways to possible solutions can then be explored based on an *agreed* model of the problem that *integrates* the differing perspectives without any emotional attachment to a specific solution or pathway towards a solution.

TRIZ also suggests:

3. Find an alternative way to obtain [the] (Insight into problem) that does not require [the] (Differing perspectives).

4. Consider replacing the entire system with an alternative one that will provide [the] (Insight into problem).

These directions are not practical. We cannot just ignore the differing perspectives unless stakeholders can be moved out of the way of the incoming solution. Perspectives are not only useful, they are essential if the solutions generated by the process are to be supported and adopted in practice. If a key perspective of an important stakeholder is not included in the analysis, expect resistance to any proposed solution.

The objective of perspective alignment is to involve people fully in the process of solution definition so that they are committed to the subsequent changes required to implement the solution.

TRIZ also suggests:

5. Find a way to eliminate, reduce, or prevent [the] (Conflict in generating solutions) under the conditions of [the] (Differing perspectives).

How often have we heard those who advocate solutions say that that they have "taken everyone's perspective and requirements into account?" That's rarely the case. The purpose of a perspective alignment process is to actually achieve this and do so in a way that is transparent, open and intellectually honest.

The process recognizes that the differing perspectives of stakeholders are both necessary *and* valuable. Rather than calling a team meeting and forcing a diverse group of busy senior executives into the same room under a common umbrella, a TRIZ specialist works with each stakeholder on an individual basis. Using techniques described in previous articles of this series, he develops a model of the problem from the perspective of the stakeholder. The model does not have to be complete in all details. A team meeting is only called when each stakeholder has been interviewed to their satisfaction. The facilitator will ensure that they view their own model as a reasonable representation of the problem and its surrounding factors. Each model will then represent their unique perspective in the context of their work and objectives and relationships with other business units. Only then is a team meeting called.

With visual clarity, differences of opinion will have been revealed.

In a joint meeting, each of the stakeholders now presents their perspective on the problem. The normal approach is to go around the room, one by one, giving each presenter equal time. The variety of models will surprise everyone. Before these models were drawn, each of the stakeholders will have assumed they were talking about the same problem. What they will now see in each other's models is a realization that other people don't see things as they do!

One of the benefits of this approach is that even the definition of "the problem" can be modeled from different perspectives. What is a problem to one stakeholder may be a solution to another. TRIZ models, by their nature, allow elements of the situation to be labeled useful and harmful. No one is required to "buy in" to someone else's agenda.

Now that the team has come together, the aim is to integrate all of the models into a single model of the problem. This is performed as a group activity, often organized as a game.

Play the rules to align

Rule 1: If the same TRIZ function appears in different models but using different terminology, the team must agree on and adjust the terminology of their models.

Rule 2: If the same function appears in different models but is considered useful in one model and harmful in another, the team must try to reach agreement about the nature of the function. Overall, is it harmful or useful? If they cannot reach agreement, the function must be divided in two, one useful, one harmful, and included in the integrated model as two separate functional elements.

Note: if a function changes color, its causal links to other functions may need to change.

Rule 3: Everyone's input is equally valid: all functions in all models, from all perspectives, must end up somewhere in the single model developed by the team.

Expect some fierce debates as the rules play out. What we find is that the simple semantics of TRIZ help the team to avoid ambiguity and unnecessary details. It is not as hard as it sounds. It's really just a question of agreeing on the useful and harmful factors in the system and how they play against each other in terms of causes and effects. Where there is disagreement, split functions in two, recognizing that the different views *must* be talking about different functions.

The process of perspective alignment may sound complex. It is not. With the straightforward objective of developing a single model, everyone pitches in with their ideas on how to link up all the different functions. A picture quickly begins to emerge. As the team works together on the model, it becomes something they have jointly invested in, and their attention shifts from arguing about the problem, to making sure the model is accurate and complete. The model lives with them as it is developed.

As the meeting continues we can expect the team to drop some functions they included in their original models. This leads to a new rule:

Rule 4: A function can only be dropped from the model if everyone agrees to do so. If an individual feels a function is important it must be included in the model. The rest of the team must then work to include it by linking it to other functions of the integrated model.

As the models start to come together it is possible, even likely, for the team to find it hard to link functions introduced from differing perspectives. This introduces a new rule.

Rule 5: No matter how hard it is, links must be found. This activity lies at the core of perspectives alignment. Here is what will happen:

Two functions that appear to have something to do with each other may appear illogical if a direct link between them is drawn. Here, TRIZ elaboration rules can be used. The facilitator will ask the question "What's lies between?" This necessity leads to another rule:

Rule 6: New functions that were not in any of the original models from the interview stage cannot be introduced without the agreement of all members of the team. That is, if there isn't unanimous agreement, a new function cannot be introduced and the team must, in the subsequent problem solving, stick with the model as it stands.

It is difficult to say how long it will take for the team to reach a single model of the problem. It may take fifteen minutes or four hours. It rarely takes longer than a day. In the course of this work the model may undergo considerable change. The knotty problem consisting of all of the interconnected factors will have been revealed. This is normally a huge revelation to the stakeholder group. But what if things don't turn out as planned?

It is usually possible to reach agreement. Illogical models stand out like a sore thumb because as we have seen in previous articles, TRIZ expresses problems with visual clarity. If the rules are played out in full, a single model of the problem will be developed. But what if people play by the rules, but cannot agree about how the functions all fit together? A typical problem might be this:

One person believes that function 'A' leads to function 'B'. Another disagrees, stating that 'B' is the root cause. Yet another says 'B' is not connected, and 'C' is the real cause. Disagreements like this are rare. It's more common to see people quickly finding ways to combine their various perspectives. However, if there is a fundamental disagreement it can be hard to resolve without isolating one of the stakeholders. A vote seems to be the most appropriate way to proceed, but democracy does not guarantee perspective alignment. This leads to the next rule:

Rule 7: If stakeholders cannot agree about how to integrate the functions in their models, this is usually indicative of a deeper issue that was not revealed during the interviews. The TRIZ facilitator should, at this point, step in, and re-cast the alignment issue as a new problem. In this situation, and to keep things moving, a "mental starter" is required.

No more rules are needed.

Mental starters

TRIZ lends itself well to the construction of business games. In workshops, I call these mental starters. A future article will describe a range of these games. One is called the "Game of Consequences." It is the opposite of the "5 Why's on Steroids" method I described in an earlier article of this series.

The "Game of Consequences" can be used when it is clear that one of the team members has introduced a function which appears to have no place in the model. The idea is to ask the team members to find all of the consequences of the new function, useful or harmful. These include effects, outcomes, results, upshots, events, backwash, wakes or aftermaths. Words like these will stimulate the group.

Consequence chains, like root-cause chains, create additional domain knowledge necessary for problem-solving. Once consequences have been found, the process repeats, following the consequences of the consequence. By doing this, the other team members quickly start to see why their colleague wanted to introduce the new function into the model. Until they unpick the consequences, they tend not to see the value of the new function. When they do, it is usually obvious how to include the function in the model.

The process of integration is an iterative one. It won't happen smoothly in all cases, but the process, if followed, fosters and moves towards an aligned understanding of the problem. It is *inevitable.* So what comes next?

Pathways to solutions

Separating the problem definition from the solution exploration keeps the team aligned. Now the team must align again, this time around one or more solutions pathways. Here, the normal process of TRIZ takes over. Software tools generate all of the possible paths and the exploration process continues. A great weight has been taken off the team's shoulders: the fuzzy problem from multiple perspectives that was once unknown is now well-defined. The real problem has been revealed. Not so much root cause analysis, but rather problem reality analysis. And from this single model the *only* possible pathways to a solution are laid out for all to see. Generated by the computer there can be no argument. Picking one is the subject of future articles.