If You Cannot Solve The Problem, Change It! Techniques For Effective Problem Design

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Clients often turn to consultants for assistance with problems that are complex or seemingly unsolvable. In our experience, however, we find that in many cases, much of the difficulty comes from the way the problems are framed. In this article, we offer some specific techniques for not just *finding* problems, but for proactively *designing* them to be more actionable and solvable in the first place. We demonstrate the application of these techniques with a case study.

What is your approach when you or the client team you are working with find yourselves stuck on a particularly complex or difficult problem? Many respond by gathering more data, doing more analyses and digging ever-deeper to find a solution. In our consulting experience, however, once a team has become stuck, continued number crunching and brute force analysis are certain to lead to fatigue, but seldom to actionable answers. Instead, we consistently see that breakthroughs come when team members take a step back and re-define or re-frame the problem into one that can be more effectively addressed by their skills, resources and aspirations. Project teams, nevertheless, often treat the nature of the problem as a given, as being beyond their control, and thereby forego their opportunity to proactively design a problem that is more amenable to resolution. In this paper, we offer some specific techniques for not just finding problems, but for designing them to be more actionable and solvable in the first place. These techniques include problem framing, the idea of "affordances" and sensemaking, all of which are enabled by a certain "thought style" that is more concerned with being useful than with being right. We demonstrate their application in practice, drawing from our consulting experience with client teams in North America, Western Europe and across Asia, and representing a number of different industries. We begin with an example of problem framing during a recent client

engagement with the Japan operations of a global telecommunications provider we will refer to as ClearCom.

Problem Framing at ClearCom Japan

With an annual turnover of more than US$150 billion, Japan's telecom market is one of the world's largest and most competitive. To improve their financial performance, ClearCom's senior management wanted to reduce the cost of so-called "indirect" sales, which referred to sales of ClearCom products made by independently-owned retail stores. Due to the fact that independent retailers receive commissions, indirect sales are more costly than direct sales, which are sales made by ClearCom-owned retail stores or internet sales. While a shift toward direct sales promised to improve profitability, it also meant diverting sales away from independent retailers. A few of the smaller, independent stores, so-called "mom and pop" stores, had already threatened to discontinue ClearCom products if direct sales efforts were increased. For months, the ClearCom management team had been experimenting unsuccessfully with numerous ratios of direct-to-indirect sales, trying to find a balance between commission savings on one hand versus potential lost revenue from disgruntled retailers on the other. Finally, exasperated over their inconclusive deliberations, ClearCom asked our firm to assist them in answering the question: "What is the optimal ratio of direct to indirect sales?"

After reviewing the analyses that had already been completed, we reported to ClearCom management that, while the rationale behind their question was understandable, we could not answer it with a sufficient degree of confidence. Was the optimal ratio 30-70 or perhaps 40-60? Whatever ratio we might derive, an equally strong case could be built in support of another. In our view, the question as posed was essentially unanswerable. As is often the case when teams find themselves stuck, however, a kind of myopia has already set in that prevents them from seeing the problem in any other way. If and when alternatives do emerge, voicing them may be discouraged because so much has already been invested along a previous line of reasoning (see also Staw, 1987). Attention often becomes fixated on one or two seemingly immovable constraints, in this case channel conflict, back to which all analyses seem to inevitably lead.

In an attempt to break the impasse, we initiated a series of discussions, trying to identify any underlying assumptions and ultimately to re-frame the problem into a more productive one. From these discussions, it became apparent that the biggest threat for ClearCom was not necessarily the loss of revenue from the mom and pop stores, which was but a fraction of the much larger "big box" retailers, but rather the potential loss of valuable customer information. While the larger retailers concentrated on high-volume sales, the mom and pop stores had a slower pace, which allowed for more personalized service and more knowledgeable sales staff. As a result, they were the richest source of information about customers' preferences, likes and dislikes. It also became clear that each of the retail formats would require a very different approach. Of course this was known before, but had been obscured by the framing of the problem as "direct versus indirect," which resulted in combining two very different formats into a single category of "indirect retailers." The categories of direct and indirect made sense for doing financial analyses, but were less useful when format-specific plans became necessary. The team then broadened their focus to consider the non-financial aspects of channel performance as well, such as customer insights, and now considered the problem to be: "How can we maximize the total performance, both financial and non-financial, of the retail channel?"

With this re-framing, the forward momentum of the project improved significantly, as plans and strategies appropriately tailored for each retail format began to emerge. The mom and pop stores, for example, were positioned as "customer listening posts," and ClearCom began discussions with store owners about new initiatives and technology to support them in this role. Commissions were left unchanged. For the big box retailers, however, ClearCom designed a new multi-tiered commission structure to reward the highest volume retailers, but lower the total commission paid by ClearCom. Finally, ClearCom also began developing, in consultation with all the retailers, a list of locations for new ClearCom-owned stores that, by agreement, would be built outside the areas served by the existing retailers. In summary, an "either-or" trade-off between lower commissions and disgruntled retailers had effectively been re-framed. ClearCom was able to achieve both lower commissions and the support of retailers, in addition to a better understanding of customer preferences.

From "Being Right" to "Being Useful"

There are important differences between more traditional problem solving methods and what we are proposing (Table 1). This alternative approach involves a certain thought style that is more concerned with being "useful," according to the project team and key stakeholders, than with being "right," according to an external reference or standard. In the ClearCom case, the framing of the problem as direct vs. indirect was not wrong, but neither was it useful nor actionable.

Another difference with the traditional approach concerns the locus and nature of the problem itself. In a traditional approach, problems are thought to be "out there," beyond our control. A primary task of the team, therefore, is to find the problem and to define it. Analyses strive for problem definitions that are *accurate*. The result is a highly accurate description of a particular problem that is not fully actionable by that particular team. In an alternative approach, a problem, or better yet, that which gets treated as problematic is to some degree a matter of choice or design. That choice can be guided by analyses, but also according to which view is likely to be most *useful* in moving the team forward.

In a traditional approach, a "root cause analysis" seeks to find the real problem. As most of us may have experienced, however, problems differ according to the perspective from which they are viewed. Marketing believes product prices are too high, while finance believes they are too low. Which view is right? What is the real problem? Perhaps, as is often the case, they are both real and right. Similarly, a gap analysis seeks to clarify the gap between the capabilities of the team and what is considered to be necessary for addressing the problem that is out there. A gap analysis, however, is also based on a number of assumptions: that the problem will "hold still" while we implement; that resources and expertise will perform as expected, when expected; and more importantly, that project outcomes are predictable and controllable, such that we can know beforehand specifically which resources and expertise we are going to need. However, as experienced consultants and project managers know all too well, projects rarely move in a linear, predictable manner, but unfold and emerge often in unexpected ways, calling for unique expertise. If we will only allow them to, project heroes can often come from unlikely places.

In summary, our skill in choosing and designing problems is directly related to the success we have in solving them. In fact, one of the most important and frequently occurring factors negatively affecting team performance is the teams' underestimation of the opportunity for proactively designing problems to be actionable in the first place. In the next section, we

introduce additional techniques for designing problems that are actionable and that take better advantage of the creativity and innovative abilities of all project team members.

Table 1
Being right versus being useful: two approaches to problem solving

		Problem Solving Approach	
		Being Right	**Being Useful**
	Assumed nature or treatment of "a problem"	Exists "out there" and is independent of the perspective from which the team views it	Product of project team's design, according to team's chosen interpretation
	Quality indicator for problem definition/design	Accuracy	Usefulness, actionability
	Primary team activity	Finding, analyzing	Designing
Characteristics of Approach	Number of possible problem definitions/design	Single	Multiple
	Relation between problem definition/design	Separate	Connected, reciprocally influencing
	Relation between problem definition/design and team capability	Problem defined intentionally, separate from team capability; gaps filled at outset	Problem designed to maximize team contribution; remaining gaps filled as necessary

Affordance

Emerging from the fields of psychology and industrial design, an affordance is simply an opportunity for action (Gibson, 1977; Greeno, 1994). A river, for example, affords an opportunity to swim. That same river, however, also affords an opportunity for moving cargo downstream. By viewing familiar objects or situations in new and different ways, new and different opportunities for action are afforded to us. In project environments, when changes occur and our project plans no longer help us move forward, we are afforded an opportunity to ask: "Where can we go from here? What opportunities does our current situation afford?" While the next steps in a project plan are pre-determined, the affordances of any situation are limitless. Instead of looking down at the project plan, we can look around. Instead of asking, "What is next?" we can ask, "What's possible?" In the ClearCom case, the mom and pop stores were

initially seen as the source of channel conflict. After discussion and reframing, however, these very same stores afforded a unique opportunity for learning more about customer preferences.

Sensemaking

Based largely on the work of Karl Weick (1995), sensemaking is simply making sense of any activity or situation. Sensemaking occurs when, for example, during our morning commute the car in front of our own suddenly brakes and we must quickly make sense of what is happening in order to avoid a collision. In his studies of accident investigations, Weick demonstrates how failure to make sense of an unfolding situation can have disastrous consequences: an entire fire fighting crew was killed in a mountainous region of the US state of Montana after failing to pick up on several signals that the "routine" blaze they were battling was anything but routine (1993); two jetliners collided on a runway in the Canary Islands after crew and ground control personnel failed to make sense of the dangerous situation developing, despite information and a number of warning signals that were fully available to them (1990).

Fortunately, the situations faced by most project teams are rarely life-threatening, but the lessons these examples provide are still quite applicable. Sensemaking reminds us of the importance of being attentive to and making sense of the signals we receive, and in particular those we do not understand. In the ClearCom case, for example, the difficulty the team experienced with their original framing of the problem was a clear signal that the way they were making sense of the situation was problematic. Questioning the usefulness of the framing earlier in the project might have avoided some of the delay in getting started in a more productive direction. Other examples of signals indicating that the way we are making sense of a particular situation might be problematic include: a small piece of information that, while seemingly inconsequential, directly contradicts our conclusions or findings; or even the nagging feeling of an experienced executive that the temporary downturn in contract signings may not be so temporary. In our experience, these are just the kind of weak signals we often decide to ignore, usually because if we accept them and the implications they bring, they threaten to turn our current conclusions upside down. However, like small cracks in a windshield, they are also the kind of signals that we ignore to our peril, as they often grow larger if left unattended. Finally, and more positively, they are often signals of opportunity for creativity and innovation, if we can fend off time and budget pressures long enough to follow-up on them. Every unexpected event, positive or negative, is an opportunity for us to ask, "Why?" Key insights can be gained when, instead of treating something as "odd," we ask ourselves: "In what situation, and under what circumstances would this seemingly odd event make perfect sense?"

Creativity Killers

In this final section of the paper, we explain four commonly observed practices that lessen the effectiveness of these techniques for designing actionable problems. We refer to them collectively as "creativity killers."

Premature Framing

Effective framing can lend actionability to the problems we design. However, time and other pressures on the project team often result in premature framing of the problem. Pressure

placed on the consultant to play the role of the expert and to have the answer(s) also lead to premature framing. This negatively affects not only actionability, but also the opportunities for innovation and creativity. In our experience, when teams settle on a particular framing of a problem, there is a general underestimation of the number of assumptions and decisions, explicit or otherwise, that have already been made; and an underestimation of the number of possibilities that have already been excluded from the possible solution set. Many of us have heard the expression, "when the only tool you have is a hammer, all the problems look like nails." This expression works the other way around as well: if you have already decided that the problem is a nail, chances are the only solution you are going to take notice of is the one that looks like a hammer! One way to evaluate whether a given problem may have been prematurely settled upon is to simply poll the members of the project team as to what the next steps are to address the problem. In our experience, the greater the variation in the responses, the greater the likelihood that the problem may have been hastily settled upon and that a review of the current framing might be in order.

Bullet Points

Because of email overload, multi-tasking and time pressure in general, we are often encouraged to deliver "clear" and concise communications and presentations, using bullet points and discrete, non-overlapping "chunks" of information. These techniques may be useful, but during problem design, they often result in a loss of the detail and nuance that help make problems locally-meaningful and actionable. The point may sound trivial, but we often see non-trivial improvements in problem design when we ask project teams to simply expand their bullet-point problem descriptions into full sentences or even paragraphs. In the ClearCom case, for example, the term "channel conflict" had become over-used and taken for granted, a kind of "black box." It was only after our discussion and unpacking of the assumptions within this phrase that the team began to make progress. Unnecessary detail can always, if necessary, be trimmed away later, after fuller discussion and description. Better yet, full problem definitions can later be distilled into definitions that are shorter, but rich with meaning for the project team. Often this distilled language, as discussed in the next section, can take the form of team-specific or project-specific jargon.

Unnecessary Avoidance of Slang and Jargon

Most of us, at one time or another, have probably been advised to avoid the use of slang or jargon in our own writing. While their over-use can indeed be problematic (and annoying) slang or jargon can also be a kind of non-ambiguous shorthand for those on the team. For example, we once worked with a chemical manufacturer who served a particular market segment that, for a number of reasons, was quite difficult to define. In conversation, the market segment was often described as being "funky." Often such words are excised from the official project documentation, to make it appear more rigorous, scientific or smart. Used appropriately, however, jargon can capture and communicate the locally-meaningful essence of even complex issues. At the client's insistence, the word funky remained in our final report.

Conclusion

In this article we have presented techniques for an alternative approach to problem solving in organizational contexts, for use by consultants and project teams who find themselves stuck on a particularly difficult problem and without a clear path forward. This approach has been quite successful for us in practice, but no doubt some readers will be sceptical of it. For them, changing the problem will always be simply another name for avoiding the problem and one's responsibility for solving it. To this, we would respond that these techniques should be considered a supplement to, rather than as a replacement for, more traditional techniques.

Others may wonder how these techniques can be used, when the wider group of project stakeholders is still expecting to see more traditional analyses and clear rationale in support of team decisions. Meeting the reporting expectations of such stakeholders does not preclude the use of these techniques to arrive at initial decisions (that are often more innovative and creative), which can then be validated, and reported on, using more traditional analyses. For those who object to what they see as post-hoc reasoning, we propose this is not dissimilar to the way many project decisions are currently being made anyway!

A more difficult constraint is often simply finding the time, and courage, amidst pressure-filled project environments to step back periodically and reflect on the problem(s) you are trying to solve. We are surprised at how often project teams do not have good, clear answers to questions like: "Let us assume for the moment we have the answer to the problem you are now working on, now what? What is next?" In our experience, periodic discussions on the problem(s) we are trying to solve give a very high return on time invested, by ensuring that the project team stays fully engaged with rich, actionable problem designs. Even a couple of hours of in-depth, honest and open-ended discussion, at the beginning and periodically throughout the project, can have a significant positive impact.

Summary of key points

- Do not just find problems, design them in your favor to begin with. In other words, if you cannot solve the problem, change the problem you are solving.

- These techniques are supplements to, not replacements for, more traditional problem solving methods.

- Ask not only, "What's next?" but also, "What's possible?"

- For unexpected events or results, ask yourselves: "In what circumstances would these unexpected events/results make perfect sense?"

- Time spent reflecting on the problem you are solving is time well spent.

Finally, it is our belief that use of these techniques can make the task of problem solving more personally fulfilling, through closer alignment between the work itself and the hopes, desires and capabilities of project team members.

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