Problem-Solving: Domains, Causes and Actions

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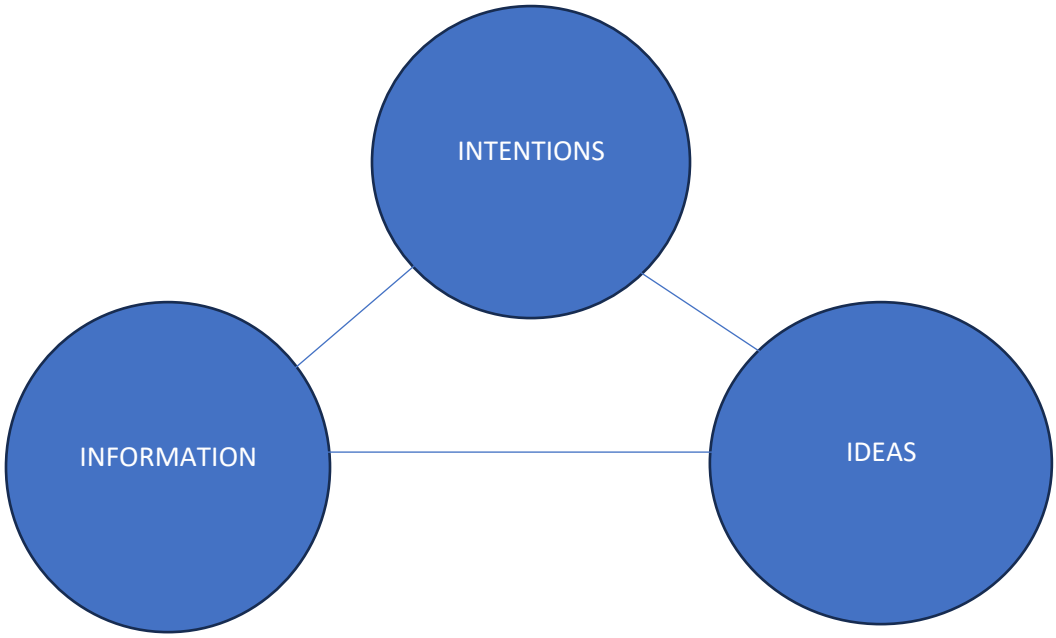
I suggest that many of the challenges associated with solving complex issues by a leader and their coach can best be met by acknowledging that there are three domains that dwell within all issues. Each of these domains must be entered and the components of a complex issue that residing in them must be addressed if we are to be successful in moving toward resolution of this complex issue.

The Three Domains

The three domains consist of information, intentions and ideas. They can be represented in three circles.



Domain of Information

This domain is entered whenever an attempt is made to find out more about the current condition in which we find ourselves. We act as researchers, asking questions that can be answered by a systematic collection of information. For example, if a college wants to know which of four academic programs are potentially most attractive to a particular group of prospective students, then a sample of these students might be asked to indicate under what conditions they would be likely to enroll in each of these four programs. The information obtained is valid if the students have been honest, if the right questions were asked and if the sample used was representative of the entire pool of potential students. If the information is valid, then the college should be

able to state with some confidence which of the academic programs is most attractive to this population of potential students.

In understanding the current situation, however, we must not only seek information that is valid. They must also seek information that is useful. It must relate to the target that the leader and her team wish to reach. Thus, if the target concerns increased financial viability for a college, then a market survey will be of little use, even if the information obtained were valid. It is only useful if the costs associated with each of the four programs also can be determined, along with the acceptable tuition levels for this population of students regarding each of the four programs. It is surprising to see how often information is collected that relates only marginally to the problem faced by an organization!

Many realistic plans can be set, and problems can be solved, through the systematic collection of valid and useful information. This lies at the heart of rational, linear planning and modern management processes. In other instances, unfortunately, effective leadership cannot exclusively be based on information about the current situation. Many organizational decisions, particularly those involving people rather than machines, center, at least in part, on conflicting goals, objectives or desired outcomes. Attention must shift from the domain of information to that of intentions. This domain is likely to be particularly important in today's society, where conflict in values and purposes is so common.

Domain of Intentions

This second domain is entered whenever we attempt to understand and clarify our personal or collective mission, vision, values or purposes. While research prevails in the area of information, clarification prevails in the area of intentions. Unlike traditional approaches to the clarification of intentions, which tend to emphasize enforcement or modeling, intention clarification focuses on the way in which mission, vision, values and purposes come into being.

As we become clearer about our intentions and the overall intentions of the system in which we are operating we begin to produce solutions that are more and more consistent with these intentions. The process of clarifying intentions becomes richer and more profound as each of us moves toward greater maturity. A mature intention is freely chosen; it is not imposed (an imposed requirement is part of the situation). A mature statement of mission, vision, value and purpose is prized and affirmed; this statement serves as a guiding charter for one's department or organization and is repeatedly acted on in a consistent and persistent manner.

Domain of Ideas

The third domain is entered whenever we attempt to generate a proposal intended to move from the current to the desired state. Ideas are sometimes fragile, often misunderstood, and easily lost. While information exists everywhere, we often ignore or misinterpret it. But we can usually go back and retrieve it. Similarly, even though intentions may be ignored or distorted, they resist extinction. Their resistance to change is often a source of frustration: old values linger as do old visions and purposes. Good ideas, on the other hand, are easy to lose and hard to recover.

Settings must be created in which ideas can readily be generated and retained. Two processes are essential. *Divergence* produces creative ideas. Divergence requires minimal censorship of ideas, minimal restriction on

people offering their own suggestions and taking risks, and minimal adherence to prescribed rules or procedures for the generation of new ideas. The second process is *Convergence*. People must be given the opportunity to build on each other's ideas, to identify similarities in their ideas, and to agree upon a desired course of action. Convergence requires leaders to observe specific rules and procedures, to listen to ideas and to be constructively critical of other ideas.

Problem-Solving

At this point, we are ready to make use of the analyses already engaged regarding the domains of intentions, information and ideas. While we enter these domains frequently when we are navigating our daily life, they come to the fore in particular when we are confronting a problem that is not easily solved. It is at these challenging moments that we are most likely to be attracted to readily accessible information and intentions that have been manufactured by other people. Misinformation and lies are abundantly available to lead us in the wrong direction. Given our vulnerability to misinformation and lies at these problem-solving points in our life, we will focus on processes that can be effectively deployed when facing a problem.

Intentions [Desired State]

This is the terminating point. What are the goals, aims, ends, purposes, objectives, desired outcomes to be achieved. A description or portrayal is offered of how the outcome will look and work. A critical review should be engaged that not only helps us determine what we really care about regarding outcomes, but also helps us discern what we don't really care about and that helps us surface the motives behind the lies and misinformation that swirl around our head and heart. The main point to be made here is that this discernment is not about finding the one thing we care about. It is about finding the multiple things we care about and identifying the relationships between these various outcomes. We will be true to ourselves when we recognize that we care about more than one thing.

We can frame this important point by turning to an often-used metaphor. We can think of our outcomes as being like the target we focus on when shooting arrows or darts. The important point to make is that a target is not the bullseye. While a bullseye represents the center point of the intentional domain, the target represents the broader setting in which a number of different intentions can be identified. Some of these intentions reside very close to the bullseye – and might in fact reside inside the bullseye itself – being at the very heart of the matter.

Other intentions reside at some distance from the bullseye and are close to other intentions (complementing one another) or at opposites sides of the target (serving as opposing or even incompatible intentions). One of the falsehoods associated with many lies and sources of misinformation is that there is one intention and only one intention when exploring any problem or engaging in the formulation of any policy or plotting out any plan. It would be a strange (and quite challenging) target indeed if it was very small and consisted only of the bullseye.

As we have already noted, Daniel Kahneman and his two colleagues, Olivier Sibony and Cass Sustein (2021) write about the distinction between bias and noise. Let's go a bit further than we did before into understanding this distinction. They begin with a story about assessing the success of someone shooting

arrows into a target. One desirable outcome would be for all the arrows to hit the target in the same area. When this occurs, we can applaud the consistency of the archer. Another outcome would be for the arrows to arrive all over the target. Typically, we devalue this outcome. The archer has not been consistent in directing arrows toward the target.

Kahneman, Sibony and Sustein (2021) suggest that these assessments of success must be questioned. The first outcome indicates only that there is consistency—not that the arrows have arrived at or near the bullseye. The arrows could cluster at some point at quite a distance from the bullseye. This placement would reveal a BIAS. Conversely, arrows arriving at many places on the target reveal NOISE. Our authors suggest that these are quite different flaws in the performance of the archer—and that both Noise and Bias are to be found frequently in the judgements made by most of us.

We suggest that the following questions be addressed:

- How would you know if you have been successful in this endeavor?
- What would make you happy?
- Who else has an investment in this project and what do they want to happen?
- What would happen if you did not achieve this goal?
- What would happen if you did achieve this goal?
- What scares you most about not achieving this goal?
- What scares you most about achieving this goal?

If there is shared agreement regarding the answers to these questions, then a group needs to test its own assumptions. The process of collusion that we have described in this book might be in full effect. BIAS might be fully in effect. Conversely, if there are multiple and often conflicting answers to these questions then NOISE is operating. While diversity of thought and perspective can often be beneficial (Miller and Page, 2007), this diversity can often pose quite a challenge for groups. It is important to remain patient in addressing these differences.

Information [Current State]

This is where we are situated right now. This is the starting point that incorporates facts, opinions, and explanations about the current state. It contains predictions about change in the environment as perceived by the planners.

A critical review should be engaged that helps to surface untested and often self-fulfilling assumptions about the world. It is often difficult to discern what is valid information and what is invalid. What are the sources of information that we can trust and what is suspect? Triangulation is one of the key tools to engage in this discernment process. Actually, Double Triangulation will often yield the best results. Triangulation is engaged when we look to at least three sources for the information we receive. Where does the information come from and how reliable is each of these sources? When we have only two sources, then we are caught in a dilemma if these sources disagree.

With a third source, we are likely to find some fit between two of the sources. This doesn't mean that we discount the third, discordant source, for it might yield some important insights regarding the nature of biases that might exist in all three sources. We are best able to identify biases when viewing any phenomenon from multiple perspectives and with differing lens. It is not only that we are likely to see different things from different perspectives but are also like to punctuate what we have observed in different ways (especially if some of the observers are studying the phenomenon over a short period of time while others are observing it over a much longer duration).

We also triangulate when looking at three different methods for the production of information that we receive. Is the incoming information being produced in different ways? Is it based in quantitative research and are those producing these numbers engaging in different modes of research (types of measurements being taken, research design being engaged, breadth and duration of data gathering)? Is a qualitative method appropriate (such as interviews, document review, or direct observations)?

Once again, with information being produced via three or more methods, we will usually find alignment between two of the findings that are being reported. As in the case of multiple sources, the discordant information produced by use of one of the methods can often produce insights regarding how the method being used can influence the information obtained. As noted by Gleick (1987) in his early report on the study of chaos, the method being deployed and the level of detail being engaged by this method will often have a greater influence on the outcome of a research project than the "reality" being studied.

Questions that might be asked to determine the type of information to be collected and the ways this information is to be used:

- What are the most salient facts with regard to the circumstance in which you now find yourself?
- What are the "facts" about which you are most uncertain at the present time? How could you check on the validity of these facts?
- What are alternative ways in which you could interpret the meaning or implications of the facts that you do believe to be valid?

Once again, the distinction between BIAS and NOISE should be drawn here, with universal agreement being challenged by a revisiting of basic assumptions regarding the information obtained and significant disagreement being addressed through sustained, constructive dialogue and the potential use of polarity management strategies.

Nature and Causes of The Problem

We can first note that a problem exists when there is a gap between the current state (information) and desired state (intention). Thus, we must first be sure that the information we have obtained is valid and useful, and that the intentions are clear and sufficiently broad (target not just the bullseye).

Second, we can focus on the domain of intentions to see if the problem can be best addressed by working in this domain. We might find that the problem exists because there are conflicting desired outcomes associated with this problem (outcomes located on opposite sides of the target). Typically, it is now a matter of sequencing several actions that must be taken to work toward both outcomes. Focus

should be placed on action rather than on debating priorities regarding each outcome: “do them both!” should be the motto.

Third, we can focus on the domain of information. The problem might reside primarily in the contradictory or confusing information that we possess. This is where misinformation is likely to creep in. Triangulated analysis (sources and methods) will usually help to resolve this issue. If the contradictions still exist, then it is often useful to “test the market” by offering a description of potential actions to potential stakeholders or even conducting brief and limited pilot tests of these actions. The “real” world will usually “kick back” and let us know what is real and what is unreal.

Here are a set of questions that might be addressed when addressing the nature of a problem:

- How do you know that there is a problem here?
- To what extent do other people see this as a problem? If they don't, why don't they?
- How long has this problem existed? How big is it? Is there any pattern with regard to its increase or decrease in magnitude?
- What are the primary cause(s) of the problem? What is different when the problem does and does not exist? What remains the same whether or not the problem exists?
- Who benefits from the continuing existence of the problem? In what ways do you benefit (even indirectly) from the continuing existence of this problem?
- What will you miss if and when this problem is resolved?

When the problem is particularly elusive or important then a more formal and extensive causal/resource analysis might be engaged. Here is a brief description of this five-step process. Its distinctive feature is the comparison to be made with other comparable situations.

Causal/Resource Analysis

At the heart of causal/resource analysis lies the belief that a problem can best be understood if it is compared to another situation as much like itself as possible, but one in which the problem does not exist or is less serious. In most machine or production-line problems, this strategy is fairly obvious, although not always used. An engine that has been functioning correctly begins to misfire; a computer keyboard is no longer working; a bottling line begins to produce an unacceptable. number of rejects.

No matter how obscure the cause of any such problem may seem to be at first, a comparison of the current problem situation with the same situation at an earlier point in time when the problem did not exist or was not as serious should provide evidence that will lead to the solution of the problem. Something has to happen to change one situation into another. This stance is particularly important in a polarized situation—such as exists in the mid-21st Century. We tend to believe that “it” has always been messed up and refuse to examine a time when things were “better.” Misinformation abounds regarding the ”bad old days” that still exist in the “bad new days.” Under these circumstances, the causal/resource analysis tool we are describing in this essay are of particular value.

Change over time becomes a critical point of analysis. This change becomes the clue that leads to the solution of most machine-related problems. This same strategy can be applied to some "people problems." If there has been a deterioration in performance over time, a comparison of the current situation with an earlier situation will produce evidence of the cause of the problem in much the same way as a machine problem (although often with less certainty). Don't give up on people or problems. They might be more elusive but are still amenable to causal/resource analysis.

In some cases, the problem has always existed. The bad old times might be a reality. Even in these cases, an immense amount of information can be acquired by comparing that situation to a different situation in which the problem either does not exist or does not exist to as serious a degree. If, for instance, the affirmative action program in your organization not only does not seem to be working but also has never worked, you can learn a great deal about the causes of that problem by comparing your program with a more successful program in a similar organization. The causes of the problem are almost certain to lie in these differences. The processes involved in the now-widely used tool called Benchmarking can be quite helpful in this regard—especially if engaged in an appreciative manner (Bergquist, 2003).

An emphasis on differences, however, will only help to isolate the cause of a problem; it will not isolate the means for solving that problem. Unfortunately, the similarities between a problem situation and a more desirable situation are often overlooked in a rush to solve the problem. Suppose, for instance, that planning you have undertaken for the introduction of a new product does not seem to be going as well as usual. If you examine the similarities between the current problem situation and a more desirable one, it may become clear that the things that have not changed (your experience, for example, or your planning model) can be relied on as resources to help you work through the current difficult situation. You can turn to problem solving with a clearer understanding of your strengths.

Five Step Process: The following sequence of steps suggests how one might conduct a causal/resource analysis.

Step 1: Identify and Analyze a Comparative Situation: To begin the process of identifying causes and resources, identify or create a situation with which the current situation C8.fl; be compared. Three possible types of comparative situations are possible; they are as follows, listed in order of desirability from most to least desirable:

I. Type A: the situation as it currently exists compared with the same situation at some earlier point in time when the problem did not exist or was not as serious;

2. Type B: the situation as it currently exists compared with a similar situation in which the problem does not exist. or exists but is not as serious; and

3. Type C: the situation as it currently exists compared with the target.

It should be noted that sometimes it is possible to establish a comparative situation for either a type A or type B comparison in which the problem actually is worse than at present. Our experience, however, indicates that in the vast majority of problems you will ever encounter, the comparative situation will be one in which the problem does not exist or is not as serious. The possibility of establishing a

comparative situation in which the problem is worse should be kept in mind, ·though, at least as a possibility.

Next, identify and collect relevant information about the comparative situation in terms of *who, what, where, when, extent, and pattern*. The kinds of questions you should ask about the comparative situation are as follows:

• Who is involved?

• What exactly is happening?

• Where is the comparative situation?

• What objects or processes are involved?

• When is the comparative situation taking place or how recently was it taking place?

• What is the extent?

• What is the pattern?

When you complete this step in a problem-solving effort, record your answers to these questions.

Step 2: Compare and Contrast the Current and Comparative Situations: Look for major similarities between the actual and comparative situations. What forces, motives, influences, or drives exist in both situations? Those factors that are common to both situations may be resources that will help move toward problem solution.

Then examine the actual and comparative situations for differences. Be as specific as possible in terms of who, what, where, when, extent, and pattern.

Step 3: Identify Resources Available to Solve the Problem: Examine each similarity between the current and the comparative situation, answering these questions:

• Will this similarity help me to achieve an important goal or cluster of goals?

• Am I confident that this similarity is not likely to change during the course of problem solving?

If the answer to these questions is “yes’” then that similarity will be a significant resource in the solution of the problem.

Step 4: Determine the Most Likely Cause of The Problem: Examine the differences between the current and the comparative situations. The most likely cause of the problem will be that potential cause that explains all of the information collected about the problem situation.

Step 5: Determine Whether the Problem Is Unique or Generic: One of the dangers of any approach to problem solving is that it can be seen as primarily reactive. People are taught to wait for a problem to happen, then to respond. At this point in integrated problem management, however, you can begin to move out of that reactive mode by pausing a moment to consider whether the problem is unique or simply a symptom of a broader or more generic problem.

If the problem is unique, you can move on with some hope that, once it has been solved, you will not see it again. If, on the other hand, the problem is generic, you need to decide whether the symptoms are significant enough to warrant continued attention. If they are, you need to continue managing the immediate problem. Once those symptoms are under control, however, you might want to address the more generic problem by returning to the beginning of the problem-solving process. If the symptoms are not significant enough to demand immediate attention, you might want to start addressing the generic problem.

Ideas [Proposal for Moving from Current to Desired State]

What is the best path from the situation to the target? This is where the means, plans, strategies, implementation procedures, and possible actions are identified. When some clarity is gained regarding the nature of a problem that is being addressed—and with misinformation and lies hopefully being avoided—it is time for movement to finding the best set of actions to be taken in addressing this problem. While some initial proposals or pilot tests might have been taken as a way to gain greater clarity regarding the current situation (domain of information), the focus is now on preparing a set of actions that are not only taking into account the valid and useful information that has been collected, but also directed toward the desired outcomes that have been identified.

Idea generation usually involves two steps. The first is based on the value of expanding the range of possible actions. This is often labeled "divergent" problem-solving. In effect, we are trying to increase the NOISE associated with our target. The second step is based on the value of homing in on a small number of potential actions—selecting from the broader range of options identified in the first step. This second step is often labeled "convergent" problem-solving. We may be moving toward greater clarity and commitment – or might be increasing the BIAS. Thoughtful, slow thinking (Kahneman, 2011) is required.

Divergence: many "brainstorming" and "out of the box" planning tools are available to help open the doors for the production of diverse ideas. We are particularly fond of a tool called Morphological (Shape) Analysis. A problem-solving team engages in divergent and creative processes when they change the shape of a situation (information). Instead of designing a program for fifty people, what if you first designed it for one person or for 500 people.

The shape of a target (intentions) can also be modified. What if a program is designed to bring together urbanites from New York City with members of a primitive tribe in Papua? Instead, the program can be directed toward teaching a new set of leadership skills not to adults but instead to five-year-old children. Finally, the shape of possible solutions (ideas) can be altered. The solutions can be absolutely "silly" or absurd. They can be absolutely unattainable or require massive financial outlays (or require no money at all).

Each of these changes in shape can not only open up previously neglected ideas but also surface previously untested assumptions ("What would be the benefits of offering this program to one person or many people at the same time?" "Why not bridge the big gap across cultures. What are the fundamental truths about human beings?" "Could we make this program so accessible and user friendly that it could work with children?" The challenges faced when doing Morphological Analysis are

particularly appropriate when misinformation and untested assumptions are alive and well. By pushing the boundaries, we are more likely to surface what is and is not real about our world.

One final point. It is often even more important to ensure that those engaging in these divergent processes do themselves represent a diversity of perspectives and experiences. We are reminded of the founding work done by the Synectic's group that not only offered some very powerful divergent processes (related to something called "spectrum analysis") but also typically invited in people from many departments in an organization to work on a specific problem.

Convergence: when we have sown many seeds (ideas) in a problem-solving venture, it is time to find out which seeds yield a healthy outgrowth. We can do this by allowing multiple projects to be engaged, and then determine which work and which don't work. We can take a somewhat more realistic step by setting up several limited "pilot tests" that enable us to see how a particular idea plays out without devoting significant resources to these pilot efforts. Usually, we don't have the luxury of engaging this "survival of the fittest" strategy (even if restricted to pilot tests). This is especially the case in a polarized setting where each side is waiting for the failure of the other side. Instead, we must make the difficult decision(s) to select one of the ideas or to combine several of the ideas and begin planning for their implementation.

We can evaluate an idea by returning to the domains of information and intentions. The questions to be asked are rather straightforward. With regard to the domain of information we can ask: "Does this idea fit with what we know about the real world in which this idea would be implemented?" The domain of intentions is added with an answer to the following question: "To what extent is this idea, if implemented, likely to move us toward one or more of the desired outcomes on our target?"

If we have done a good job with our domains of information and intentions, the answers to these questions are likely to be forthcoming and valuable. The causal/resource analysis will also provide some of the answers when we begin to converge on a specific idea: "How does this idea relate to what we know about past attempts (successful or unsuccessful) to address similar problems in our own organization or in other comparable organizations?"

Here are questions that might be asked as a way to generate appropriate ideas:

- What have you already tried to do when seeking to solve this problem and what did you learn from these efforts?
- What actions have you taken that somehow reduced the scope or impact of the problem—even if this action was not intended to address this problem? What did you learn from this serendipitous impact?
- How might other people help you solve this problem—especially those who have not previously been involved with this problem? What other resources which have not previously been used might you direct to this problem?
- What would happen if you just ignored this problem? What would happen if you devoted all of your time and resources to solving this problem?

- What is the most unusual idea that you have about solving this problem? What solutions have you dreamed of or thought about at a moment when you were particularly tired or frustrated?
- What would you do if you had much more time to solve this problem?
- What would you do if you had very little time to solve this problem?
- If you were "king" or "queen" what solution(s) would you impose to solve this problem? If you were a "fool" or had nothing to lose in trying something out, what would you do in attempting to solve this problem?

A reminder about BIAS and NOISE: either of these can be prevalent at this late stage in the problem-solving process.

Implementation

This is the fourth "I" (along with information, intentions and ideas) A critical moment often occurs when information in particular and even intentions are put to the test. Is the information on which the idea is based valid and useful? The "anvil of reality" is used to hammer on an idea to see if it holds up. The hammering can actually make the idea stronger – if the foundational information is valid. Misinformation and lies are often revealed when action is taken. Many years ago, John Dewey (1929) suggested that we need to take action if we wish to find out what is really occurring in the world. We learn by engaging the world and reflecting on our failures as well as our successes.

More recently psychologists such as Chris Argyris and Don Schon (Argyris, 1982) have written about "action learning." Argyris and Schon (1978) suggest that there is nothing wrong with making mistakes (for example, finding out that our information is not valid), as long as we learn from these mistakes and don't keep repeating them. Action learning involves finding the courage to not just learn but also continue to act and continue to learn from mistakes (and successes) resulting from these actions.

Perhaps, misinformation and lies are not best confronted not by freezing in place, waiting somehow for the correct information to come forth or the desired outcomes to become clearer. There might not be some miraculous guide to arrive and lead us to the promised land. Rather, the lies and misinformation might best be confronted by taking some action and learning from it about what the nature of the "real" world and about outcomes that can realistically be expected to be accomplished given the knowledge and resources available to us at the present time.

Obviously, the primary purpose of implementation is not to learn about the world or gain greater clarity about our intentions. It is to solve a problem. It is about reducing the gap between a current state of affairs (domain of information) and a desired state of affairs (domain of intentions). We need to establish clear criteria for determining the level of success (building on the established target) as well as a realistic timeline for assessing the success. Given this assessment, modifications of the action that has been taken can be made—while learning also takes place.

Insights

There is one final "I" to be engaged. This is the reflection back on the action taken "after the dust has settled and the battle waged." It is important to squeeze the last bit of learning from this problem-solving venture. The reflective process should produce insights regarding not only this particular

problem (building on the action learning engaged during the implementation phase), but also the very process of problem-solving itself. This second level of insights are often referred to a "meta-learning" or "second order learning." While this specific problem might not occur again in the future, there will inevitably be other problems of a comparable nature and scope to emerge. We can learn how to do an even better job of addressing problems if we openly and candidly address each of the problem-solving steps we have taken and consider ways to do a better job next time.

Once again, we are not going to avoid making mistakes—especially in a world filled with misinformation and lies—but we can avoid making the same mistakes (regarding the solving of problems) in the future. We just need to devote some time in reflecting on the mistakes that have been made. By the way, as we noted in describing the causal/resource analysis, we can also learn from our successes. What did we do "right" in solving this problem and how can we replicate this successful engagement of the problem-solving process the next time around.

Domain Interdependence

I have outlined a specific sequence of movements between the three domains of intentions, information, and ideas. With intentions helping to guide the gathering of information and both helping to produce appropriate ideas. This sequence however is not set in concrete. One can move from any one of these domains to either of the other domains. It is often valuable to move back and forth between the domains of information and intentions. A return to the domain of either information or intentions can be activated at the point when ideas are being considered. I offer the following list of interdependencies between the three domains.

<u>Type of Interdependence</u>

Information to intentions

- Dissatisfaction with the situation [information] implies a particular target [intentions] as a standard of comparison
- Any suggested target [intentions] implies by comparison what is unsatisfactory about the current situation [information]

Intentions to Ideas

- A target [intentions] defines the results desired from any proposal [ideas]
- Any proposal [ideas] embodies assumptions about the nature of the desired target [intentions]

Ideas to Information

- A proposal [ideas] embodies assumptions about the causes of the unsatisfactory situation [information] and implies resources and requirements for change
- The situation [information] places limits on the effectiveness and feasibility of acceptable proposals [ideas]

Here are some questions that can be asked regarding interdependency among the three domains:

When information is generated about the situation *[domain of information],* target information [*domain of intentions*] can be elicited by such questions as:

- "If you could change the present situation, what would you want to accomplish?"
- "What's missing in the present situation that you want?"
- "What would be your goal in improving the situation?"

Proposal information [*domain of ideas*] can be generated from that same situational statement [*domain of information*] by such questions as:

- "What might be done to improve that?"
- "What kind of action does that seem to require?"
- "What plan would use that resource?"

When a target is identified [*domain of intentions*], situational information [*domain of information]* can be elicited by such questions as:

- "In what ways does the present situation fall short of that goal?"
- "Why does the present situation fall short of that goal?"
- "What forces for improvement are there for reaching that goal?"
- "What obstacles stand in the way of reaching that goal?"

Proposals [*domain of ideas*] can be elicited from the same target statement [*domain of intentions*] by asking:

- "What might be a possible way to accomplish that?"
- "What steps might lead toward that goal?"

In a similar manner, when a proposal [*domain of ideas*] presents itself, situational information [*domain of information*] can be elicited by asking:

- "What might that improve in the present situation?"
- "What part of the problem do you see that dealing with?"
- "What resources are there for doing that?"

And, finally, target information [*domain of intentions*] can be elicited from that proposal [*domain of ideas*] by asking:

- "To accomplish what?"
- "In order to do what?"
- "What objective does that proposal aim at?"

These questions provide important guidance in bringing about thoughtful slow thinking—the kind that Kahneman (2011) would strongly encourage. Awareness of the interdependency between information, intentions and ideas enables a group to reduce the potential of both BIAS and NOISE.

Conclusions

Problem solving often seems to wander aimlessly from topic to topic without ever actually coming to grips with the problem at hand. During this wondering, it is easy to pick up lies and misinformation. Ideational trains can distract us and distort reality. We can turn in appropriately to “experts” who promise to steer us in the right direction. Instead, we can engage in a thoughtful process that enables us to enter into “slow thinking.”

By categorizing statements in visible columns according to information, intentions and ideas and by using statements in one domain to bring forth inquiries in other domains, we can become more effective and efficient in our problem-solving efforts.

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