

Simplicity on the Other Side of Complexity

(((Introductory Complexity Course)))

Workbook Materials

2000

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Contents

	<i>Page #</i>
[] Complexity Lens Reflection	3-5
[] Dynamic Domains – Stacey Matrix	6-8
[] How Complexity Management is Different	9-10
[] Generative Relationships S T A R	11-19
[] Wicked Questions	20
[] Min Specs (Simple Rules)	21-22

Complexity Lens Reflection

PART I (5 minutes)

Describe a time or experience when a collaborative effort created or encouraged something surprising. It should be something you are proud to have been a part of - a difference that made a difference - and it surprised you. It can be a very small, subtle thing. It could be from your current workplace or a past effort of any kind.

1) Why was it wonderful... surprising? What happened? Who was involved?

2) What made it possible - what assets or conditions were present?

Complexity Lens Reflection

PART II (10 minutes)

As you recall your surprising story, consider the following questions. Please circle "yes or no" (even though some the answers may fall in a gray area).

- | | | |
|---|---|---|
| Y | N | 1. Did an individual or group break, bend or make up the rules? |
| Y | N | 2. Did someone sense a unique opportunity and not give up? |
| Y | N | 3. Did talented people & support <i>appear</i> serendipitously as you needed them? |
| Y | N | 4. Did you do the work for its own sake (well, almost)? |
| Y | N | 5. Were you able to do wonderful, surprising things? |
| Y | N | 6. Did you (and others) experience moments of working at your <i>highest</i> intelligence and purpose? |
| Y | N | 7. Did momentum build and fall on a twisted, circuitous path with blind alleys, "creative destruction" or set-backs? |
| Y | N | 8. Did hunches and intuition play a role as the effort moved forward? |
| Y | N | 9. Did it start "under the radar" of the powers that be? |
| Y | N | 10. Did the creative collaboration involve playfulness with ideas and experiments? |
| Y | N | 11. Did you "live with" anxiety AND excitement over an extended period of time? |
| Y | N | 12. Did momentum come from building on small successes? |
| Y | N | 13. Did the following phrase sum up your experience? "Life is attracted to order but it uses messes to get there." |
| Y | N | 14. Did you rely more on informal relationships, diverse participation & natural creativity than formal authority, established groups & channels? |
| Y | N | 15. Was your starting vision or plan, fuzzy and just "good-enough" to start? |
| Y | N | 16. Looking back, did unexpected events, small changes & individual contributions have a big, surprising influence on your success? |
| Y | N | 17. Looking back, would you call the experience "structured improvisation" (e.g., you had "good-enough" direction AND freedom to explore?) |

Talk with two of your neighbors about your story and results from the questionnaire. Note which questions were marked "no." Share your most quotable quote or a story that stood out in your group.

PART III (10)

How can we (re)create these conditions, opportunities, and possibilities as we move forward? What will help us to build on our past success?

Please finish this sentence:

"To create surprising collaborative successes, I/we..."

[Call out your ideas. These are provocative propositions grounded in the personal experience of people in the room.]

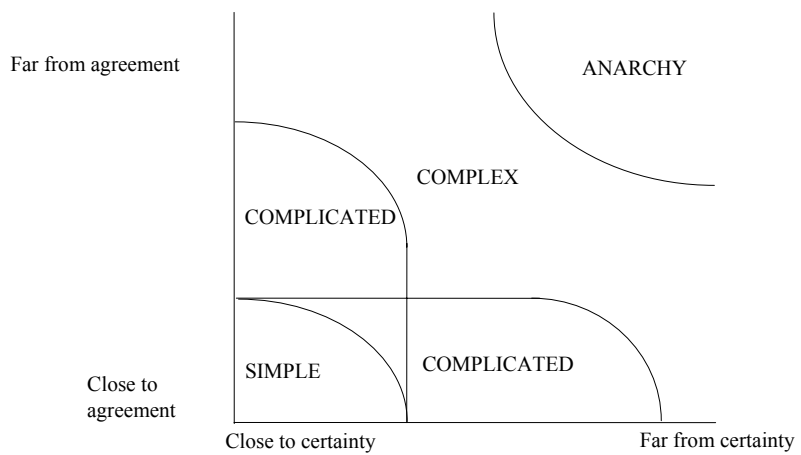
- *... let the people who do the work take responsibility for the way they work!" [for example]*
- ...
- ...
- ...
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- ...
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- ...

Dynamic Domains Stacey Matrix

Using your pre-work, examine the complex issue you identified.

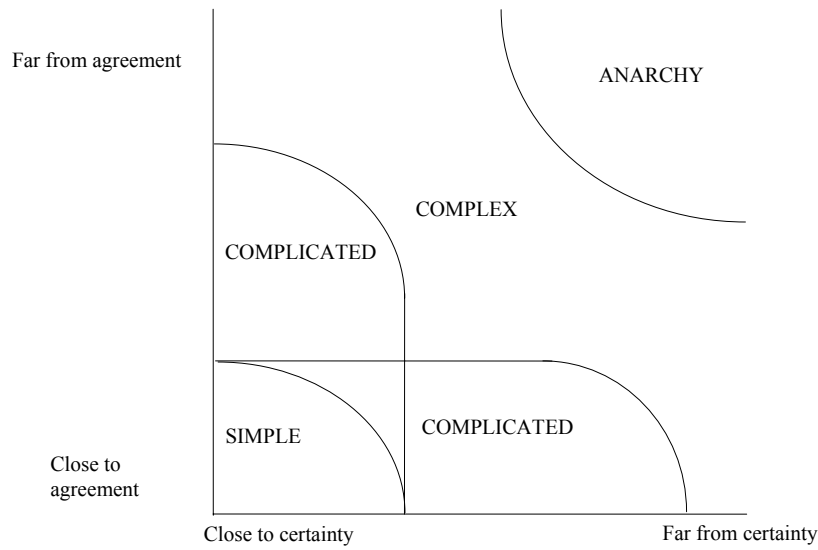
How does it fit on the Stacey Matrix?

Choose one area which best describes it. Why?



What approaches have you been trying to date?

Plot these on the matrix – in other words, look at the approaches you have taken and determine what they assume about levels of certainty or agreement.



Revisit your issue again. This time look at how you can see the issue covering more than one area on the matrix. Are there simple, complicated and complex dimensions to the issue? Over time, do elements of the issue shift from simple-to-complex and complex-to-simple?

Simple

Complicated

Complex

Look back at the approaches you've taken and see if there are some components of the complex issue which can use simple or complicated approaches.

(The idea here is to determine where the uncertainty and disagreement is high. These are the areas where complexity inspired approaches are likely to have the most impact. These are also the areas where non-complexity approaches are likely to require a lot of effort for little or no impact.)

Exploring How Is Complexity Management Different?

Engagement (not control)

Leaders in complex systems cannot control the behavior of all the agents in the system. They cannot control changes either inside or outside their organizations. The alternative is to engage, authentically, with others to learn about and respond to changes as they arise. Leaders must be as willing to be transformed as they are to transform others.

Adaptation (not stages of development or closing the gap)

Traditional managers look at change in one of two ways. Either they see clear stages of development (e.g., forming, storming, norming, performing) or they identify and seek to close the gap between current and preferred reality. Neither of these strategies works well in complex systems. Everyone engaged in complex system behavior receives messages from others, transforms, and sends messages to others. This iterative process happens continually at all levels of organization. This dynamic process allows each agent to adapt to changes in unique ways as they happen.

Uncertainty (not prediction)

Traditional managers pride themselves on predicting the future and controlling an organization to meet expectations. In complex situations, neither prediction nor control is possible. The complexity manager must recognize various horizons of certainty. Tomorrow is more certain than one month hence, which is more certain than one year hence. Expectations for certainty should be matched to the inherent capacity of the system to be predicted.

No end in sight (not clear goals)

Traditional change models focus on future goals and objectives and plans to move toward them. They assume that the preferred future is knowable and that the environment will not interfere with the plan. Complexity managers recognize the emergent nature of organizational reality. They understand the past and present intimately because they form the grounding and raw materials for a future that will self-organize through the complicated interactions of agents in the system.

Difference is valued (not go for consensus)

Similarity provides stability for a group. Shared values and vision help a group move together into the future. Too much similarity, however, locks a group into unproductive patterns of behavior. It leads to inflexibility and insularity. Difference, on the other hand, provides the energy for change. When a group focuses on differences that make a difference, they are able to generate new insights, structures, and relationships that lead toward greater adaptability.

Attractors (not resistance)

An attractor is a pattern of behavior that emerges from the complex interactions of the parts of a system. After the pattern has emerged, it constrains the future behaviors of the system's parts. Corporate culture is a good example of an organizational attractor. It emerges from day-to-day interactions and ultimately determines day-to-day actions. Complexity managers recognize that people do not resist change. They are attracted to other patterns of behavior. To help an organization change, you must understand the active attractors and work within them to move to different and more constructive patterns.

How do each of these differences affect your work on your complex problem?

Engagement (not control)	
Adaptation (not stages of development or closing the gap)	
Uncertainty (not prediction)	
No end in sight (not clear goals)	
Difference is valued (not go for consensus)	
Attractors (not resistance)	

Exploring **Generative Relationships S T A R**

Copyright 1998 – Brenda J. Zimmerman, York University

A generative relationship “produces new sources of value which cannot be foreseen in advance” (Lane and Maxfield, 1996, pg. 215).

There are two key components to this definition. The first is that the relationship produces something, which one of the members of the relationship could not have produced alone. Second, the source of value (whether it be a new product, service, form of distribution or idea) could not have been foreseen in advance. It was created by the interaction between the parties.

Joint ventures may or may not be generative relationships. Often, they are merely partners who know what needs to be done a priori but each have a gap or deficiency which can be addressed by the other joint venture partner(s). Although this satisfies the first criterion of generative relationships, the source of value was foreseen in advance.

In complex contexts, where the future is inherently unknowable because the industry is going through transformational change, generative relationships are important. They allow the parties to learn as they co-create a new product, service, distribution process or solution.

Generative relationships have the capacity to deal with complex contexts where change is happening both at the level of structure (e.g., who are the players in the industry) and at a conceptual level (e.g., the definitions of the product or service). The story of ROLM and the PBX (internal telephone systems) is an example of how quickly a whole industry can shift when a product is reconceived as a voice-interface management tool rather than a “telephone”. Suddenly, computer manufacturers were key competitors to telephone giants like ATT. ROLM fostered generative relationships to thrive in this environment which they co-created.

How do you know whether a relationship will be generative or not? How do you enhance the generative potential of existing relationships? In an action research project with a nonprofit social service agency, which struggled with this concept, Zimmerman and Hayday (1999) used a four pointed star to demonstrate the dimensions of a generative relationship. They used the acronym of STAR to make the idea memorable. The next few pages define and describe the acronym with suggestions for practical applications.

Complex contexts call for relationships which can generate novel solutions.

Relationships with more generative potential are seen to have longer points on the generative relationship STAR (Zimmerman and Hayday, 1999). Each point of the STAR represents one key aspect of generative relationships.

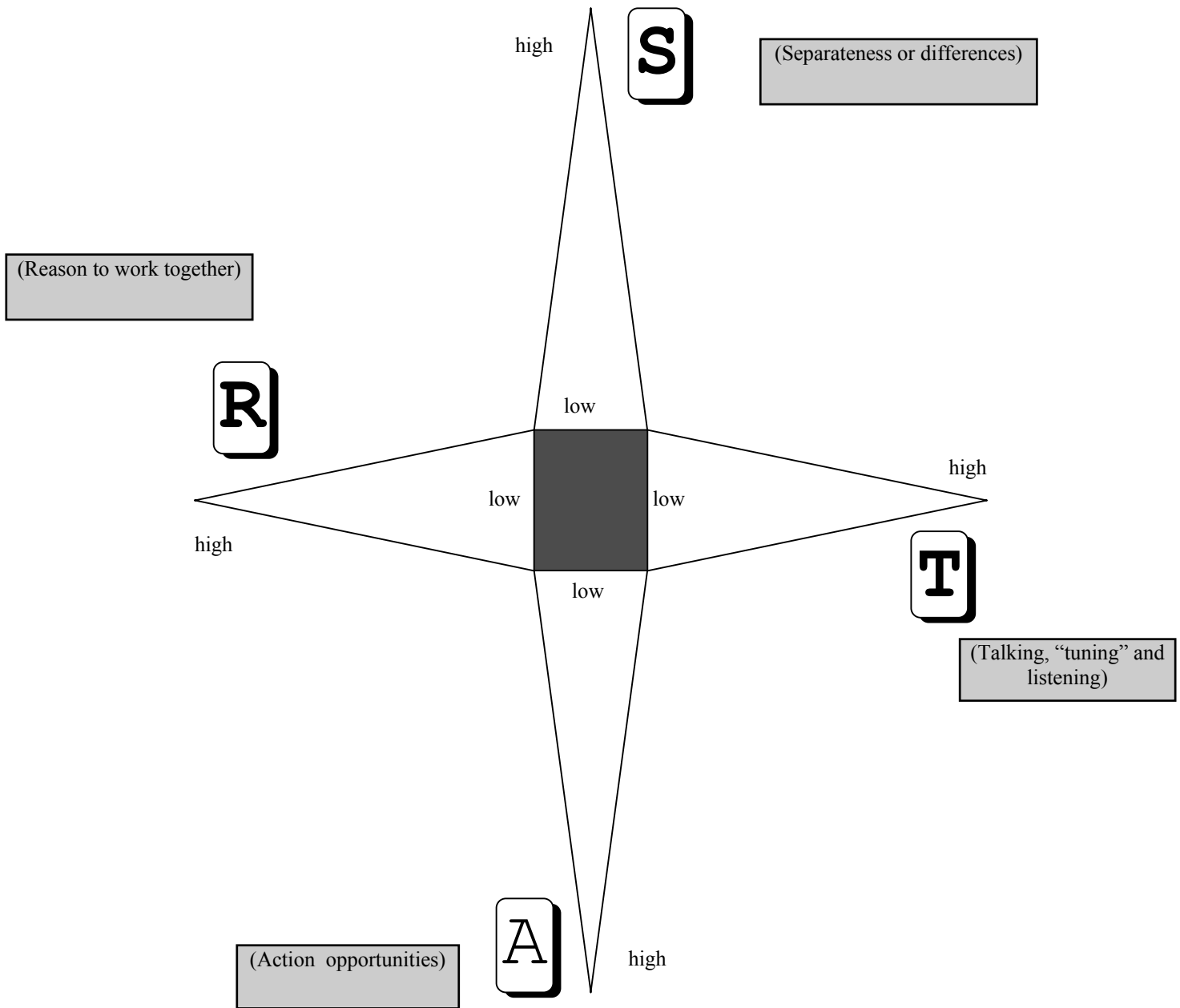
Each point of the STAR represents one key aspect of generative relationships.

S Separateness or differences. There need to be differences in the background, skills, perspectives, or training of the parties. If all of the parties are similar, they may enjoy heated debates but may leave untouched or unchallenged the assumptions upon which both sides of the argument are based. You cannot challenge an assumption, which goes unnoticed. Differences allow the partners or group to see things from a different perspective. They allow “facts” to be seen as “interpretations”.

T Talking and listening (“tuning”). There needs to be real opportunities to talk and listen to each other with permission to challenge the status quo, sacred cows or implicit assumptions of the context. The conceptual changes in a complex context can be profound. Opportunities for reflection allow the parties to grow and learn.

A Action opportunities. Talk is great but unless it is accompanied by acting on the talk, new sources of value will not be created. The parties need to be able to act together to co-create something new.

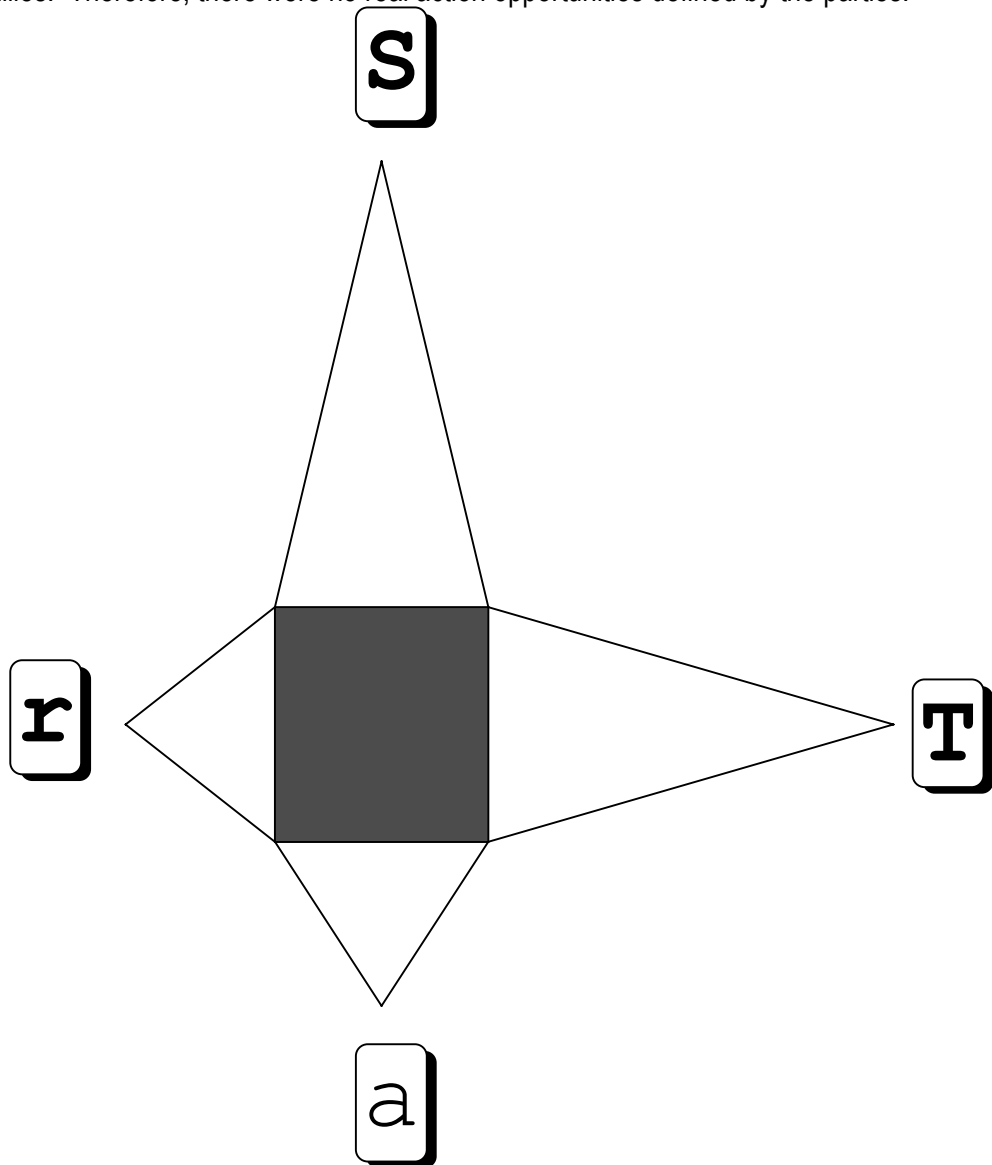
R Reason to work together. The parties need to have a reason to share resources, ideas or to act as allies even if only for a short period. There has to be some mutual benefit to being aligned in a project. If the parties do not see value in working together, if they see each other as adversaries only rather than as allies for this piece of work, it is highly unlikely that they will co-create something of substantial value. They may talk and learn from each other, but then do the work of creating something new alone.



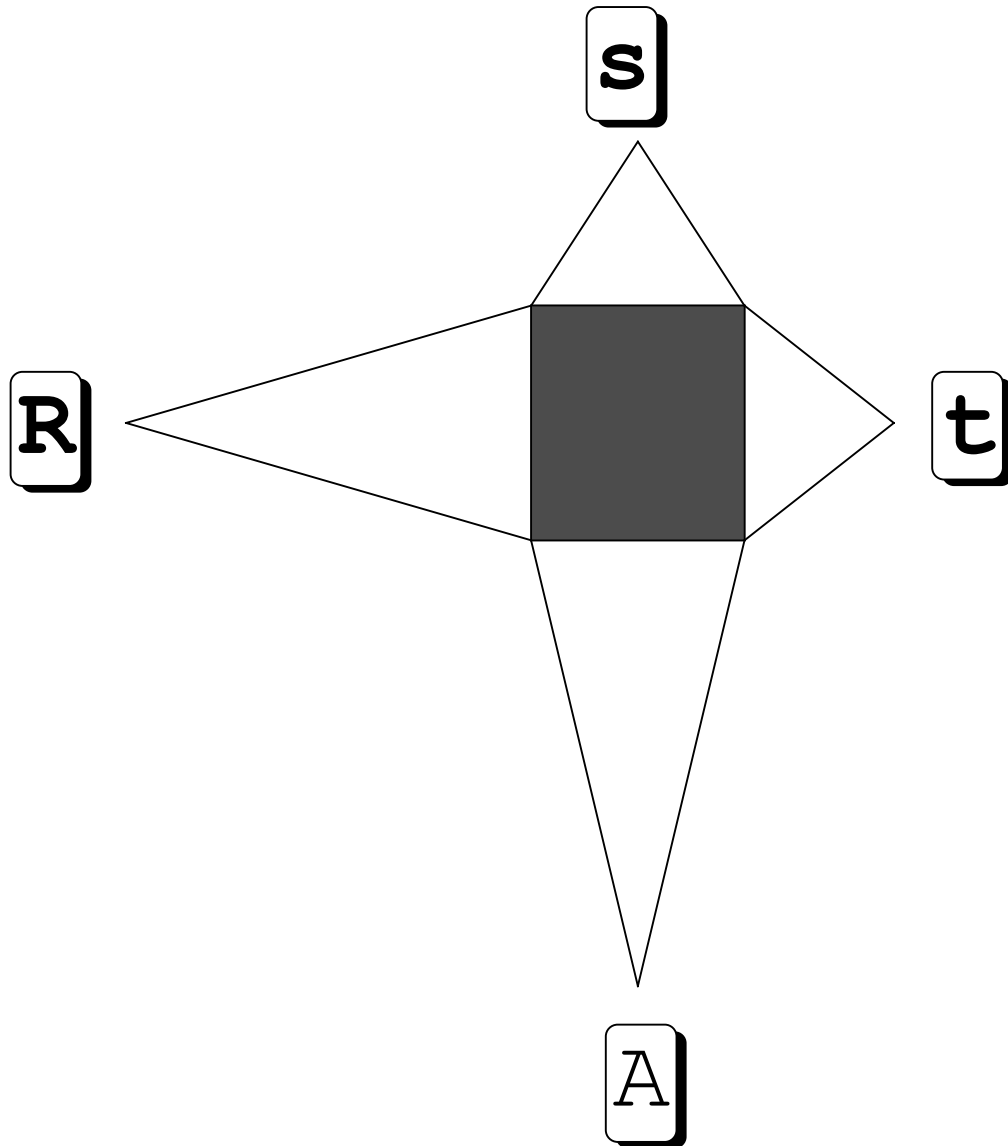
S and T are necessary to enhance the capacity to generate unforeseen insights and sources of value. S and T operate primarily at the conceptual level. It is through redefining a “fact” or challenging an implicit assumption that new ideas can be created. A and R operate primarily at the structural level. It is through action that new players and products actually emerge.

In their work, Zimmerman and Hayday found that some of the relationships that were labelled as “generative” by the nonprofit social service agency failed to produce anything of value because they were lopsided stars – only a couple of points were well-represented in the relationship.

For example, an ST relationship was one where representatives from the whole community came together to solve a social problem. However, the parties had no reason to work together. They saw themselves as competitors for a shrinking pool of funds and the trust was not there to see each other as allies. Therefore, there were no real action opportunities defined by the parties.



An AR relationship was one where two parties were collaborating to address a problem but the parties were almost “clones”. The employees had the same background and perspective. Although they had made time for “T”, talking and listening, because they had so few differences, there was little challenge of the status quo.



STARs can be fostered within organizations and between organizations. Especially in large organizations, the potential for internal STARs may be high as specialization between departments has increased the capacity for S (separateness or differences). In addition, downsizing may have reduced the time for T (talking and listening to challenge ideas.) Cross-functional task forces address S (separateness or differences) and T (talking and listening). They also make A (action) a requirement which makes R (reason to work together) obvious.

Relationships with lots of generative potential have four long points. In complex contexts, these need to be fostered and nurtured. However, there is a down-side. These long STARs require a heavy commitment of time. As time is a limited resource, it is important to recognize which STARs are more worthwhile. In addition, there is a need to develop STARs throughout the organization. They need to be distributed throughout the organization. Trying to centrally control all STARs limits the capacity of the whole organization.

Think about your current relationships at work – both inside the organization and outside the organization. What shape of STAR do you see in these relationships? Where do you need to further develop long STARs to address the complex contexts in your work?

Exercise One: Mapping current relationship STARS

Identify the key relationships that are engaged in this complex issue. Plot each on the STAR. (The relationships can be with individuals or institutions, and they can be either internal or external to the organization.)

Issue	Relationship	STAR
•		
•		
•		
•		
•		

For each relationship, what needs to be done to enhance its generative potential?

To get you started, here are a few examples. The lower case letters in the word “STAR” represent the gaps or weaknesses in the relationship.

- A **STaR**, is a relationship with limited action opportunities. What is blocking the action opportunities? Is it a bureaucratic approval process or the need for a supervisor’s permission to act?
- A **sTAR** is missing separateness or differences. To enhance its capacity to generate new insights, products or services, new perspectives need to be brought into the relationship. This may require new participants or at least some structured creativity exercises to reveal hidden assumptions. Who could be added or dropped to enhance the differences in the group?
- A **STar** is all talk and no action. What is preventing the relationship from moving to action? Can you change this context?
- A **stAR** has limited capacity for reflecting on the conceptual changes that are happening. So it may fail to recognize shifts in patterns and thus will expend resources on experiments without capitalizing on the learning from them.

Relationship	Type of STAR	What needs to be done
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-
-
-
-
-

Alternative to exercise one - Mapping potential relationship STARS

Do the same as exercise one but instead of identifying and mapping current relationships, identify potential relationships.

Issue	Relationship	STAR
•		
•		
•		
•		
•		

References:

Lane, David and Robert Maxfield, "Strategy Under Complexity: Fostering Generative Relationships", *Long Range Planning*, Vol. 29, No. 2, pp. 215-231, 1996

Zimmerman, Brenda J. and Bryan C. Hayday, "A Board's Journey Into Complexity Science", *Group Decision Making and Negotiation*, vol 8, pp. 281-303, 1999

Zimmerman, Brenda, and Curt Lindberg, Paul Plsek, *Edgeware: Insights from Complexity Science for Health Care Leaders*, VHA Inc., Irving, Texas, 1998 (pp. 155-160)

Exploring Wicked Questions

Wicked questions expose assumptions we hold about contexts. They are a “safe” way to expose the differences, paradoxes and challenges in tough problems. To have real impact, the questions should be shared.

Wicked questions have embedded tensions. There are no easy answers for wicked questions.

They must be stated as questions to encourage inquiry rather than quick solutions.

Write down wicked questions for a current project or issue. Try to make them as “wicked” as possible. A more wicked question is one that escapes easy answers because both sides of the tension need to be addressed.

Some examples of wicked questions posed by other managers/leaders:

- “How does focusing on our clients limit the impact of our prevention work?”
- “How is our rule of inclusivity becoming exclusive?”
- “How can we drastically reduce costs while significantly improving quality?”
- “What is the real power of maintaining the status quo even when we “know” we can’t?”
- “How can we change the whole organization when we are only a small unit?”

Exploring Min Specs



How many “rules” are currently in place in your complex problem?

Brainstorm a list of rules that could be used for this issue/project.

Test each item on the list by asking:

**Can we imagine a context where we would achieve outcome even if the rule is broken?
Drop from the list.**

If all other rules are met, but this one is violated, will we fail to achieve outcome? Keep on the list.

You can also use a min specs idea to identify what is actually operating in an organizational context. In other words, min specs need not be explicit. They represent the “rules” of interaction which are operational.

Think about a problem that is stuck. No matter what interventions are tried, nothing changes.

Now determine what are the **implicit or “autopilot” min specs** that are operating to maintain the pattern or status quo.

(This can be quite challenging. But it has the potential to determine how a system is being maintained. This then can lead to ideas for high leverage impacts.)