# The Stacey Matrix

The basic idea:

A method to select the appropriate management actions in a complex adaptive system based on the *degree of certainty* and *level of agreement* on the issue in question.

Potential context for use:

- Choosing between management or leadership approaches for a specific issue or decision.
- Making sense of an array of decisions (or agenda for a group).
- Communicating with others why a particular approach is appropriate.
- When innovations and creative alternatives are needed, this matrix can be used to deliberately try to increase the uncertainty and disagreement to nudge the system to the edge of chaos.
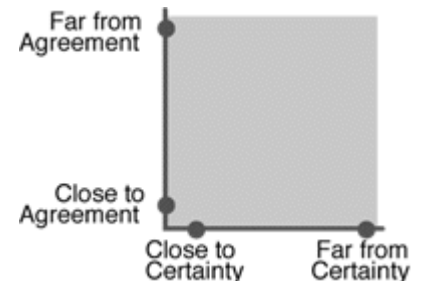
Description:

The art of management and leadership is having an array of approaches and being aware of when to use which approach. Ralph Stacey proposed a matrix to help with this art by identifying management decisions on two dimensions: *the degree of certainty* and *the level of agreement*.

Close to Certainty:

Issues or decisions are close to certainty when cause and effect linkages can be determined. This is usually the case when a very similar issue or decision has been made in the past. One can then extrapolate from past experience to predict the outcome of an action with a good degree of certainty.

Far from Certainty:

At the other end of the certainty continuum are decisions that are far from certainty. These situations are often unique or at least new to the decision makers. The cause and effect linkages are not clear. Extrapolating from past experience is not a good method to predict outcomes in the far from certainty range.
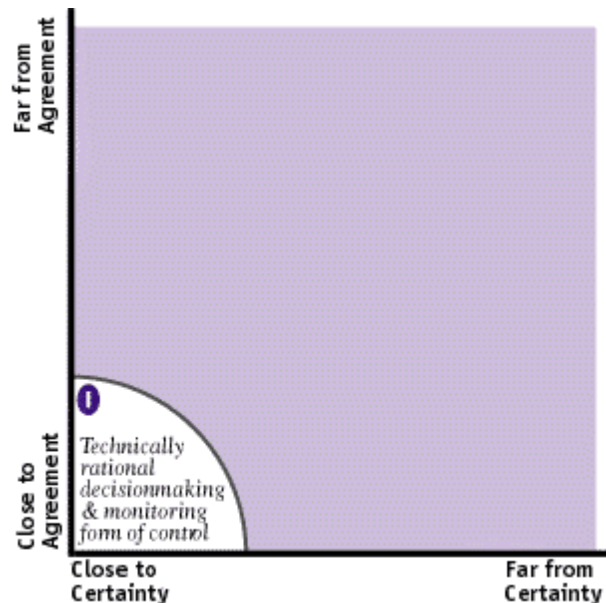
Agreement:

The vertical axis measures the level of agreement about an issue or decision within the group, team or organization. As you would expect, the management or leadership function varies depending on the level of agreement surrounding an issue.

Examining different zones within the matrix. They are:

1) Close To Agreement, Close To Certainty

Much of the management literature and theory addresses the region on the matrix which is close to certainty and close to agreement. In this region, we use techniques which gather data from the past and use that to predict the future. We plan specific paths of action to achieve outcomes and monitor the actual behavior by comparing it against these plans. This is sound management practice for issues and decisions that fall in this area. The goal is to repeat what works to improve efficiency and effectiveness.


2) Far From Agreement, Close To Certainty
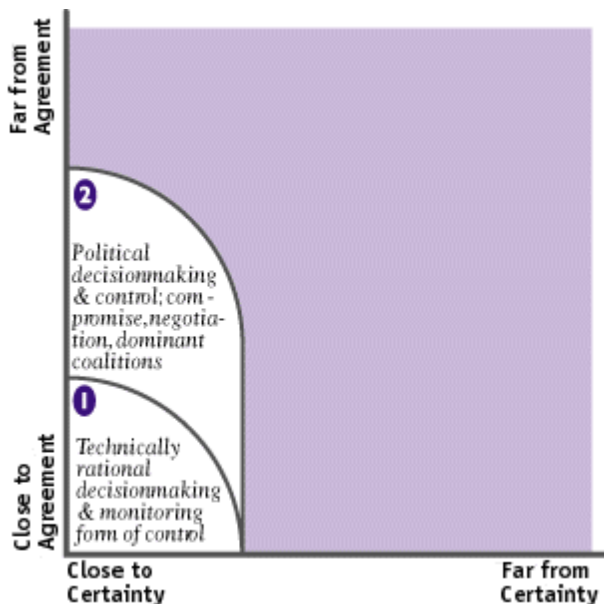
Some issues have a great deal of certainty about how outcomes are created but high levels of disagreement about which outcomes are desirable. Neither plans nor shared mission are likely to work in this context. Instead, politics become more important. Coalition building, negotiation, and compromise are used to create the organization's agenda and direction.

3) Close To Agreement, Far From Certainty
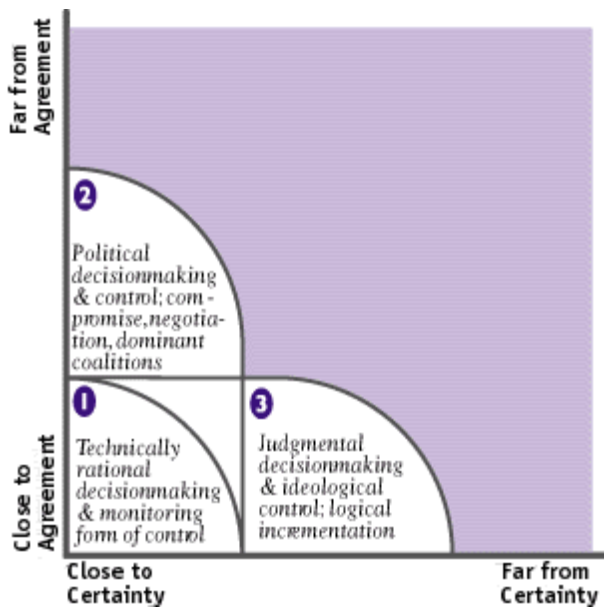
Some issues have a high level of agreement but not much certainty as to the cause and effect linkages to create the desired outcomes. In these cases, monitoring against a preset plan will not work. A strong sense of shared mission or vision may substitute for a plan in these cases. Comparisons are made not against plans but against the mission and vision for the organization. In this region, the goal is to head towards an agreed upon future state even though the specific paths cannot be predetermined.

## 4) Anarchy: Far From Agreement, Far From Certainty

Situations where there are very high levels of uncertainty and disagreement, often result in a breakdown or anarchy. The traditional methods of planning, visioning, and negotiation are insufficient in these contexts. One personal strategy to deal with such contexts is avoidance - avoiding the issues that are highly uncertain and where there is little disagreement. While this may be a protective strategy in the short run, it is disastrous in the long run. This is a region that organizations should avoid as much as possible.

5) The Edge of Chaos (The Zone of Complexity)
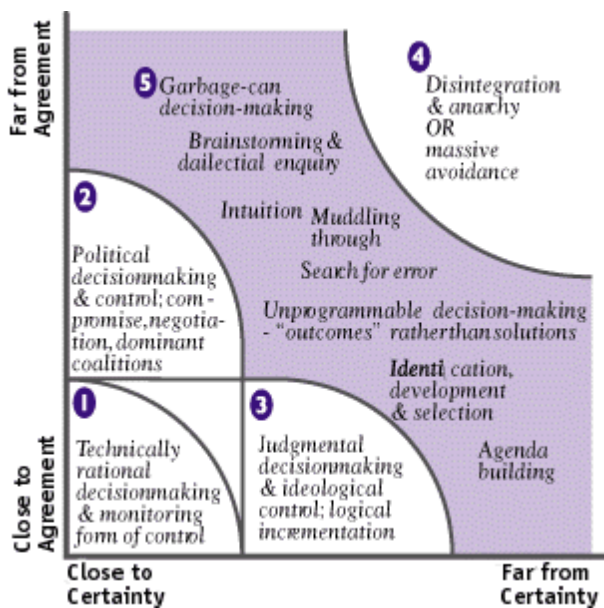
There is a large area on this diagram which lies between the anarchy region and regions of the traditional management approaches. Stacey calls this large centre region the zone of complexity - others call it the edge of chaos. In the zone of complexity the traditional management approaches are not very effective but it is the zone of high creativity, innovation, and breaking with the past to create new modes of operating.

Moving from Agreement & Certainty
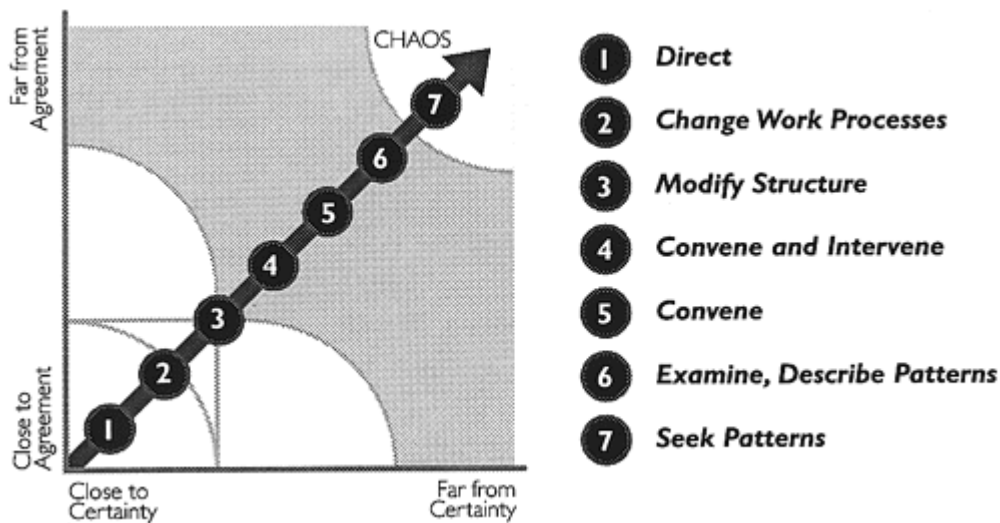
Technical Rational decision making:

Much of the management literature and theory addresses the region on the matrix which is close to certainty and close to agreement. In this region, we use techniques which gather data from the past and use that to predict the future. We plan specific paths of action to achieve outcomes and monitor the actual behavior by comparing it against these plans. This is sound management practice for issues and decisions that fall in this area. The goal is to repeat what works to improve efficiency and effectiveness.

Political decision making:

Some issues have a great deal of certainty about how outcomes are created but high levels of disagreement about which outcomes are desirable. Neither plans nor shared mission are likely to work in this context. Instead, politics become more important. Coalition building, negotiation, and compromise are used to create the organization's agenda and direction.

Judgmental decision making:

Some issues have a high level of agreement but not much certainty as to the cause and effect linkages to create the desired outcomes. In these cases, monitoring against a preset plan will not work. A strong sense of shared mission or vision may substitute for a plan in these cases. Comparisons are made not against plans but against the mission and vision for the organization. In this region, the goal is to head towards an agreed upon future state even though the specific paths cannot be predetermined.

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Complexity zone:

There is a large area on this diagram which lies between the anarchy region and regions of the traditional management approaches. Stacey calls this large center region the zone of complexity - others call it the edge of chaos. In the zone of complexity the traditional management approaches are not very effective but it is the zone of high creativity, innovation, and breaking with the past to create new modes of operating. In management we spend much of our time teaching how to manage in areas (1), (2) and (3). In these regions, we can present models which extrapolate from past experience and thereby can be used to forecast the future. This is the hallmark of good science in the traditional mode. When we teach approaches, techniques and even merely a perspective in area (4) the models seem 'soft' and the lack of prediction seems problematic. We need to reinforce that managers and leaders of organizations need to have a diversity of approaches to deal with the diversity of contexts. Stacey's matrix honors what we already have learned but also urges us to move with more confidence into some of the areas which we understand intuitively but are hesitant to apply because they do not appear as 'solid.'

A Simplified version of the Stacey Matrix
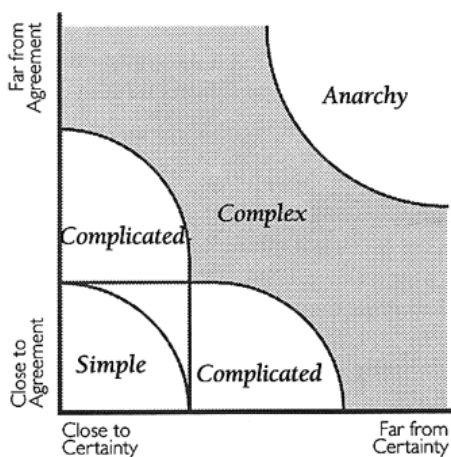
Modified from Ralph D. Stacey: "Complexity and Creativity in Organizations"

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CHAOS, COMPLEXITY, & COMPLEX ADAPTIVE SYTEMS: GLOSSARY

Agent Something that takes part in an interaction & is subsequently changed; eg a person, a society, a plant, a student, the teacher

Attractor Where a system tends to end up over time, if you plot successive points on its trajectory, which is often cyclical; eg a valley into which rain water flows after following many paths on its way down, or a wash basin.

Boundaries A demarcation or barrier of sorts that allows exchange between a system and its environment. These are permeable to outside input; eg a cell membrane, cultural rules.

Chaos The apparent absence of order in a system which is actually deterministic with hidden order. eg weather systems are often chaotic yet contain predictability

Chaotics A blend of the theories and ideas about chaos and complexity.

Complex Adaptive System (CAS) A non linear system with the potential for self- organisation in a permeable environment which at times is far from equilibrium. Evolution is based on its history. eg the immune system, stock markets, the human nervous system

Deterministic systems A linear system in which later states are clearly determined by previous ones. In contrast to **stochastic systems** where future behaviour is independent of previous states.

Dynamic systems A complex interactive system evolving over time through multiple modes of behaviour & following certain rules; eg the cardio vascular system.

Emergence The arising of new unexpected structures, patterns or processes in a self organising CAS. eg a jazz group playing live, learning.

Equilibrium A system that tends to remain at status quo, unchanged. eg a traditional school?

Edge of chaos, far from equilibrium The conditions that lead to self-organising. eg a new set of institutional rules, cognitio

Fractal This is a geometrical shape that is irregular all over yet is "**self-similar**" in that the shape looks the same from all distances, near or far. A portion is equivalent to the whole system. eg the British coastline, a cauliflower

Linear system A system in which the variables plot a straight line. Predictable changes occur and a small change has a small effect. eg thermostat

Non-linear system Variables are represented by curvilinear patterns, and feedback loops have unpredictable effects, yet can be replicable. eg Starling's curve for the heart, weather systems, presidential elections