

# Mapping the possibilities of change in complex environments

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Conventional change management is based on the premise that it is possible to close the gap between the current state of a system and a desired future state through a series of steps. Leadership plays a role in setting a desired vision and must balance the tensions between the pioneers and the traditionalists. This approach to change management may work in ordered contexts where it is easily possible to determine and coordinate the execution of a series of steps towards a goal and where leadership can use its authority over people and resources to keep a change project on track.

However, this kind of change management does not work in complex environments where decision-making is distributed among many actors and where the relations between those actors and their environment are complex. These are the typical situations in which economic development professionals try to enable change.

During the past two years we have been applying a framework developed by Dave Snowden and his team at Cynefin Co., which enables stakeholders to assess a possibility landscape for change in complex adaptive systems such as economies or industries. Their methodology is called Estuarine Mapping<sup>1</sup>. It uses the metaphor of an estuary, where water flows in and out and where tides or other factors may change what is possible and what is not. The metaphor emphasises the complex and multiple flows of possibilities in a system. It recognises that some features such as rocky landmasses may be fixed and others, such as sandbanks, may change constantly. These features significantly shape the environment, creating observable effects and shaping what is and what is not possible.

The Estuarine Map is an energy cost-over-time map. It allocates items in terms of the levels of time and energy (resources, people, cost) required to make change happen. We have always used the energy/time relation to discuss change, but now we pay more attention to the energy cost incurred when targeting change and the natural state of the system.

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<sup>1</sup> [https://cynefin.io/wiki/Estuarine\\_framework](https://cynefin.io/wiki/Estuarine_framework)



Image from *Classifying Estuaries: By Geology*, National Ocean Service, National Oceanic and Atmospheric Administration.

[https://oceanservice.noaa.gov/education/tutorial\\_estuaries/est04\\_geology.html](https://oceanservice.noaa.gov/education/tutorial_estuaries/est04_geology.html).

The approach shifts the focus from managing people and other resources towards a clear vision to understanding the rich possibilities of the environment in the present moment and the dispositions of elements in the system. This is a more natural approach to strategy and change as we only consider the proximate future.

In a project context, creating an estuarine map in a participatory way was a helpful intermediate step between collecting and structuring information and elaborating ideas for activities to change the current situation. After reviewing all information and perceptions collected, a project team and relevant stakeholders discuss the following questions and map the discussion results in the estuarine map:

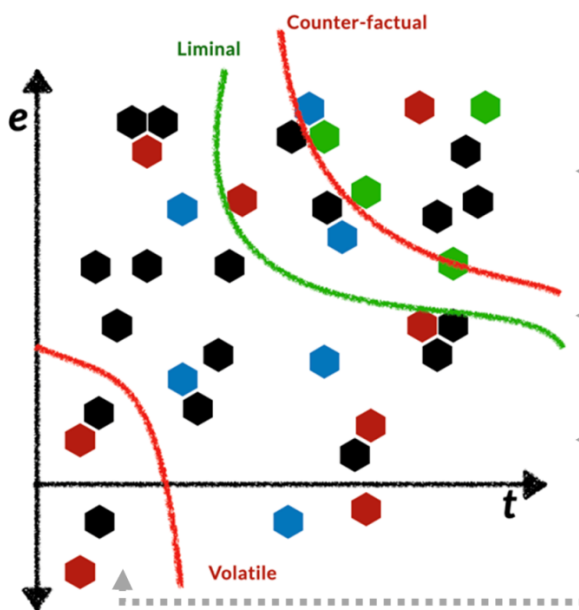
1. What is the current situation (of things we can observe in the system, including “actants”<sup>2</sup>)?
2. What is changing? What is likely to change?
3. What needs to change and how?

The answers to the first two questions are allocated to the estuarine map to understand recent and current changes in the system under review. Using the results of the analysis, it can be described where the system is now (the current state), generating a granular list of items that can either be managed or not.

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<sup>2</sup> An actant is anything that acts in a system, from people to infrastructure, to the environment, to a narrative or beliefs.

Items in the zone of possibilities can be managed and changed with available resources and within a reasonable time frame. This is the zone of action for any project. Items that change rapidly and unpredictably are in the volatile zone of the map. Managing these items means trying to mitigate their impact if possible. People in the system cannot change items in the liminal and the counterfactual zones. In both zones, time and energy requirements for change are too high for system actors to achieve any change. However, in the liminal sphere of the map, items could be influenced if outside support is provided. Here the involvement of external actors, such as an international development project or the national government, could make a difference. In the counterfactual zone, change is currently not possible. Items in this zone need to be monitored to observe whether new options for action are emerging over time.



Source: The Cynefin Co.

The answers to the third question above are used to develop activities that could trigger change towards better coordination, performance and effectiveness in the system. Based on the visualisation in the estuarine map, the analysis team can decide which items to recommend for immediate action (what to change) and the types of action to recommend (how to change them).

In the meantime, we have used Estuarine Mapping as a complexity-sensitive facilitation and visualisation technique in various projects. It has helped us to understand the increasing prominence of Nepal's local and regional economic development approach in recent years. It also served as an intermediate sense-making step during the analysis of Saudi Arabia's national quality infrastructure system in 2023/2024. We worked with a development project and its national government counterpart to map the opportunities for change in the bio sector. We worked with a team responsible for promoting innovation in a sector to identify opportunities in the industry that could only be addressed through improved coordination.

During our training events with consultants in Nepal and Germany, we were surprised by how intuitively logical this approach was for them. The participants quickly embraced the tool's terminology and effortlessly categorised the various items of their case studies within the different zones on the map. The method works well with small teams within an organisation, but also in a sense-making process between different organisations operating in a shared context. Estuarine mapping is a valuable tool that our toolbox still needed. It aligns with our approach of working with stakeholders to innovate iteratively from where the system is, utilising the resources and competencies available to the participants.