Panarchy

Idea In Short

When an innovation succeeds locally but cannot spread, or a central change disrupts front-line work, examine how different system levels interact. Panarchy helps participants map the layers influencing a shared challenge, from local practice to wider organizational or societal conditions. Groups look at how change moves between levels, where faster local experiments meet slower structures, and what could help an idea travel or gain support. Invite people from multiple levels who are involved in the transition. Use the map to identify leverage points and specific relationships to strengthen, not to claim that a complex system can be controlled from a single diagram.

A local team may discover a better way to serve customers yet struggle to spread it across a company. At the same time, a new corporate policy can alter local work before leaders understand its effects. Panarchy helps groups explore how change moves across interconnected levels of a system. Participants map factors influencing a shared challenge, examine which levels shift quickly or slowly, and identify opportunities to connect local experiments with broader structures. The practice reflects the Liberating Structures principle “Practice Deep Respect for People and Local Solutions.” It asks participants to look both down into the detail of work and up toward the conditions that enable or constrain it.

See the layers around a challenge

A panarchy map uses nested levels to represent an operating environment. These levels might include a frontline team, a department, an organization, a sector, or a wider social context. The appropriate layers depend on the challenge. Participants begin by listing factors influencing their work and ordering them from smaller to larger. They then translate the factors into a shared map, comparing how each person understands the system.

The purpose is not to create a definitive system diagram. A map is a simplified way to make interdependencies visible. Participants may need to revise the levels as they learn more or

notice that a factor belongs in more than one place. The host should ask which boundaries are useful for the group's question and which relationships matter most to the transition at hand.

Work with different speeds

The practice emphasizes that levels can move at different speeds. Local groups may test an idea quickly, while larger structures such as budgets, policy, regulation, or shared technology evolve more slowly. A successful local experiment may spread upward if leaders make room for learning and adoption. Conversely, knowledge and resources held at a higher level can move downward to support local practice. The direction is not guaranteed; participants should identify what conditions allow it.

This view helps groups avoid two common assumptions. The first is that a central decision will produce the same results everywhere. The second is that local improvement can scale without changes to resources, incentives, or governance. Panarchy asks what happens at each level and how levels influence one another. A team can then consider where a connection, policy shift, or learning exchange could create an opportunity for change.

Map relationships, not just boxes

After participants identify levels, they explore what is happening at each and how a change in one layer could affect another. Small groups can compare their maps and combine them into a shared version. A useful conversation asks where experimentation is occurring, where established practices are being conserved, what blocks a successful idea from moving, and what wider conditions could stabilize a promising innovation. These questions keep the group focused on dynamics rather than producing a static inventory.

A hospital system might map bedside practices, ward routines, hospital-wide policies, and national standards. A new infection-prevention method could begin in one ward, need evidence before spreading, and require a policy update to support adoption. A higher-level mandate may also have different effects across wards with distinct patient needs. The example illustrates how a local and system perspective can inform each other; each organization must map its own context rather than reuse another system's levels.

Include people across levels

Panarchy works best when participants represent multiple levels and perspectives. People close to the work can explain how a change behaves in practice. Managers can describe resource and policy constraints. People responsible for spreading an innovation can identify the decision points that matter. A group made up of only senior leaders may miss local detail, while a group made up of one frontline team may not see the broader conditions that determine whether a practice can scale.

The source design uses a 1-2-4-All progression and can be adapted to 1-3-All online. Participants first reflect on factors, then compare them in small groups and consolidate the levels. The standard process can take about 130 minutes, which is longer than many meeting activities. Hosts should set aside enough time for mapping and discussion, especially when the system is unfamiliar or the group needs to build a common understanding of terms.

Identify a leverage point and a connection

Once the map is visible, ask where the group has influence and where it needs another relationship. An action might be to create a channel for local teams to share evidence, invite a policy owner to observe a pilot, or secure resources for a test. The first move should be specific and connected to the system dynamic the group noticed. A generic commitment to “communicate more” is difficult to evaluate; a monthly review of pilot evidence by local and central owners has a clearer purpose.

Panarchy is useful for organizational change, sustainability initiatives, healthcare improvement, and other challenges where multiple layers interact. It can help participants identify the conditions needed for a local practice to spread or for wider guidance to support local adaptation. Research on social-ecological systems and organizational change describes how systems operate across scales and how resilience depends on connections between levels. The Stockholm Resilience Centre outlines panarchy as a framework for cross-scale dynamics, and the National Academies discuss multilevel systems in resilience research. 1, 2, 3

Keep the map alive

A panarchy map is a conversation aid, not a control panel. It helps a group see where a small change could influence a larger system and where wider structures might support or

constrain local work. Conditions change, and the map should be revisited as the challenge evolves. Participants can add new levels, remove irrelevant factors, and update their view of how ideas move. The useful result is a clearer next connection or experiment that helps the system learn across its boundaries.

- 1Panarchy and social-ecological systems
- 2Resilience and development
- 3Ecosystem services and resilience

Summary

Panarchy helps a group see how local and wider conditions shape one another. Participants map the levels around a challenge, identify which forces move quickly or slowly, and consider how innovations or constraints cross boundaries. The process can reveal where a promising practice needs support, where a large system is conserving an outdated pattern, or where local knowledge should inform broader decisions. Keep the map practical by focusing on a shared challenge and people who can influence or explain its levels. Close with a connection, experiment, or policy conversation that can move learning across the system. Revisit the conversation as the work changes and new evidence becomes available.