

Methodology Brief

Mapping cognitive topology for leadership teams

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What we do

Academy of Tribes is a psychometric intelligence platform that maps the structural shape of a leadership team — coverage, bridges, resilience — by applying Topological Data Analysis to validated psychometrics. Where most assessment tools describe individual personalities or measure team sentiment, we map the cognitive topology of how a team's minds combine. The output is a usable map, not a stack of profiles.

The instruments

Seven peer-reviewed psychometric instruments form the input layer:

- **BFI-2** — Big Five Inventory 2 (Soto & John, 2017)
- **HEXACO-60** — adds Honesty-Humility, the dimension BFI-2 misses (Ashton & Lee, 2009)
- **IPIP-NEO-120** — 30 facets at deeper resolution (Johnson, 2014)
- **ECR-R** — adult attachment: anxiety and avoidance dimensions (Fraley, Waller & Brennan, 2000)
- **PERMA** — wellbeing across five domains (Butler & Kern, 2016)
- **Ryff PWB** — six eudaimonic wellbeing dimensions (Ryff, 1989)

PID-5-BF (Krueger et al., 2012) is the seventh — practitioner-gated for clinical use; not part of the standard six-instrument suite.

Topological data analysis

Each person's psychometric profile becomes a point in a high-dimensional space, where every axis is a personality dimension or facet. The traditional approach averages across people and reports aggregate scores — which loses everything interesting about how members differ.

Topological data analysis takes the other path. Treat the vectors as a point cloud; ask what its shape looks like. Are there clusters? Where are the gaps? Which points sit between clusters, holding them together? Persistent homology, clustering over scale, and mapper-style projection give mathematically rigorous answers — and return them as readable structure. TDA gives structure where averaging gives noise.

What you get

The pipeline produces four structural outputs:

- **Cognitive Diversity Index** — how much of the available personality space the team occupies, weighted by which dimensions matter for the work.
- **Coverage map** — which dimensions are represented in the team, which are gaps. Coloured cells where coverage exists; named gaps where it doesn't.
- **Bridge connectors** — who quietly translates between sub-clusters. Bridge scores per person, identifying the structural communicators independent of org chart.
- **Resilience** — how much connectivity survives the removal of any single member. Identifies critical individuals whose departure would fragment the team.

How it's different

Predictive Index and Hogan describe individuals. Culture Amp measures sentiment, not structure. MBTI and DISC use type-boxing without psychometric rigour. Academy of Tribes maps the topology of how a team's minds combine — coverage, bridges, resilience — across multiple validated lenses. The output is the team-level structural picture, not a stack of individual profiles or a satisfaction score.

Talk to the founder — 30-minute intro call.

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