1. Model composition

Same model or mixed models; role prompts; competence and error correlations.

2. Interaction graph

Directed or undirected; dense or sparse; fixed or dynamic; allowed and realized edges.

3. Exchange medium

Direct messages, shared files, repositories, tools, or an external platform.

4. Organization

Designed roles; learned policies; emergent conventions. These can coexist.

5. Memory

Private or shared; lifetime; retrieval and updates; provenance and access control.

6. Population scale

Concurrent $N_{\mathrm{conc}}(t)$; cumulative $N_{\mathrm{cum}}(T)$; configured capacity N_{cap}.

7. Baseline control

Model and tasks; tools and context; tokens, compute, dollars, or wall-clock time.

8. Budget and outcome

Quality, latency and cost; diversity, coordination failures and safety outcomes.

A swarm result is conditional on all eight descriptors. An agent count alone does not identify an experimental treatment.