

How We Define Markets, Evaluate Evidence, and Maintain Rankings

A practical guide to category design, evidence processing, tiering, review, and editorial independence

Professor Keith Lee · Swiss Institute of Artificial Intelligence

23 July 2026 · Online briefing



Six questions this briefing answers

- 01 Why was our firm placed in this category?
 - 02 What evidence was considered—and how was it verified?
 - 03 Why can one firm appear in several rankings?
 - 04 Why are results published in tiers?
 - 05 What happens when a firm submits a correction?
 - 06 **Does recognition licensing affect the ranking?**
-

Ranking News links research, intelligence, and rankings

GIAI · institutional governance and common standards

RESEARCH

SIAI Research

Develops and publishes the methodological foundation.

INTELLIGENCE

The Economy

Provides research, editorial intelligence, and wider business reach.

APPLICATION

Ranking News

Applies the framework through specialist ranking publications.

Advisory Ranking · Capital Ranking · Healthcare Ranking · Wealth Ranking · other verticals

One universal score creates business-model bias

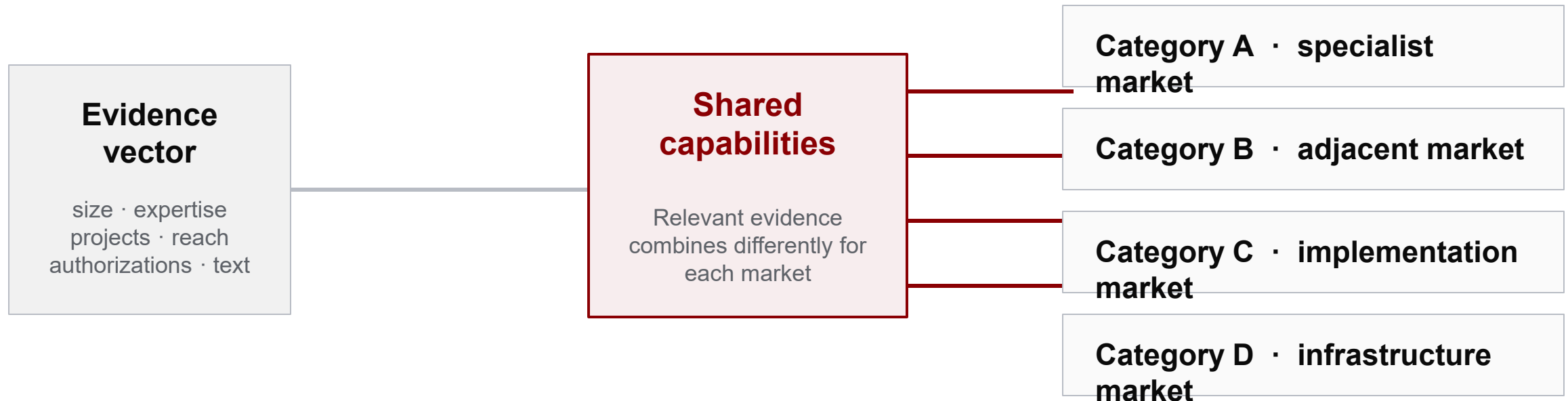
BUSINESS MODEL	WHAT DRIVES CAPABILITY	RISK IN ONE UNIVERSAL SCORE
Commercial bank	Assets · deposits · distribution	Scale indicators dominate
Investment bank	Transactions · sector expertise · relationships	Advisory capability is understated
Insurer	Underwriting · reserves · risk pooling	Balance-sheet meaning changes
Asset manager	AUM · mandates · investment capability	Client assets can be misread as own scale
Private capital	Funds · deployment · portfolio operations	Specialization disappears

The problem is not merely choosing the wrong weight. It is assuming that one globally correct weight exists.

One evidence base can support several rankings

PLAIN-ENGLISH MODEL

evidence for firm i → several category scores



Different weights · irrelevant links excluded · specialists remain visible · diversified firms may appear more than once

A ranking begins by defining the eligible market

- | | | |
|----|-------------------------------|---|
| 01 | Activity | What commercial or professional activity defines the category? |
| 02 | Scope | Which geography, publication period, and market boundary apply? |
| 03 | Entity | Are groups, subsidiaries, and brands evaluated together or separately? |
| 04 | Material participation | What evidence shows the firm genuinely competes in this market? |
| 05 | Special conditions | Are authorization, government sponsorship, or official partnerships required? |
-

Outside the eligible universe ≠ a low score inside the category

Evidence hierarchy outranks publicity volume

1	Authoritative official sources	Government registers · regulatory authorizations · public filings · audited reports
2	Verifiable operational evidence	Disclosed projects · mandates · teams · offices · partnerships · transactions
3	Trusted research and editorial sources	Industry associations · specialist databases · established publications · The Economy
4	Firm submissions and open-source discovery	New evidence supplied by firms or discovered online—then independently verified

The Economy is a principal research and editorial source—not an exclusive source, and never a shortcut around verification.

Raw information must become traceable evidence

1 · DEFINE

Market and candidates

- Category definition
- Candidate discovery
- Eligibility rules

2 · BUILD THE EVIDENCE

Turn raw information into model-ready records

Entity resolution
Source + date
recording
Duplicate removal
Parent/subsidiary
mapping

Comparability checks
Evidence windows
Missing vs structural
absence
Category relevance

3 · ESTIMATE & REVIEW

Model, market review, publication

- Estimate connected outputs
- Review market meaning
- Test stability
- Publish and version

Each material record should retain its source, date, entity, category relationship, and verification status.

The model estimates; experts define the market

THE MODEL

Processes evidence consistently

- Estimates shared and category-specific relationships
- Allows different weights across outputs
- Reveals cross-category strength
- Supports repeatable recalculation

METHODOLOGY & INDUSTRY REVIEW

Defines what the market means

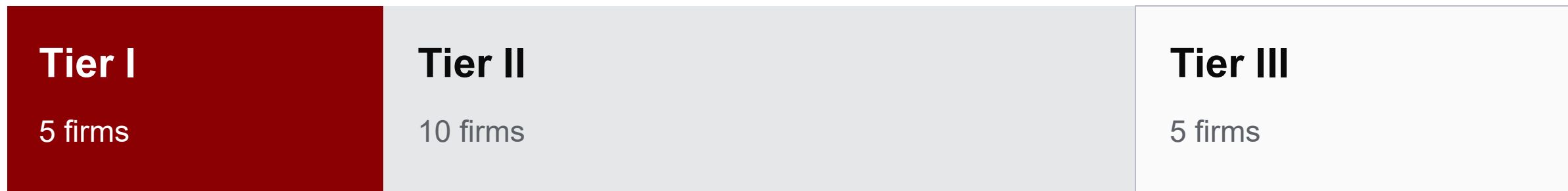
- Defines candidate universes and eligibility
- Interprets latent capabilities
- Distinguishes real market boundaries
- Decides when to split, merge, or rename

Review should change the market definition or model structure when justified—not move firms until the list looks intuitive.

Tiers show what the evidence can distinguish

The model produces continuous estimates. Publication should not pretend that every adjacent place is decisively different.

COMMON TOP 20 FORMAT



5/10/5 is an institutionally calibrated publication format—not a universal mathematical constant. Larger categories may use structures such as 5/10/30.

Tiering is a more honest representation of the distinction supported by the available evidence.

Continuous review, controlled publication

Evidence is continuously reviewed. Material publication changes follow a controlled and versioned process.

FACTUAL CORRECTION

Wrong authorization, office, identity, ownership, or transaction record

Correct the evidence and reassess affected outputs

EVIDENCE EXPANSION

Previously unavailable data or newly verified activity

Add the evidence and rerun the relevant model

TAXONOMY REVISION

Evidence shows that one category contains distinct markets

Split, merge, rename, or redesign the structure

Responsive methodology should sound disciplined—not volatile.

One yacht market became two connected rankings

BEFORE

Mixed yacht-builder output

Shared firms and shared capabilities produced one blended category.

AFTER MARKET REVIEW

Luxury Yacht Builders

Luxury market · design · production

Shared marine capability

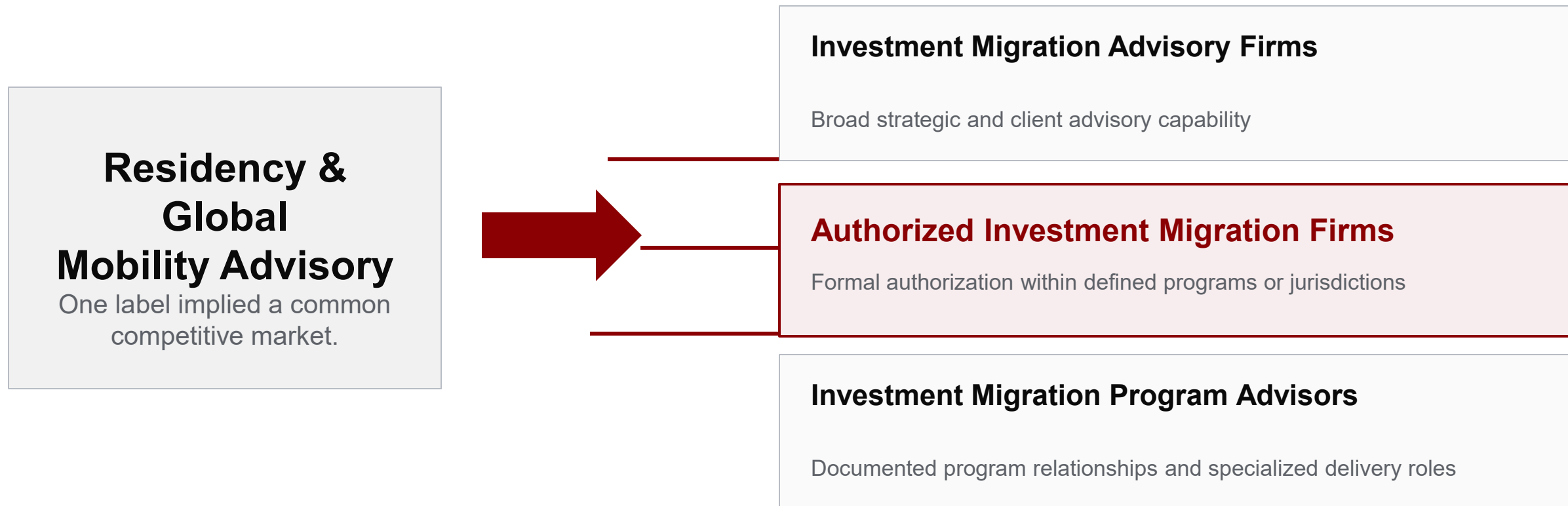
Superyacht Builders

Scale · bespoke complexity · engineering

The categories remain connected—and a firm may appear in both when the evidence supports both capabilities.

One mobility label concealed three distinct markets

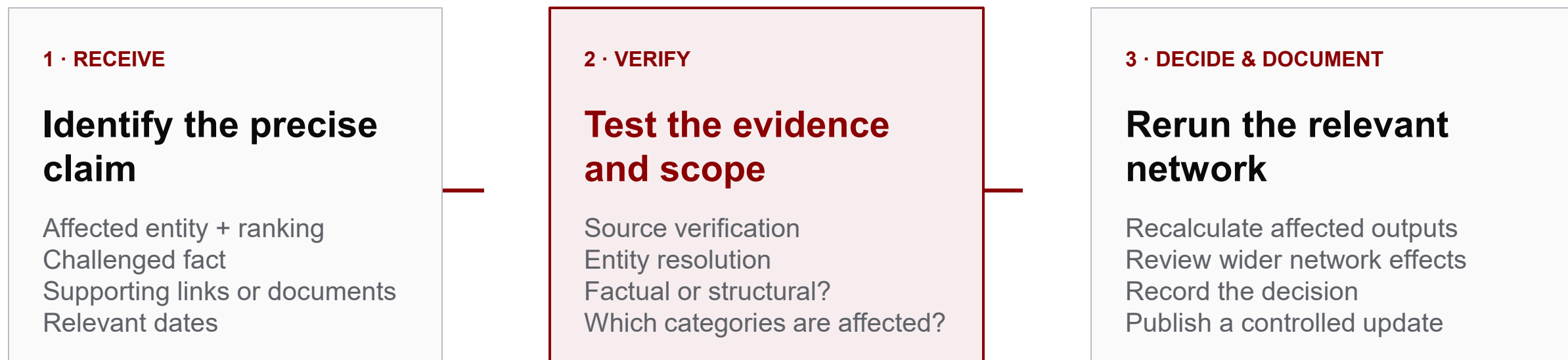
INITIAL BROAD LABEL



Government authorization and program relationships are market-defining conditions—not interchangeable indicators.

A rebuttal can initiate review—not determine the outcome

A submission is treated as a source of potentially valuable information—not as an instruction.



A challenge may improve a fact, an evidence set, or the category taxonomy—but evidence governs the result.

Recognition and licensing remain separate systems

RANKING METHODOLOGY

Determines recognition

- Candidate eligibility
- Category and tier
- Position and continued inclusion
- Factual review and corrections

RECOGNITION LICENSING

Governs use and distribution

- Badge and communications rights
- Recognition materials
- Visibility and distribution benefits
- Optional The Economy Network exposure

The ranking determines who is recognized; the license determines how far that recognition can be used and distributed.

Five principles define a defensible ranking system

A defensible ranking is not one universal scalar—and not a collection of unrelated lists.

It is a connected measurement system that preserves shared capabilities while recognizing that excellence takes more than one form.

- 01 Define the market before comparing firms
- 02 Use connected but distinct rankings for related markets
- 03 Keep evidence traceable, comparable, and category-relevant
- 04 Let credible new information improve data and taxonomy
- 05 **Keep commercial licensing outside editorial recognition**

READ MORE

Methodology paper

siai.org/research

Briefing notice
[siai.org/notice/2026/07/
20260729367](https://siai.org/notice/2026/07/20260729367)

Formal representation of the $p \rightarrow k$ architecture

$$\mathbf{x}_i = \mu + \Lambda \mathbf{f}_i + \varepsilon_i$$

observed evidence

loading structure

k category-specific latent scores

indicator-specific variation

Instead of one score

$$s_i = \sum_j w_j x_{ij}$$

Estimate a score vector

$$\mathbf{f}_i = (f_{i1}, f_{i2}, \dots, f_{ik})^T$$

Factors may remain correlated: connected markets need to be distinguishable, not artificially orthogonal.

Sparse links make category relevance explicit

$\Lambda = M \odot B$

M defines which indicator-to-category links are admissible; B contains the estimated weights.

ILLUSTRATIVE RELEVANCE MATRIX	Advisory	Authorized	Implementation	Program
Geographic reach	●	●	●	●
Regulatory authorization	●	●	●	●
Implementation projects	●	●	●	●
Transaction capability	●	●	●	●
Program relationships	●	●	●	●

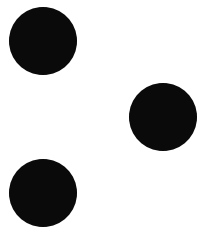
Illustrative only: a zero means structurally excluded—not missing or weak performance.

Gibbs updates support the layerwise RBM

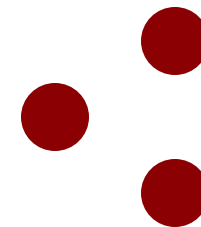
$$E(\mathbf{v}, \mathbf{h}) = -\mathbf{a}^T \mathbf{v} - \mathbf{b}^T \mathbf{h} - \mathbf{v}^T \mathbf{W} \mathbf{h}$$

Selected adjacent layers can be represented with Restricted Boltzmann Machine modules.

VISIBLE LAYER $\mathbf{v}$



HIDDEN LAYER $\mathbf{h}$



$$\mathbf{h}^{(t)} \sim P(\mathbf{h} \mid \mathbf{v}^{(t)}) \quad \cdot \quad \mathbf{v}^{(t+1)} \sim P(\mathbf{v} \mid \mathbf{h}^{(t)})$$

Alternating block Gibbs updates follow from the bipartite conditional-independence structure.

Information criteria test structure—not ranking validity

$$\text{AIC} = -2\ell(\theta) + 2d$$

$$\text{BIC} = -2\ell(\theta) + d \log n$$

Within an economically constrained design space, information criteria can compare whether:

- 01** an additional latent node improves representation enough to justify its complexity
- 02** an intermediate capability layer fits better than a direct input-to-output mapping
- 03** two proposed outputs are sufficiently distinguishable to support a branch

They compare candidate architectures; they do not certify that a published ranking is substantively correct.

Methodological limits are explicit

The framework improves representation. It does not transform ranking into an exact science.

DATA	The model cannot repair missing, duplicated, promotional, or systematically biased evidence.
IDENTIFICATION	Closely related factors may remain correlated or only partially separable.
COMPLEXITY	Additional layers increase flexibility—and also overfitting and opacity risk.
JUDGMENT	Category interpretation and eligibility still require documented expert review.
PUBLICATION	Tier boundaries communicate groups; they do not prove natural market discontinuities.

Methodological credibility depends as much on restraint, traceability, and governance as on the point estimate.