

Session 3.

Constructing university GenAI ecosystems in the Chinese context

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Session objectives

By the end of this session participants should be able to:

- Understand the role of universities within GenAI ecosystems.
- Identify the main components of effective university AI ecosystems.
- Compare elite and non-elite university pathways to AI development.
- Analyse the concept of Low-Baseline Technological Equilibrium (LBTE).
- Explain how university actorhood and collective intelligence support innovation.
- Evaluate Capital Normal University's ecosystem readiness and future development opportunities.

Section 1.
***Universities in the meso-layer
of GenAI ecosystems***



The connective meso layer in the AI ecosystem

Macro (national sovereignty in the globalised context)



Exo (regional economic/technological integration)



Meso (institutional/organizational innovation)



Micro (collaborative personal/social praxis)

The meso-layer connects policy with implementation and practice

Ecosystem dynamics within the meso-system

Macro-system relations – state-led

- Political & regulatory frameworks
- Strategic investment
- Regional economic-tech co-ordination



Meso-system relations – layers of mediation

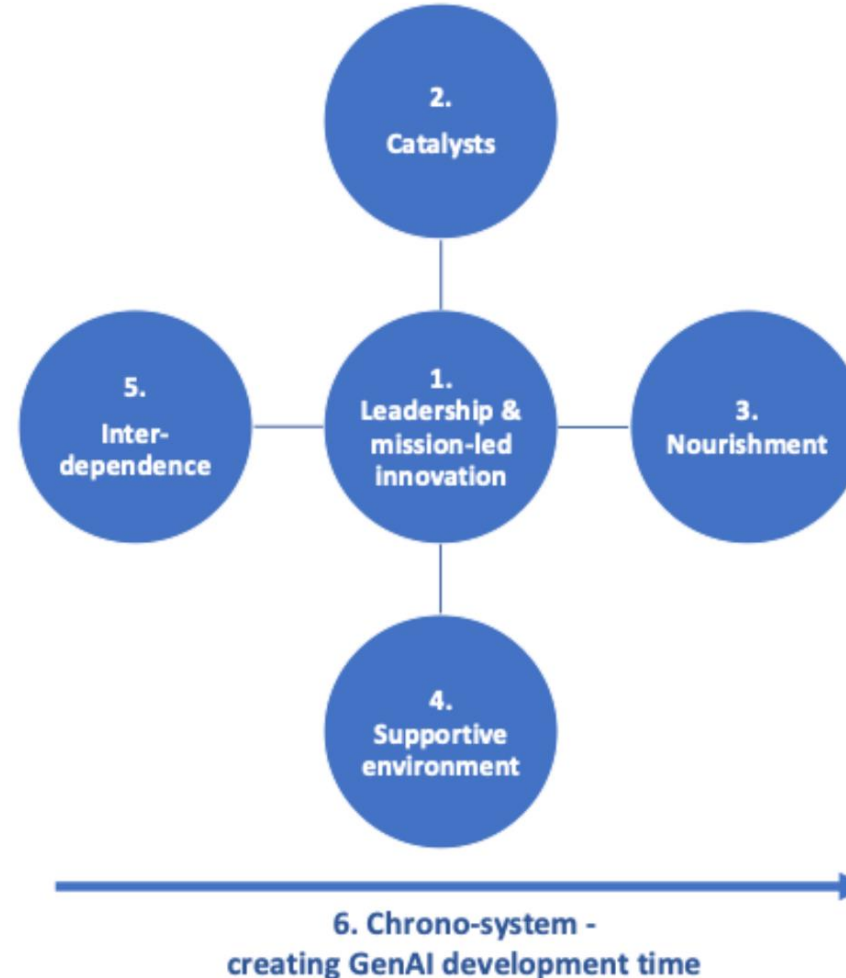
- Developing strong mediation layers
- Translating macro national frameworks
- Upscaling of innovative micro-practices



Micro-system relations – collective activity

- Innovative personal GenAI practices
- GenAI communities of practice – collective activity
- Developing technological intellectuals

Reciprocal elements in the meso-system



GenAI ecosystem elements

Ecosystem element	Function in meso-level ecosystem
1. Leadership and mission-led innovation	Translates external factors into strategies that make sense within a particular university.
2. Material catalysts	Creates access to the technological, financial and organisational resources
3. Supportive environment	Develops governance frameworks, infrastructures and enabling conditions.
4. Nourishment through feedback loops	Facilitates circulation of experience from practice to inform strategic decisions
5. Collaborative inter-dependence	Creates collaborative arrangements, including GenAI communities of practice
6. Chrono-system development	Aligns organisational timescales to enable the strategy sequencing

Meso-layer ecosystemic development and China

Connects national AI strategy with local implementation

Diffuses innovation beyond elite hubs

Strengthens university-industry-government collaboration

Develops AI talent and human capital at scale

Reduces regional and institutional inequalities

Accelerates AI adoption across the economy

Scales micro-level innovation into system-wide transformation

Creates collective and collaborative intelligence networks

Provides the institutional foundation for high-quality development

Builds technological sovereignty and resilience

Section 2.

University GenAI ecosystems



Why universities matter for assistive AI

Talent Developers

- Develop human capabilities that complement machine intelligence
- Cultivate technological organic intellectuals

Knowledge Producers

- Generate the research, data and expertise that underpin AI systems
- Advance scientific discovery through human-AI collaboration

Hosts of Specialist Expertise

- Medical professionals applying AI in healthcare
- Engineers using AI in design and production

Innovation Hubs

- Connect research, industry and public services
- Experiment with new forms of human-machine collaboration

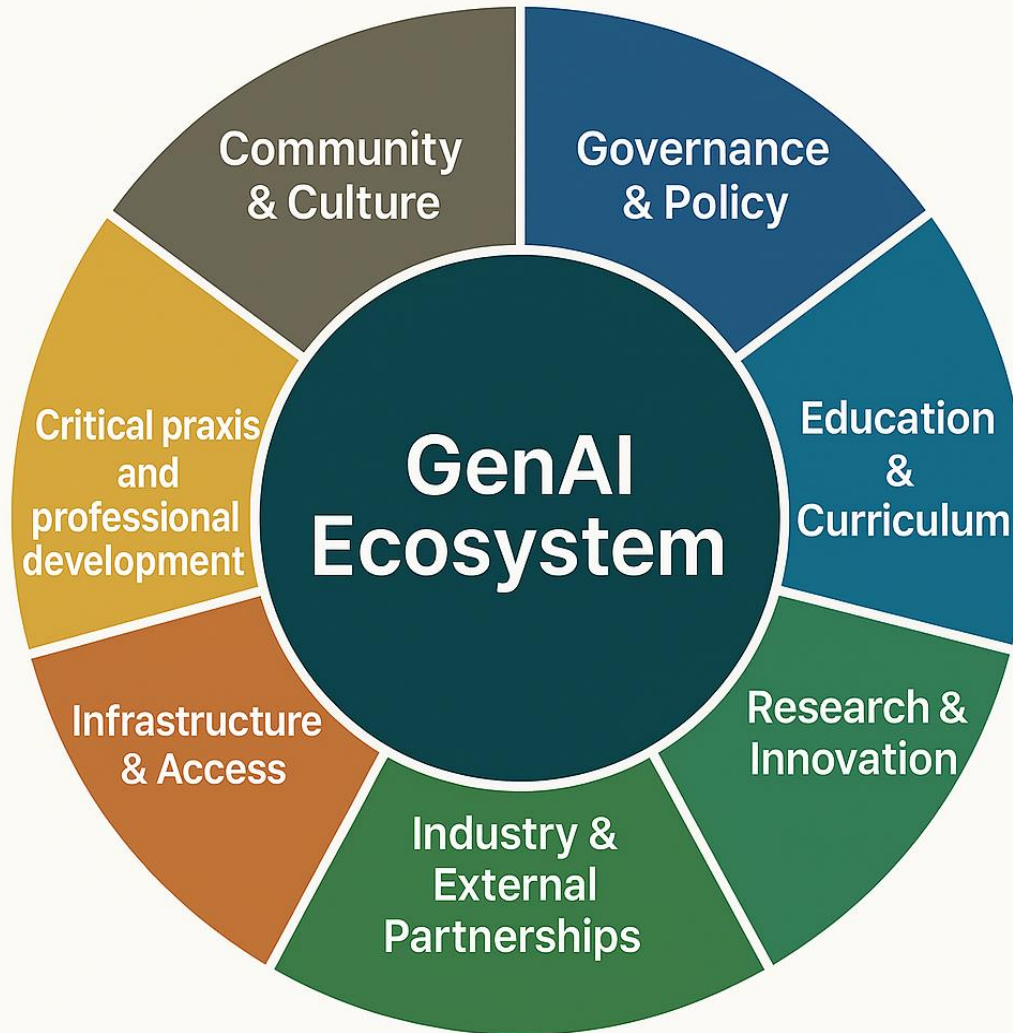
Regional Anchors

- Link universities with businesses, schools and communities
- Ensure AI benefits are distributed beyond major technology centres

Public Institutions

- Promote ethical, accountable and socially beneficial AI
- Provide independent expertise on governance and regulation

University GenAI Ecosystems



- Reciprocal relationship of parts as a functional unit
- Ecosystem synergies support innovation
- Socio-innovation ecosystems need to be 'mission-led'
- Catalytic factors kickstart the ecosystem (e.g. development programmes)

University GenAI innovation ecosystems (1)

1. Governance & policy

- **Institutional Guidelines** - ethical use, academic integrity, privacy, and compliance.
- **AI Governance Bodies** - committees or centre for oversight and global alignment.

2. Education & curriculum

- **Curriculum embedding**: AI literacy across all disciplines.
- **Mandatory AI Ethics Modules**: For students and staff.

3. Research & innovation

- **Innovation projects** - linking education, research, and industry.
- **Dedicated institutes & labs** - foundational and applied GenAI research.

University GenAI innovation ecosystems (2)

4. Industry & External Partnerships

- **Collaborations with Tech Companies** - for LLMs, multimodal AI, and specialist LLMs
- **Joint Ventures:** Education-industry innovation hubs.

5. Critical praxis and professional development

- **Staff Training Programmes** - pedagogical use of GenAI (e.g. Collaborative Critical Praxis).
- **Continuous Learning** - micro-credentials and certifications.

6. Infrastructure & Access

- **Dedicated webpages & portals** - centralized resources and guidelines.
- **AI Tools & Platforms** - secure access for staff and students.

7. Community & Culture

- **Ethical AI Awareness Campaigns.**
- **Open Forums:** For dialogue on AI's societal impact.

Section 3.
***China's elite university hubs and
developed GenAI ecosystems***



Key features of China's elite GenAI hubs

- Concentration of top research talent and doctoral students.
- Access to substantial state and industry funding.
- Strong computing infrastructure and AI laboratories.
- Close partnerships with leading technology firms.
- Ability to attract and retain global talent.
- Interdisciplinary research capabilities.
- Dense innovation ecosystems (start-ups, incubators, venture capital).
- Influence over national AI standards, policy and strategy.
- Large repositories of research data and specialist knowledge.
- Prestige effects that attract further resources and collaborations.

Fudan & Tsinghua Universities – elite GenAI hubs

Dimension	Fudan University	Tsinghua University
Education	100+ AI literacy courses integrated across disciplines.	AI+ Talent Cultivation Initiative embedding AI across all disciplines.
Research	Strong emphasis on AI-for-Science (materials, life sciences, earth sciences).	College of AI (CollegeAI) for foundational breakthroughs. Institute for AI Industry Research (AIR) focusing on LLMs, multimodal AI & healthcare AI.
Industry links	Collaborations with global organizations for governance and ethics .	Deep industry partnerships (e.g. ByteDance , DeepSeek for scalable LLMs
Governance	Centre for Global AI Innovative Governance	Hosts International AI Cooperation and Governance Forum annually.

Section 4.
***China's non-elite universities, the
Low-Baseline Technological Equilibrium and
university actorhood***



China's non-elite universities – uneven development and GenAI readiness

- Around 3,000 universities operate within diverse regional and institutional contexts.
- Many universities face constraints in funding, specialist expertise, and industry connections.
- GenAI adoption is often characterised by experimentation rather than systemic transformation.
- Institutional capabilities range from early-stage exploration to more developed local ecosystems.
- Different degrees of university capacity to innovate and scale change.

Low-Baseline Technological Equilibrium (LBTE)

Self-reinforcing cycle of underdevelopment - low-capacity limits innovation, and limited innovation further constrains capacity building.

- **Limited institutional capacity** - governance, digital infrastructure, staff development, research capability, and curriculum innovation.
- **Low-risk, incremental behaviour** - institutions prioritise compliance and short-term adaptation over experimentation and innovation.
- **Fragmented implementation** - isolated projects that fail to become institution-wide practices.
- **Thin meso-level system** – lacking networks, and partnerships needed to diffuse innovation across institutions.
- **Restricted research and industry connectivity** - reduced access to funding, expertise, data, and advanced technological infrastructure.

The LBTE condition can be seen as example of ‘institutional bottleneck’ in China's diffusion application revolution

Sequenced breaking out of the LBTE

- GenAI guidelines and governance frameworks
- Communities of practice
- Staff training and capability development
- Cross-functional working groups
- Small-scale pilot projects
- Sharing effective practice
- External partnerships and support networks
- Scaling successful innovations

Universities do not escape LTBE primarily through technology but through the mobilisation of distributed expertise, enabled by institutional leadership, communities of practice, and ecosystem-building partnerships.

Distributed expertise and university actorhood

- **GenAI expertise is widely distributed** among staff, students and professional services as informal distributed expertise
- **‘University actorhood’ identifies, connects and mobilises** dispersed expertise across the institution.
- **Communities of practice** convert individual know-how into collective capability.
- **Leadership legitimises experimentation** and provides strategic direction.
- **Institutional learning systems** capture and scale successful innovations.
- **Cross-boundary networks** strengthen knowledge sharing and collaboration.

This collective intelligence drives ecosystem transformation, helping universities break out of the LTBE.

The position of CNU in November 2026

What developments have taken place at CNU during 2025-2026 that might affect its position on an LBTE-GenAI ecosystem readiness continuum?