

# The entrepreneurial university as an institutional entrepreneur in regional innovation system development: The case of Tongji Creative Cluster in Shanghai

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# Research question and Research gap

## Question

- How university as a key actor contributes to the changes of institutional settings in regional innovation system?
  - Taking as example an innovative service industry cluster (Tongji Creative Cluster) in Shanghai, China.

## Gap

- The current literature concerning the role of university in the changing society, characterised by knowledge economy or innovation system, mainly accentuates the economic role and entrepreneurial nature of university without paying much attention to the potential of entrepreneurial university as a key actor changing social context or institutional settings.

# Tongji Creative Cluster

- It originated from the spontaneous agglomeration of creative industries around Tongji University in Shanghai by harnessing the superiority of the university's leading disciplines (e.g. architecture and civil engineering) in commercialising academic research and managing industrial linkages.
- It offers a new model of regional innovation system development:
  - A delayed government-led Triple Helix model.

# The University: Tongji University

- A research university in Shanghai
  - QS 2015 (Architecture and Built Environment No. 16)
- Jointly managed by the Ministry of Education and Shanghai Municipal Government
- Receiving strong government endorsement and substantial investment in developing its superior disciplines such as architecture, urban planning and civil engineering.
- Gradually engage with knowledge-intensive services around the university.



# The region – Yangpu District, Shanghai

- Yangpu District, where Tongji University is located, suffered urban decaying as a traditional industry bases (Textile and manufacturing).
- The government of the district was under the pressure to transform the modes of economic development.

- Contribution of Industry to Urban Economic Growth, by Added-Value

year	1992	1993	1994	1995	1996	1997	1998
Urban economic growth (%)	32.7	21.4	22.1	25.2	19.9	22	12.9
The contribution of industry to urban economic growth (%)	12.45	11.48	8.42	2.78	-2.24	1.65	-0.97

# Contribution of Tongji University to local economic development

- Developing spin-off enterprises to overcome the short supply of human resources and public services in the fields of architectural design and civil engineering
- Attracting more enterprises in the fields to locate in the region
- GDP growth
- Transforming economic structure and development of local region (district) where the traditional industry turned to become a negative force for economic growth



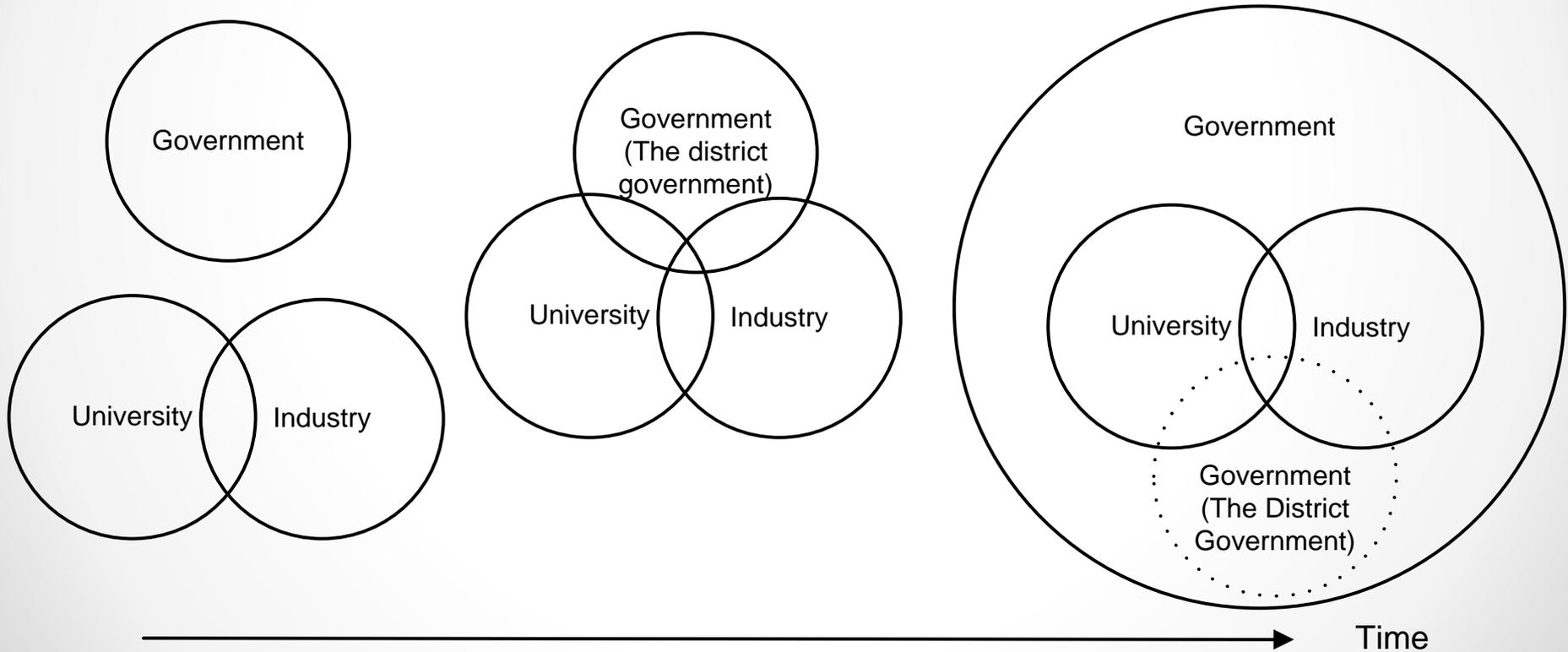
○ Index about the Development of Tongji Creative Cluster

year	the year of 2006	the year of 2010	Increasing rate
Number of Enterprises	227	800	252.42%
Number of Employees	6135	31000	405.29%
Floor Area	288600 m2	523000 m2	81.2%
Output Value	2.3 billion yuan	15 billion yuan	552%
Tax to the District	208 million yuan	504 million yuan	142%

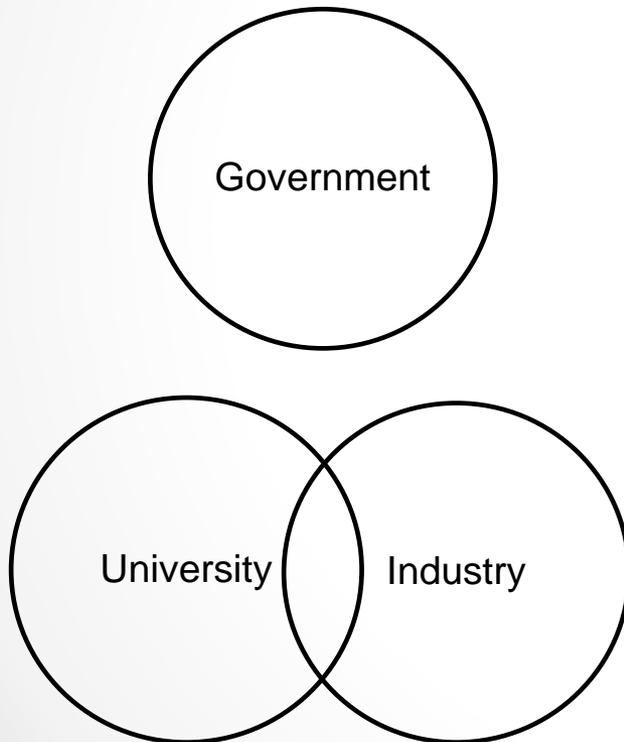
# Development of Tongji Creative Cluster

- Stage 1: 1990s
- Spontaneous agglomeration of innovative industries around Tongji University.
  
- Stage 2: 2000s
- The involvement of district government.
  
- Stage 3: 2008 onward
- Inclusion in municipal and national innovation development plans.

# Triple Helix development

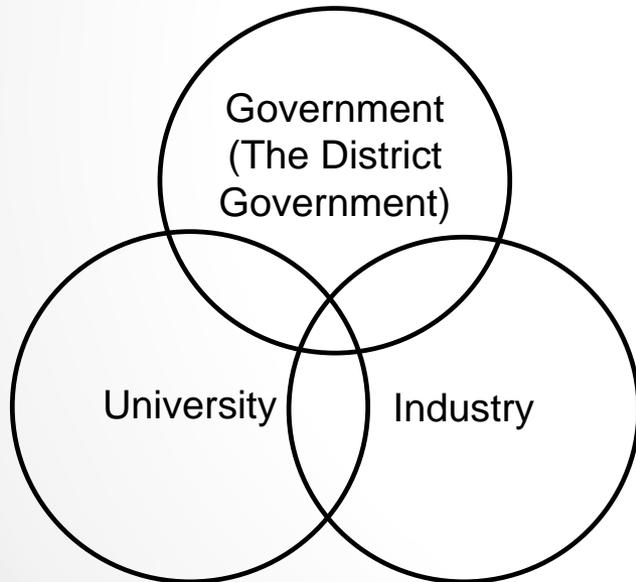


# I: University and industry interaction without governmental intervention



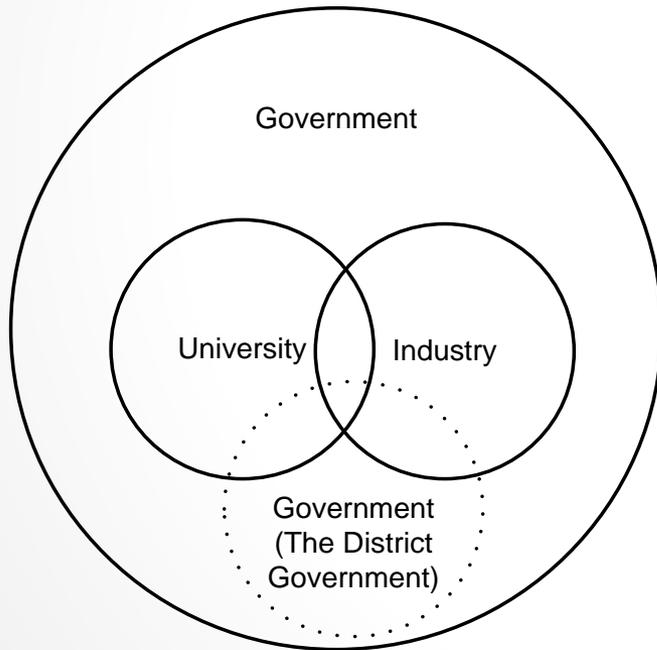
- First, it is important to offer relaxed government control over university and industry collaboration in the early stage.
- This enables the free development of bottom-up initiatives and the self-organisation of spontaneous activities.
- However, a bottleneck for further development of the cluster is lacking investment, particularly because the industrial actors in the cluster are SMEs.

# II: Overlapping model (Government as the partner)



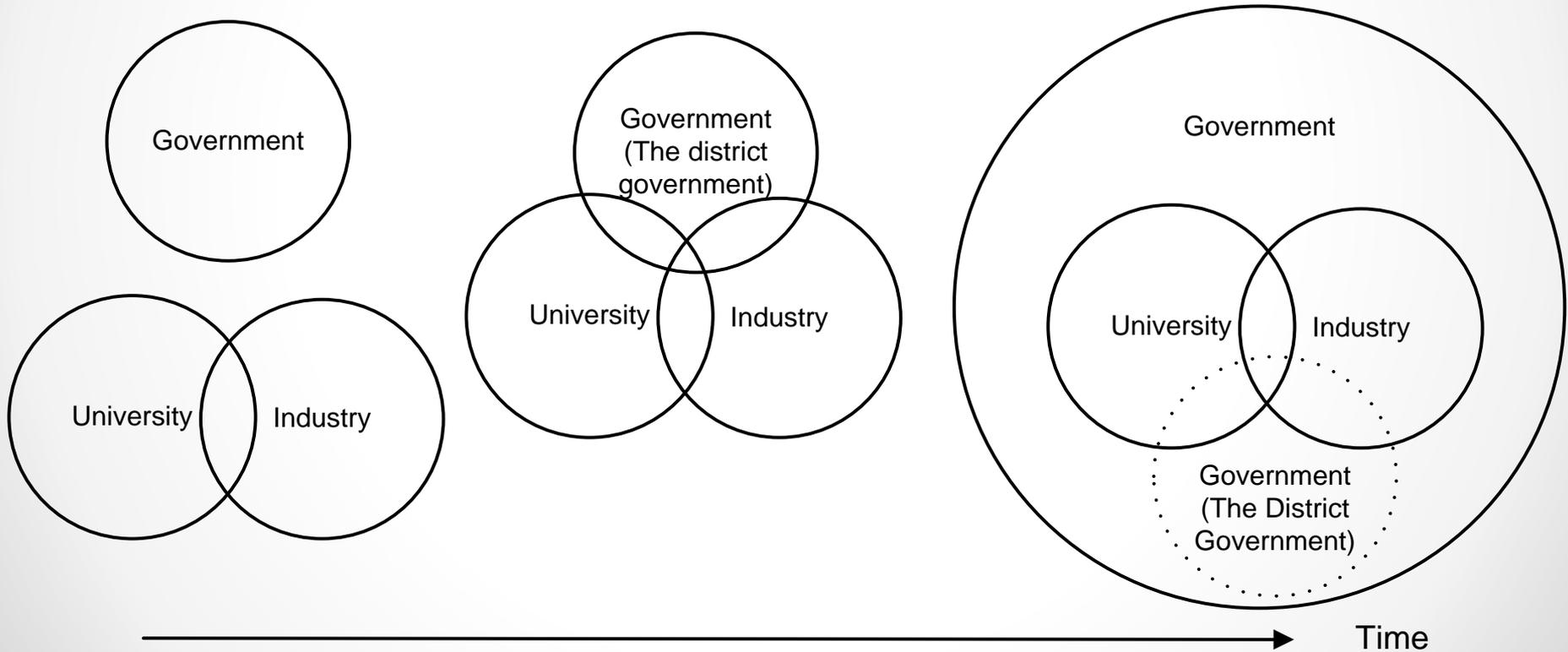
- Second, the district government's involvement was crucial as it provided the necessary resources for the expansion of the cluster but performed its role more like a partner.
- The district government appreciated the cluster's economic and social value, and intended to integrate it into the urban planning in the region.
- With the negotiation and joint planning between the university and the district government, the cluster adjusted the development orientation and optimised the system of administration.
- Thanks to this equal relationship, the re-orientation was achieved through trial and error process rather than simply following a governmental plan.

# III: Government-led model



- Third, the eventual integration of the cluster into both regional and national innovation systems is also important.
- An innovation system incorporates complex functions and diverse interaction among various organisational factors, especially in China, where there is mix of state control and market mechanisms.
- Therefore it would be difficult to achieve the desired goals without the central coordination of the central or Shanghai municipal government.
- As the cluster has gone through a long process of trial and error based on bottom-up initiatives, stricter control by the government involves less risk of taking a wrong direction.

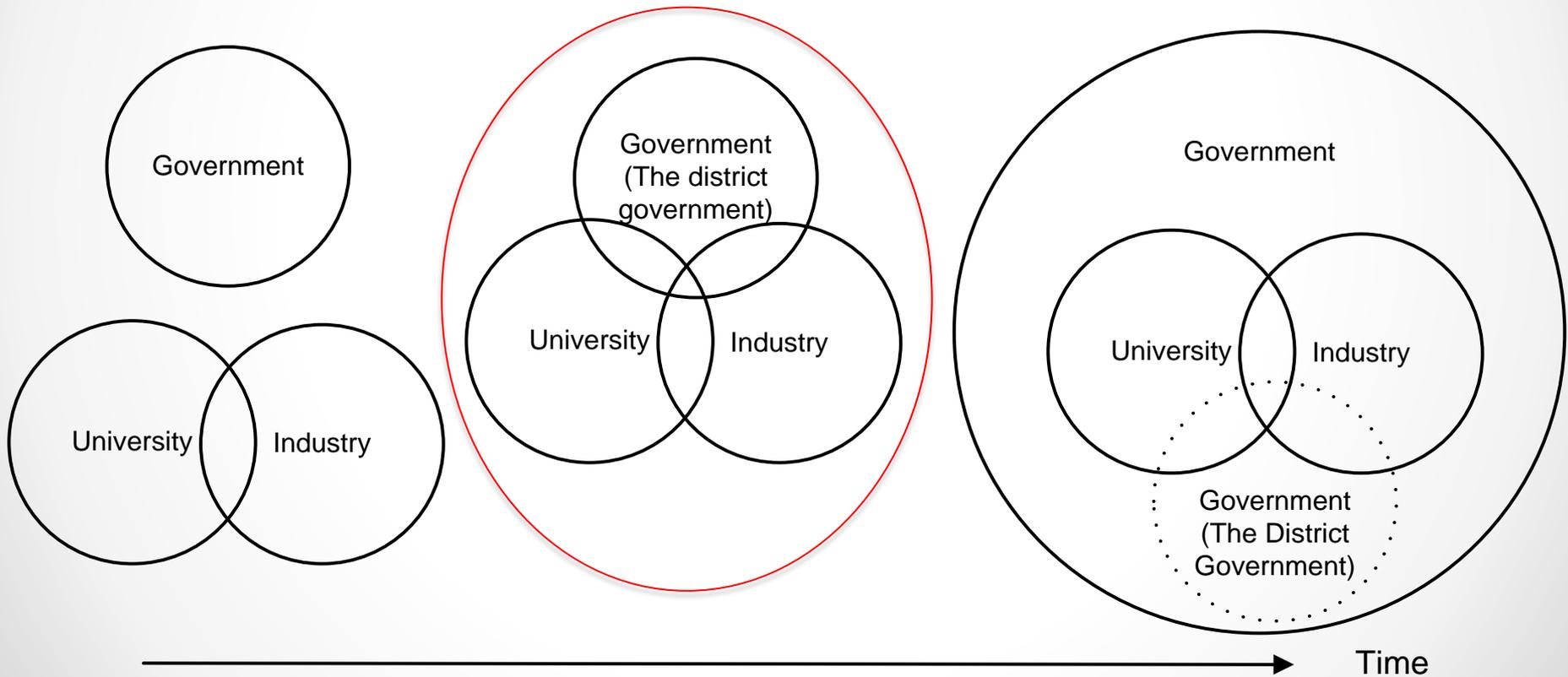
# Delayed government-led model



# What special of the case?

- While it is commonly assumed that the statist Triple Helix model characterises the development of the innovation system in China,
- the practices of the Tongji Creative Cluster take a different approach, combining both bottom-up initiatives in the initial stage and top-down coordination in later developments.
- Particularly an ideal (balanced) model derived from the Western context appeared in the second stage.

# Delayed government-led model



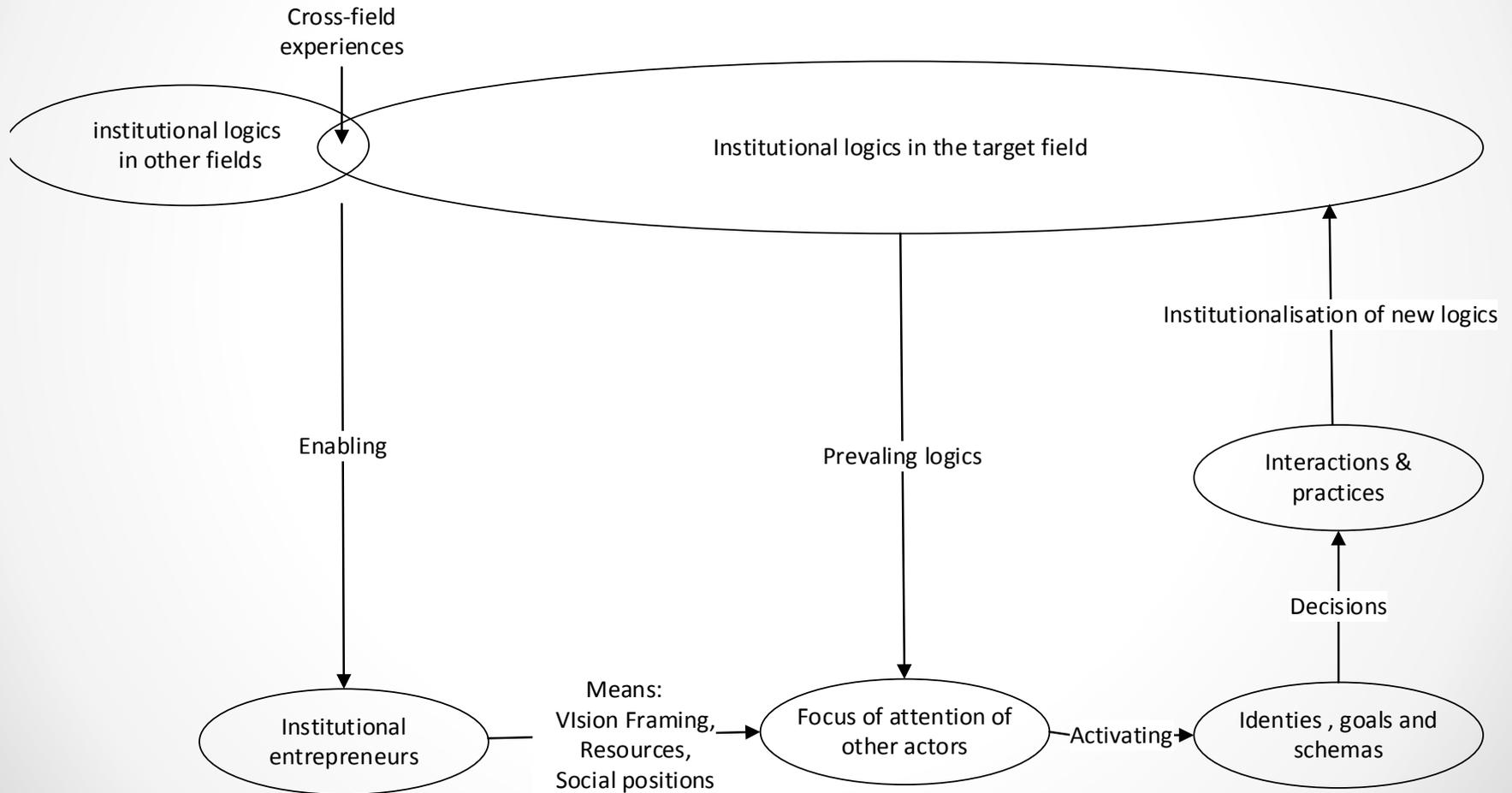
# Assumption

- The development path towards a balanced Triple Helix model is associated with changes in institutional settings.
- There must be some actors playing a key role in changing the institutional environment of the region.

# Analytical framework

- The role of university as an institutional entrepreneur in institutional change
  - Integrating institutional entrepreneur (Battilana, Leca, and Boxenbaum 2009) and institutional logics literature (Thornton, Ocasio, and Lounsbury 2012)
- The framework for understanding institutional environment of regional innovation (Triple Helix) system
  - Seven logics aligned with an ideal Triple Helix model (A simplified model of innovation system) (Cai, 2015)

# Axiom of institutional entrepreneurship from the institutional logics perspective



# Institutional logics aligned with Triple Helix

- Shared beliefs on knowledge as a key to economic growth,
- Market orientation,
- Process management,
- Effective IP Protection system,
- Civil society,
- Competitive market,
- Democracy in policy-making.

# Tongji University as an institutional entrepreneur

- Fulfilling two fundamental conditions enabling institutional entrepreneurship, namely
  - 1) access to multiple institutional orders as a condition to initiate new institutional logics and
  - 2) joint actions between institutional entrepreneurs and with other actors as a condition to influence the logics of others (Battilana, Leca, and Boxenbaum 2009, Thornton, Ocasio, and Lounsbury 2012).
- Key actors: university leaders, academics/students engaged in university-run enterprises and spin-offs



# Institutional entrepreneurship activities

- The positions of key figures
  - The urban planners (such as Chen Bingzhao), employed by YPDG to design the blueprint of the Tongji Creative Cluster, were also entrepreneurs of TJU spin-offs and its academics.
  - The promotion of Rector Wu Qidi as vice Minister of Education and Rector Wan Gang as Minister of Science and Technology helped bring the visions of TJU to the upper level governments.
- Engagement in hybrid organisations
- Profitability enhancement

# Impact of the institutional entrepreneurs on others actors

- The institutional entrepreneurs exert influences on other actors, e.g. the District Government in our case, through activating/changing their identities and goals (Thornton, Ocasio, and Lounsbury 2012, 54-86; 132).
  - the District Government has changed from the one with single identity of local government to the one with multiple identities, including governmental agency, venture capital provider, and even business provider.

# Institutionalisation of the new logics

New institutional logics	Actors and their contributions to institutionalising the new logics			
	Formal aspects		Informal aspects	
	actors	Contributions	actors	contributions
The logic of knowledge and technology as the key to economic growth	University leaders, academics and students	Establish the university run enterprises and spin-offs	Academics and students	Move back and forth between research/study and business
The logic of market	University run enterprises, spin-offs, and other private enterprises	Hybrid organisations, professional coalitions, industrial chains	University run enterprises, spin-offs, and other private enterprises	Sub-contracting and affiliation
The logic of information sharing and intellectual property protection	TJU, YPDG	Regular exchange programmes, official policies and projects	Academics, enterprise managers	Multiple identities, spatial and social networks
The logic of participatory policy-making	planners of the cluster, rectors and stakeholders of TJU	Professional consultancy and negotiation with the local governments	rectors and stakeholders of TJU	personal relations

# The dynamic of institutional entrepreneurship in Tongji Creative Cluster

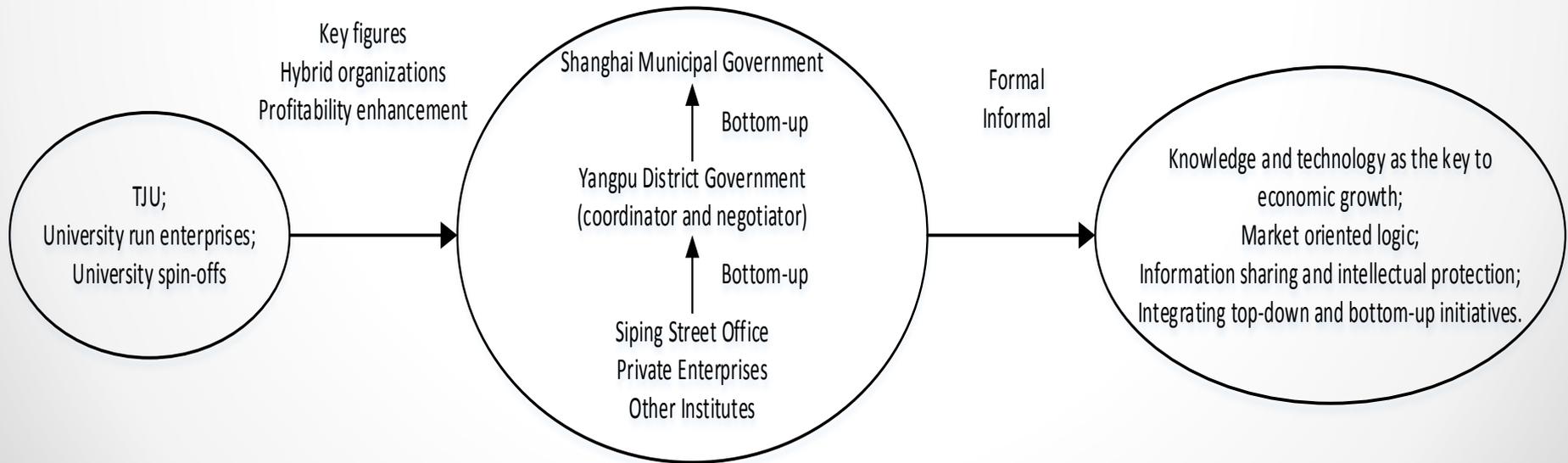
Institutional Entrepreneurs

Means

Other actors

Route

New institutional logic



# Conclusions

- It demonstrates the important role of informal leadership in regional innovation system development.
- It challenges the predominate view that the government has a decisive role in guiding the directions of innovation system development.
- It may add an interesting topic, namely the entrepreneurial university as institutional entrepreneur, to the entrepreneurial university scholarship.