



University of
Strathclyde
Engineering

The Role of Innovation Intermediaries in promoting triple helix system: the case study of MNC-dominated industries in Thailand

Karantarat Nakwa and Girma Zawdie
University of Strathclyde, UK

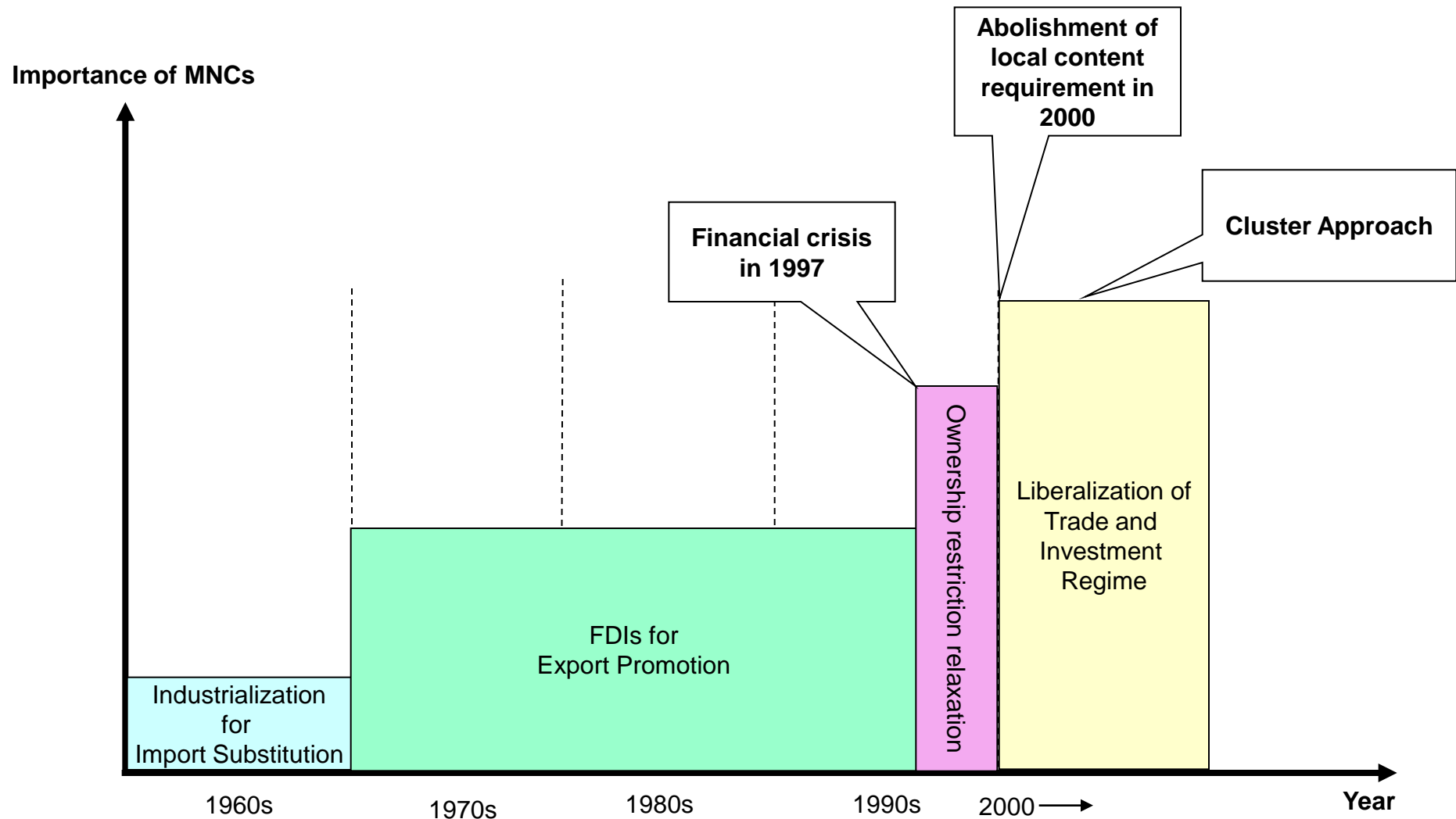
Presentation Outline

- **Introduction**
- **Thailand's Industrial and S&T Policies**
- **Roles of Innovation Intermediaries in the Triple Helix Framework**
- **Emergence of Triple Helix Interaction on the back of cluster development**
- **Case studies: Innovation intermediaries in the automotive and hard disk drive sectors**
- **Conclusions**

Introduction

- ❑ **The aim is to highlight the role of intermediaries in network and technology development in Thailand with reference to the MNC sector.**
- ❑ **MNCs are significant in Thailand as a vehicle of FDIs and as an engine of industrial development. They are dominant in 2 important sectors in Thailand: automotive and hard disk drive sectors.**
- ❑ **Triple helix framework is used as a tool to analyze cluster strategy of industrial development in Thailand and better understand the national innovation system.**
- ❑ **The cluster approach was adopted to promote innovation and competitiveness in 2004.**

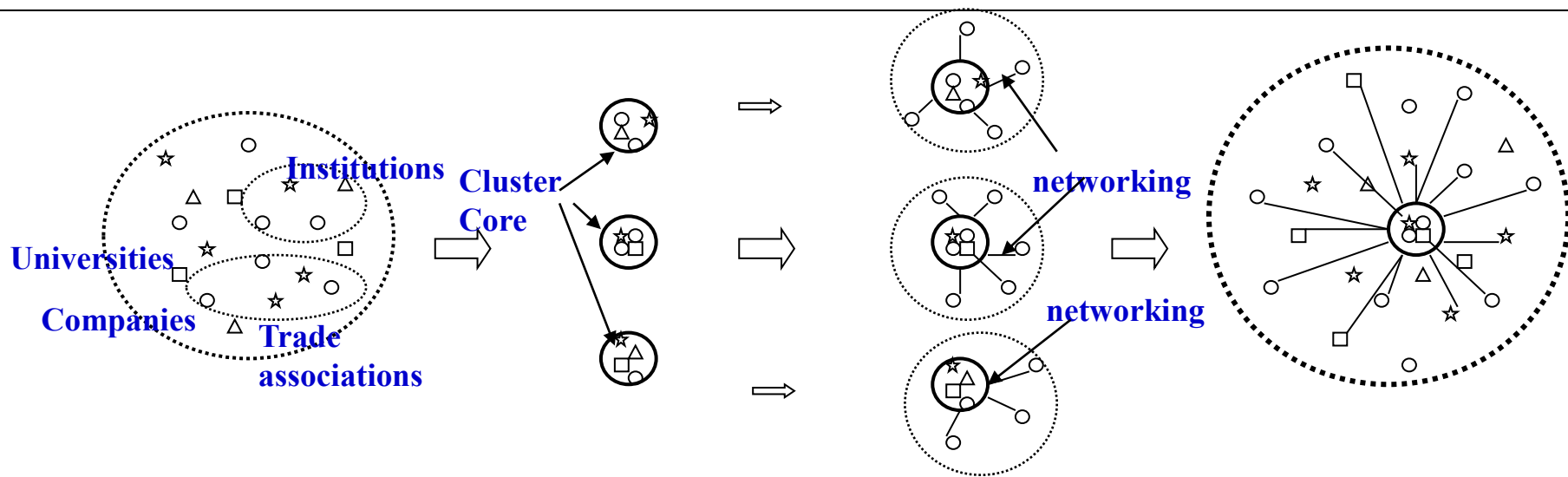
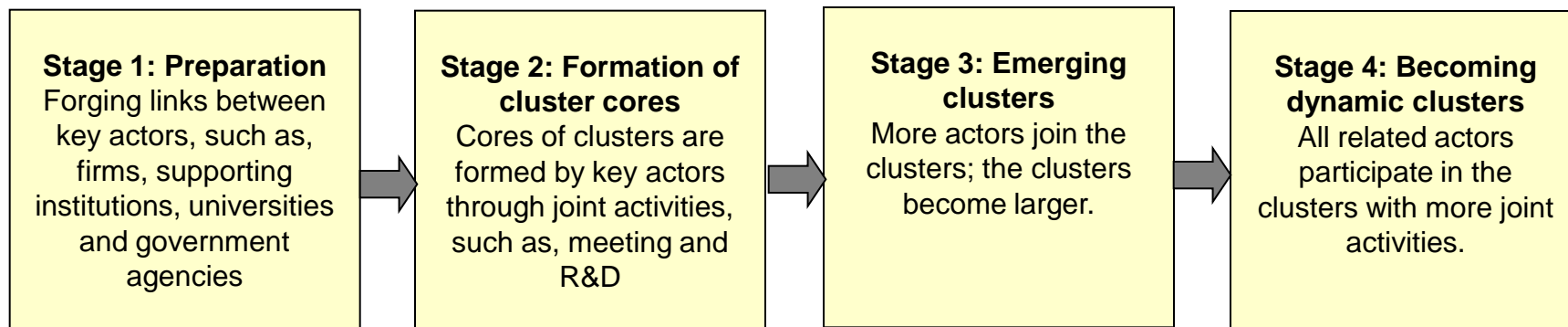
Profile of Thailand's Industrial Policy 1960-2010





A Triple Helix Analysis of Cluster Approach

Cluster Development





S&T Strategic Plan 2004 - 2013

Economy

Society

1 *Develop Clusters and Strengthen Community Economy and Quality of life*

Food

Auto-
mobile

Software
&
Microchip

Textile

Tourism

Health

Bio
Industry

OTOP

Environment

Youth

The Underprivileged

Core Technologies

Bio
technology

ICT

Materials
technology

Nano
technology

Scientific Knowledge

life science, physics, math, computer, material science

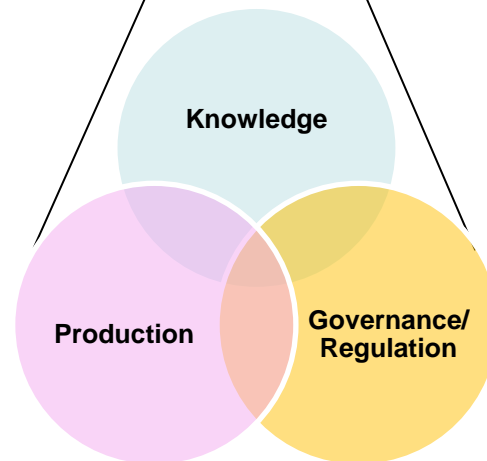
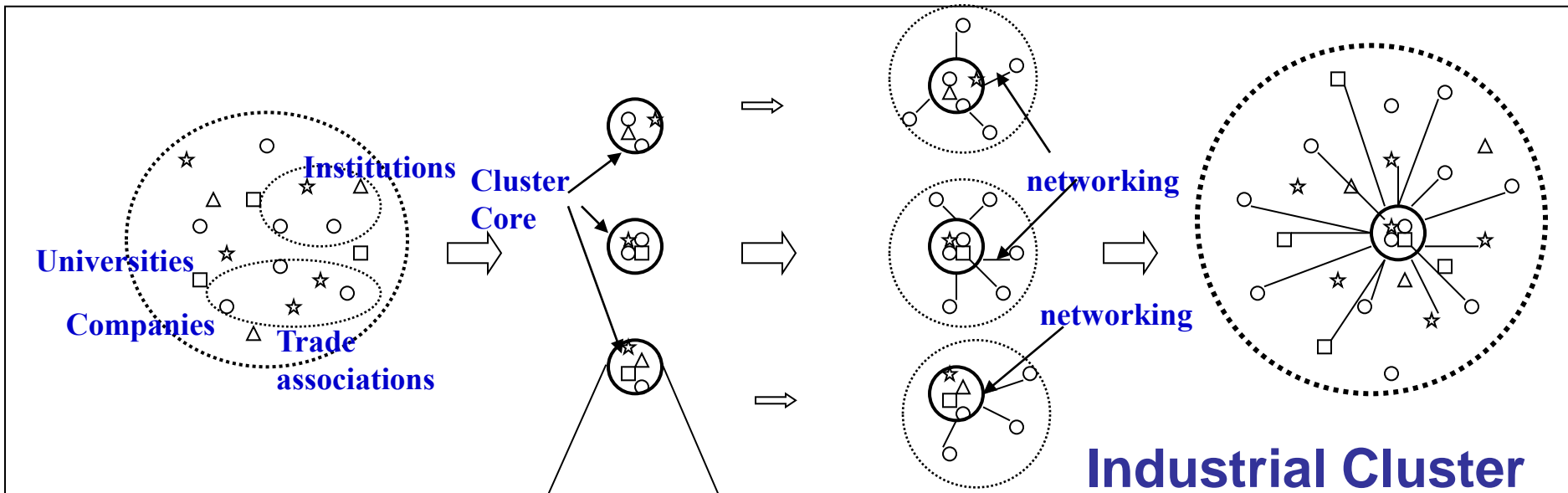
2 *Develop S&T human
resource*

3 *Develop S&T infrastruc-
ture and institutions*

4 *Enhance S&T
Public awareness*

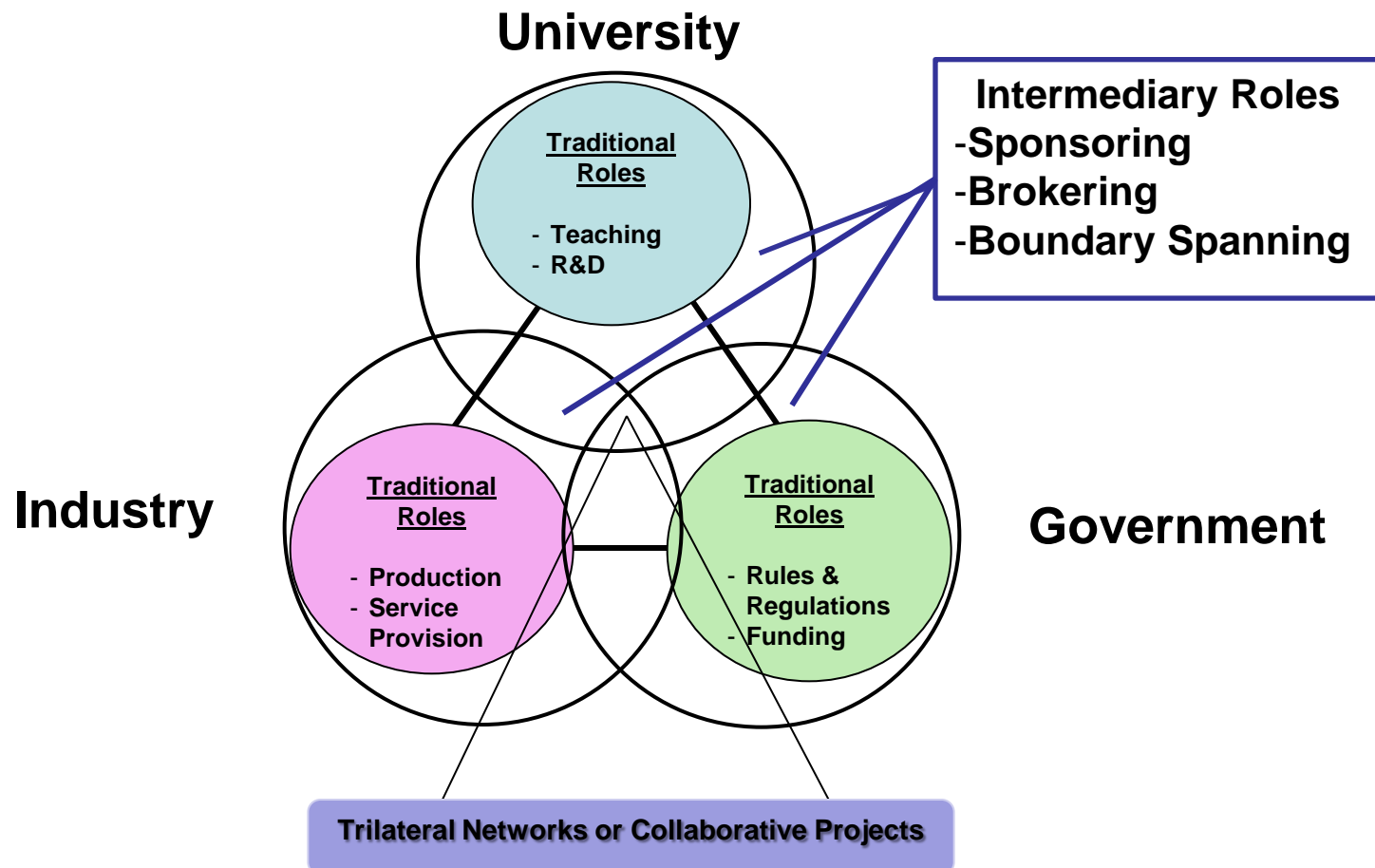
5 *Improve S&T management system*

Understanding Industrial Cluster through Triple Helix Model

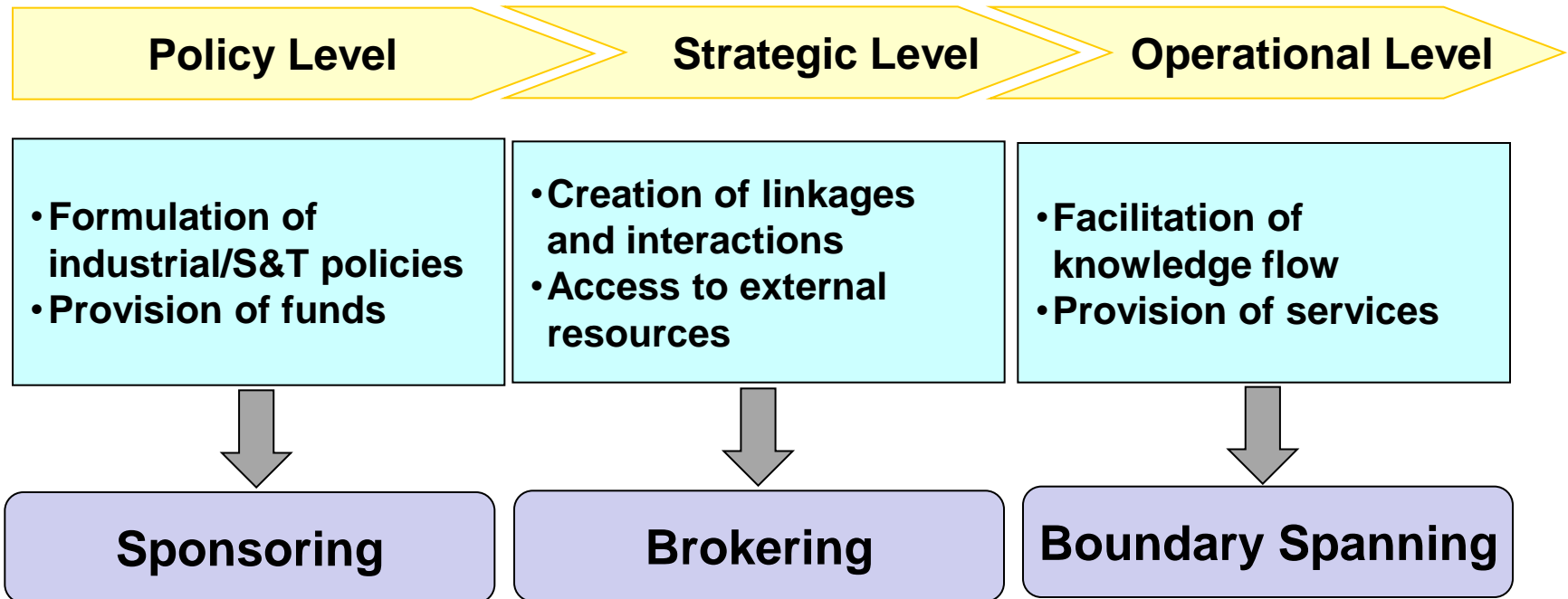


Triple Helix Model of Interaction

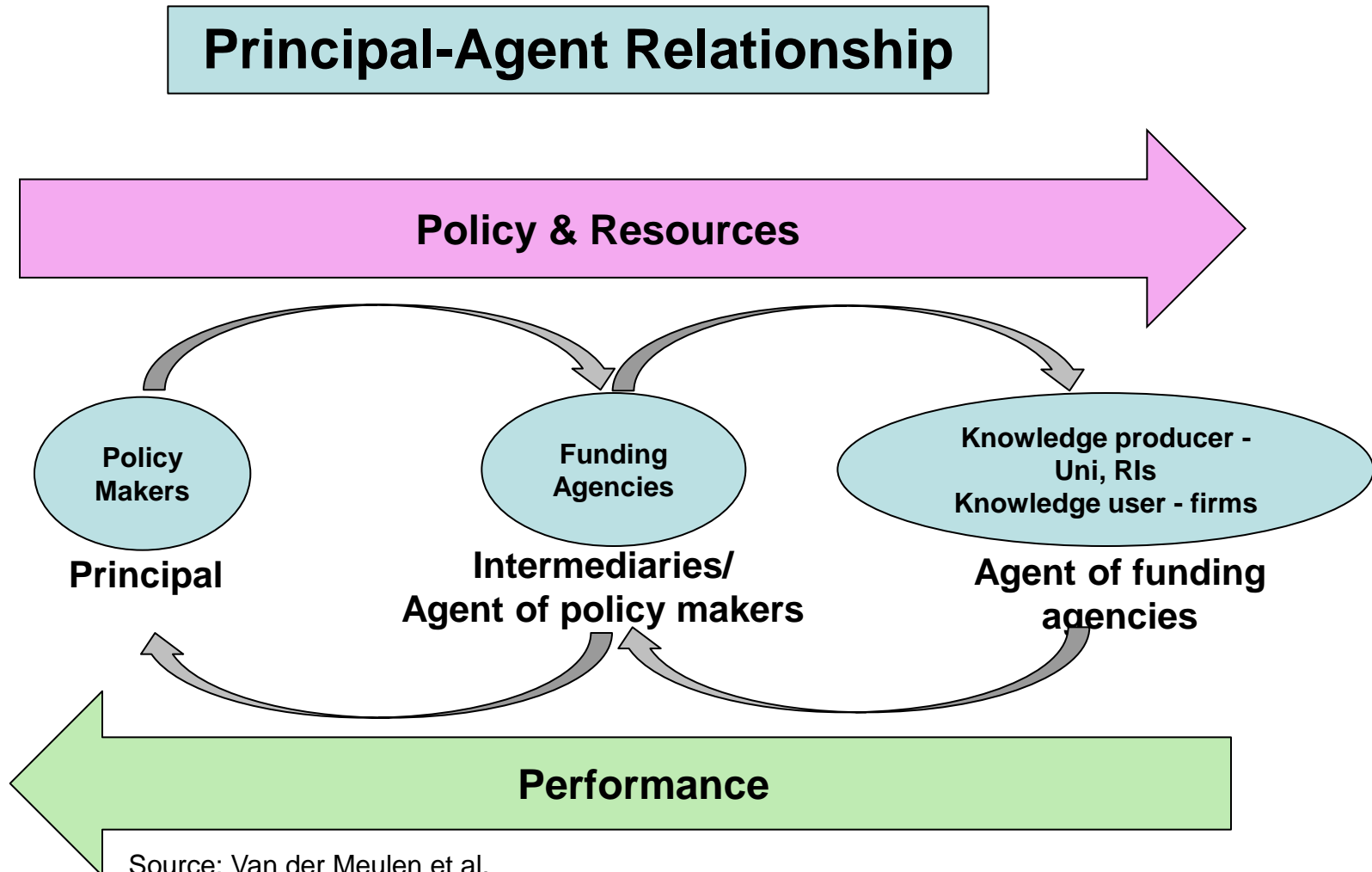
Roles of Innovation Intermediaries in Triple Helix Framework



Roles of Innovation Intermediaries

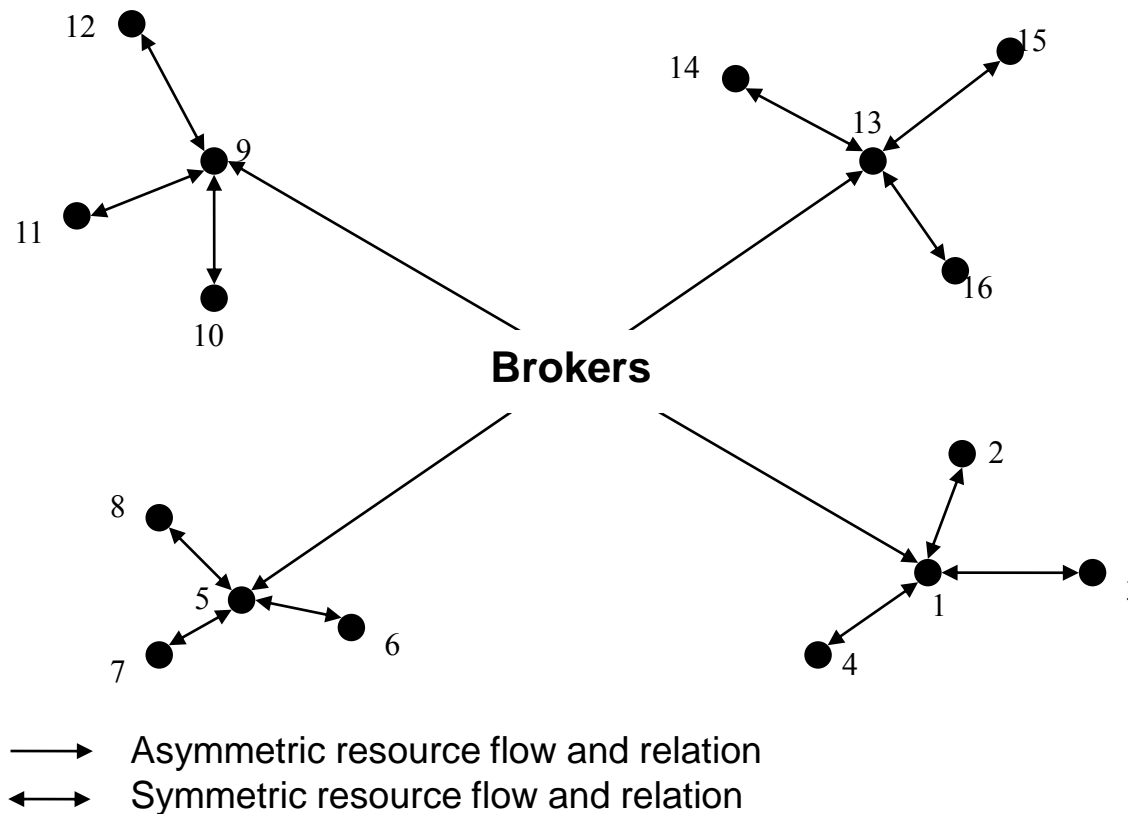


Policy Level – Sponsoring Role



Strategic Level – Brokering Role

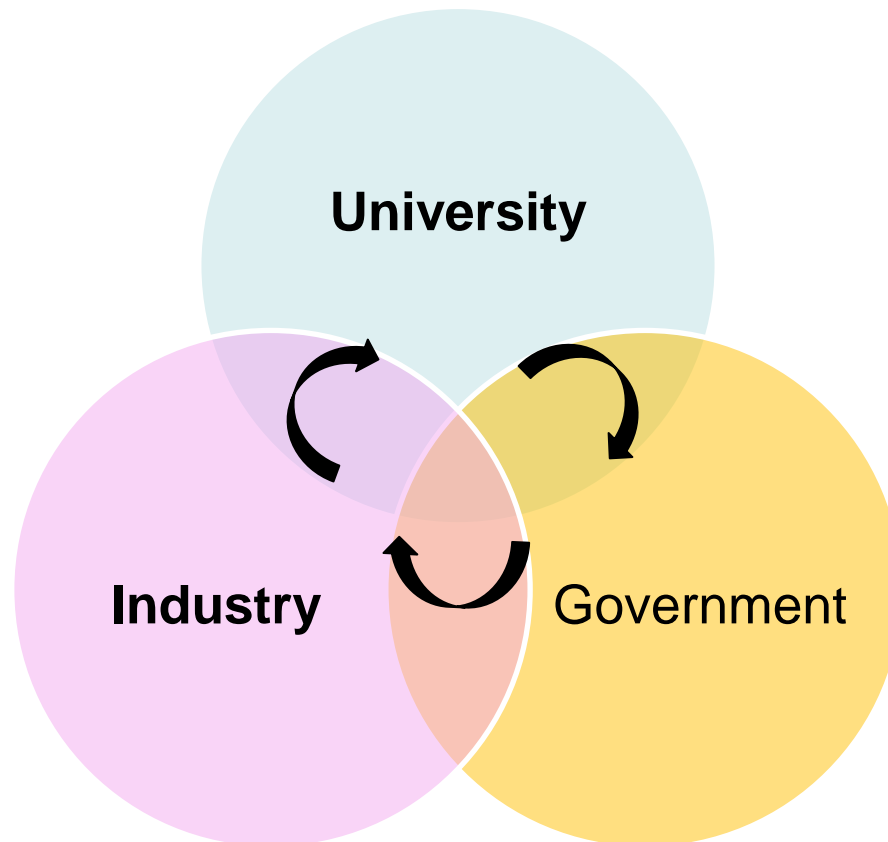
Structural Holes Closure in Social Capital



Source: Ahuja (2000)

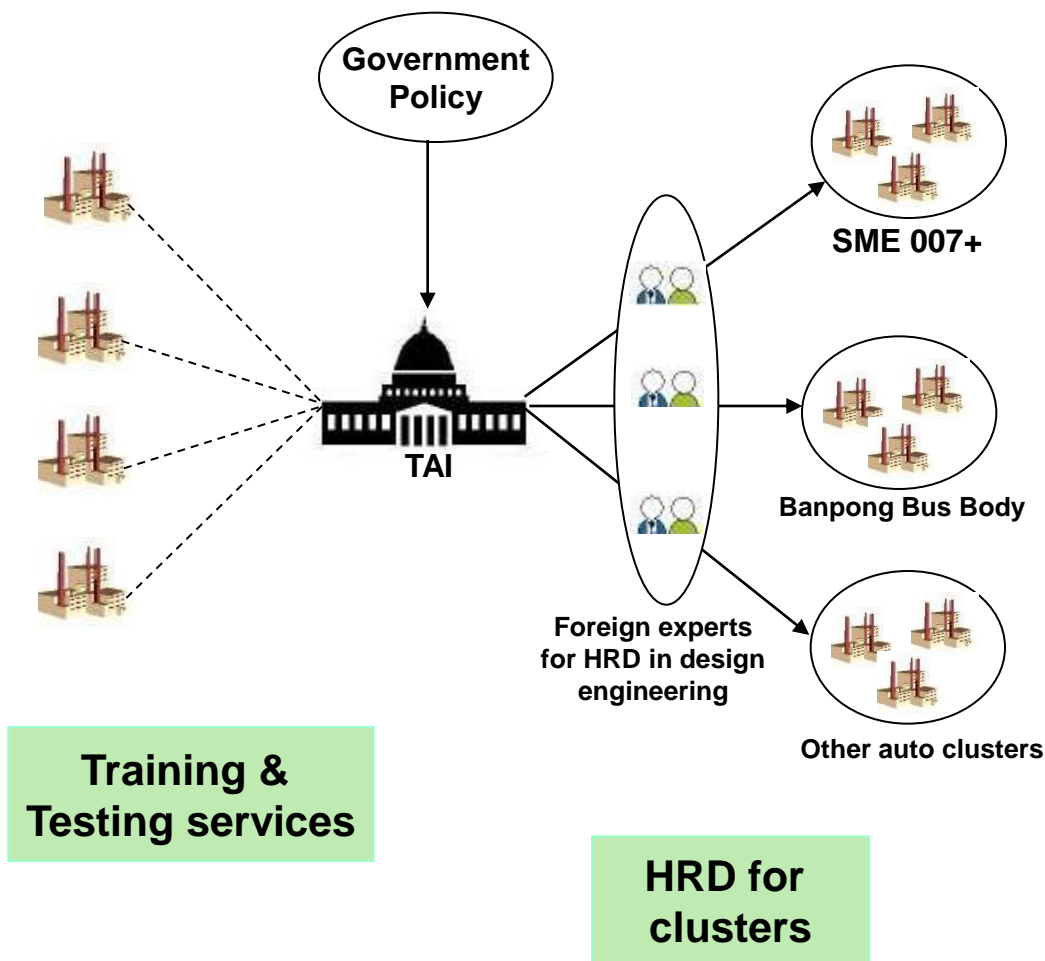
Operational Level – Boundary Spanning Role

Taking roles of the others in Triple Helix Model

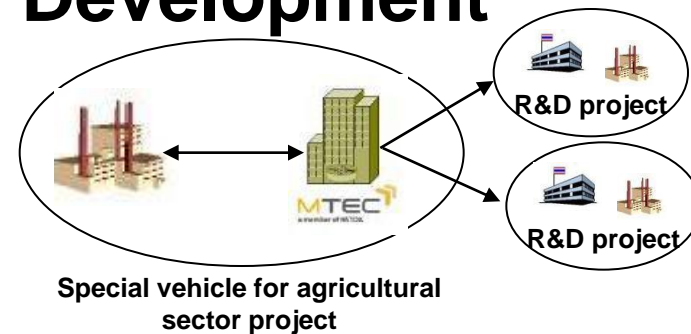




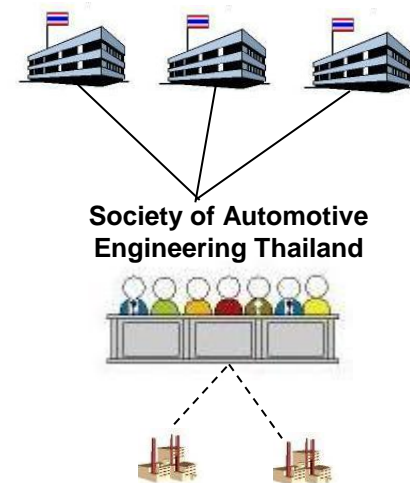
Case study: Automotive Cluster Development



Institutional Fragmentation



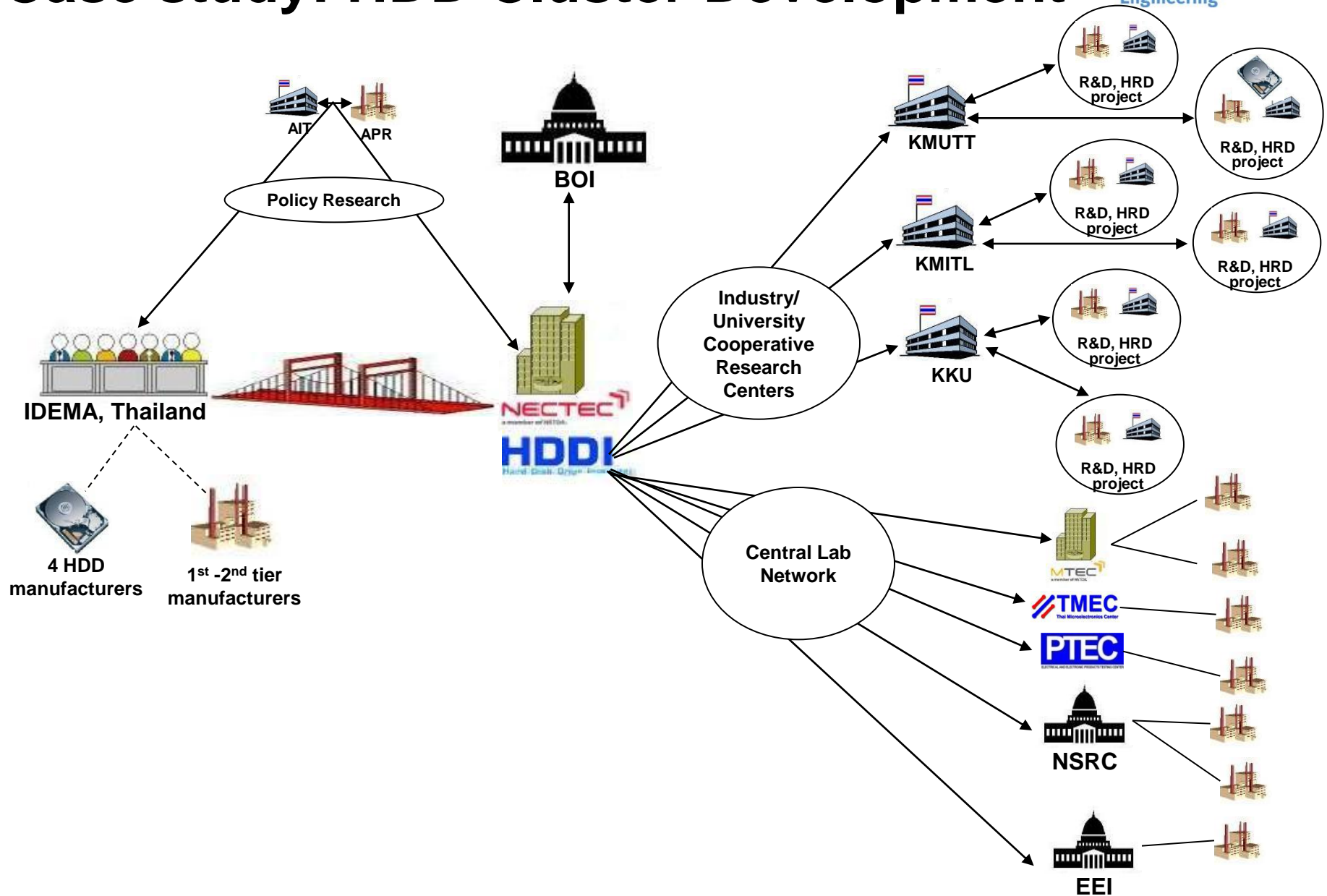
R&D



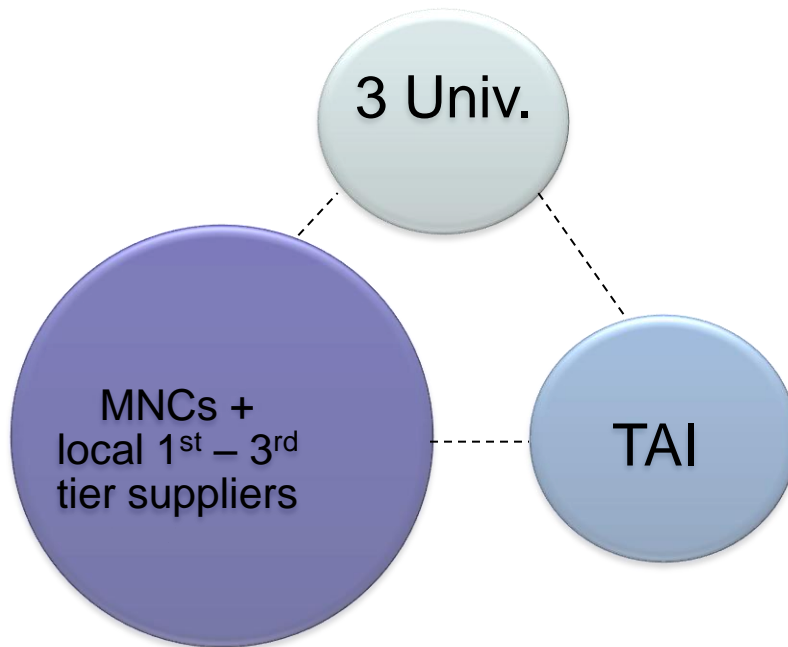
Teaching



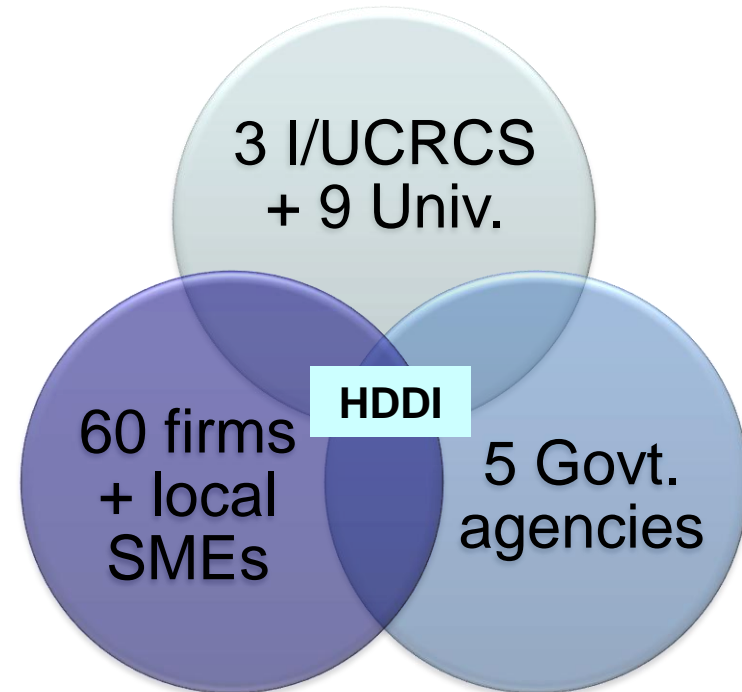
Case study: HDD Cluster Development



Emergence of Triple Helix Interaction



Automotive Industry



HDD Industry

Roles of Innovation Intermediaries

Automotive Industry

Hard Disk Drive Industry

Sponsoring Role

No permanent sponsoring intermediary

NECTEC by HDDI formulated policy and provides funding for R&D and collaborative projects

Brokering Role

TAI provides only lists of experts without assistance in mediation process

HDDI established 3 I/UCRCs in universities to create sub-networks

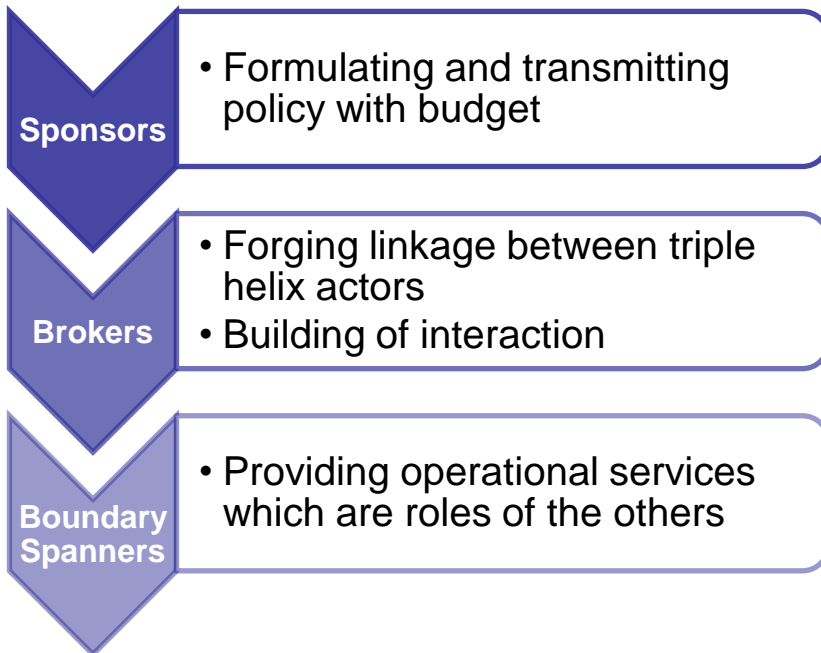
Boundary Spanning Role

TAI provides testing services and training for automotive industry

HDDI established a central lab and a network of government testing labs for HDD industry

Intermediary Organizations

Roles



Automotive

Hard Disk Drive

?

?

TAI

NECTEC by HDDI

3 I/UCRCs

Central labs & Universities



Conclusions

Triple Helix is a natural extension of the cluster development strategy of industrial development and of National Innovation System adopted by the government.

While triple helix network development can be enhanced by the role of intermediaries, the role of intermediaries is more effective with bottom-up strategy (as in the HDD case) than with top-down strategy (as in the Auto case).

Conflicts of interests between intermediaries can reinforce the effects of structural holes and capability gaps, making the whole system dysfunctional

- The sponsoring role of intermediaries helps to reduce the gap between knowledge production at the level of universities and knowledge use at the level of firm.**
- The brokering role of intermediaries enhances development of social capital.**
- The boundary spanning role promotes knowledge circulation across the wider economy**

Thank you for your attention

References

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- Van der Meulen, B., Nedeva, M., and Braun, D. (2005). *Intermediaries Organisation and Processes: theory and research issues*. Paper presented at the PRIME Workshop The Netherlands.