Supporting Role in Global R&D Networks
Automotive Technology Centres in Viet Nam

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June 12, 2019
Background

- Extensive research on R&D (Pearce/Papanastassiou 1997; von Zedtwitz/Gassmann 2002) and production networks (Ferdows 1997; Vereecke et al. 2006; Ferdows et al. 2016)
- Reinforcing, positive linkages between R&D and production
- Scarce research on potential co-evolution of R&D and production networks
Network Globalisation Typology

- Cheng and colleagues (2015) conducted explorative case studies on network globalisation linkage and identified three interaction patterns:
  a) Interactive globalisation
  b) Separated globalisation
  c) Possible combination
Methodology

- Research employed purposive theoretical sampling in order to address issues with existing research
  a) Change industry setting ⇒ Existing research covers only machinery and pharma industry
  b) Circumvent “market pull” logic ⇒ Existing research documented cases where production is initially paired with R&D for the large, local market and R&D is gradually upgraded to regional or global responsibility
Company A (1)

- 53 global sites (3 in Viet Nam)
- Japan remains main source of R&D
- Remaining R&D sites are divided into two groups, one that acts as liaison to customers and another that supports Japanese R&D headquarters
Company A (2)

- Despite close proximity between three Vietnamese subsidiaries (manufacturing, component R&D, and software R&D) in Ho Chi Minh City, no interaction between subsidiaries exists.
- Manufacturing mainly produces for export.
- Component R&D mainly works on motorcycle parts. Tasks are defined by Japanese HQ.
- Software R&D develops code plus supports database creation for Model-based Development in Japan.
Company A (3)

- Bottlenecks prevent local R&D to engage in higher level functions:
  - Skill gap
  - Language barrier
- Company A considers to address issues by extending training in Japan from currently one to two or three years
- Potential upgrading of the R&D function does not foresee closer cooperation with local manufacturing unit
- Company A’s Vietnamese subsidiaries are clearly a case of separated globalisation
Company B (1)

- More than 200 sites (2 in Viet Nam)
- Japan remains main source of R&D
- Remaining sites can be divided into two groups, just like in case of Company A
- However, there is an important difference in the group of support R&D sites:
  - Some sites are purely supporting Japanese R&D
  - Some sites such as a Thai subsidiary have regional market development mandates, i.e. they neither engage in pure homologation with local customers nor in supporting Japan
Despite co-location in Hanoi, R&D and manufacturing functions are completely separated.

Manufacturing aims at the global market, which more than 80 per cent export share of production.

R&D engages in parts development, mainly performing basic CAD tasks such as dimension checks and performing failure mode and effects analysis (FMEA).

R&D tasks are defined by higher level sites, e.g. in Japan or Thailand. Work typically does not aim at locally made products.
Company B (3)

- The skill gap between Japan and Viet Nam is the main bottleneck for upgrading local R&D. Lack of understanding both customer requirements and component interactions are the main weakness of Vietnamese engineering staff.
- Aside from cooperation with a local university, Company B does not plan any steps to upgrade local R&D.
- Company B’s Vietnamese subsidiaries are clearly a case of separated globalisation.
Findings and implications

❖ In case of Viet Nam, co-located manufacturing and R&D subsidiaries have no linkages. Instead, both functions are used to optimise global performance of their respective functional departments.

❖ This suggests that supporting local R&D through incentives may have limited effects.

❖ In case of automotive firms, networks contain subsidiaries that fit several interaction types instead of just one.

❖ Therefore, it appears useful to simply map networks in a matrix. This may also be useful when comparing research on different industries.
## Company A

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Company B

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Summary

❖ Automotive R&D sites in Viet Nam represent the separated globalisation type
❖ Vietnamese sites are mainly used to reduce costs and lower the workload at advanced sites
❖ Studied suppliers adopt dissimilar combinations of interactive and separated globalisation
❖ However, even interactive locations are mainly engaging in homologation of existing technology and may lack global development mandates