

# Global Value Chains and New Business Creation

TIMOTHY J. STURGEON, Ph.D.  
ITEC Research Fellow, Doshisha University  
Senior Research Affiliate, Industrial Performance Center, Massachusetts Institute of Technology

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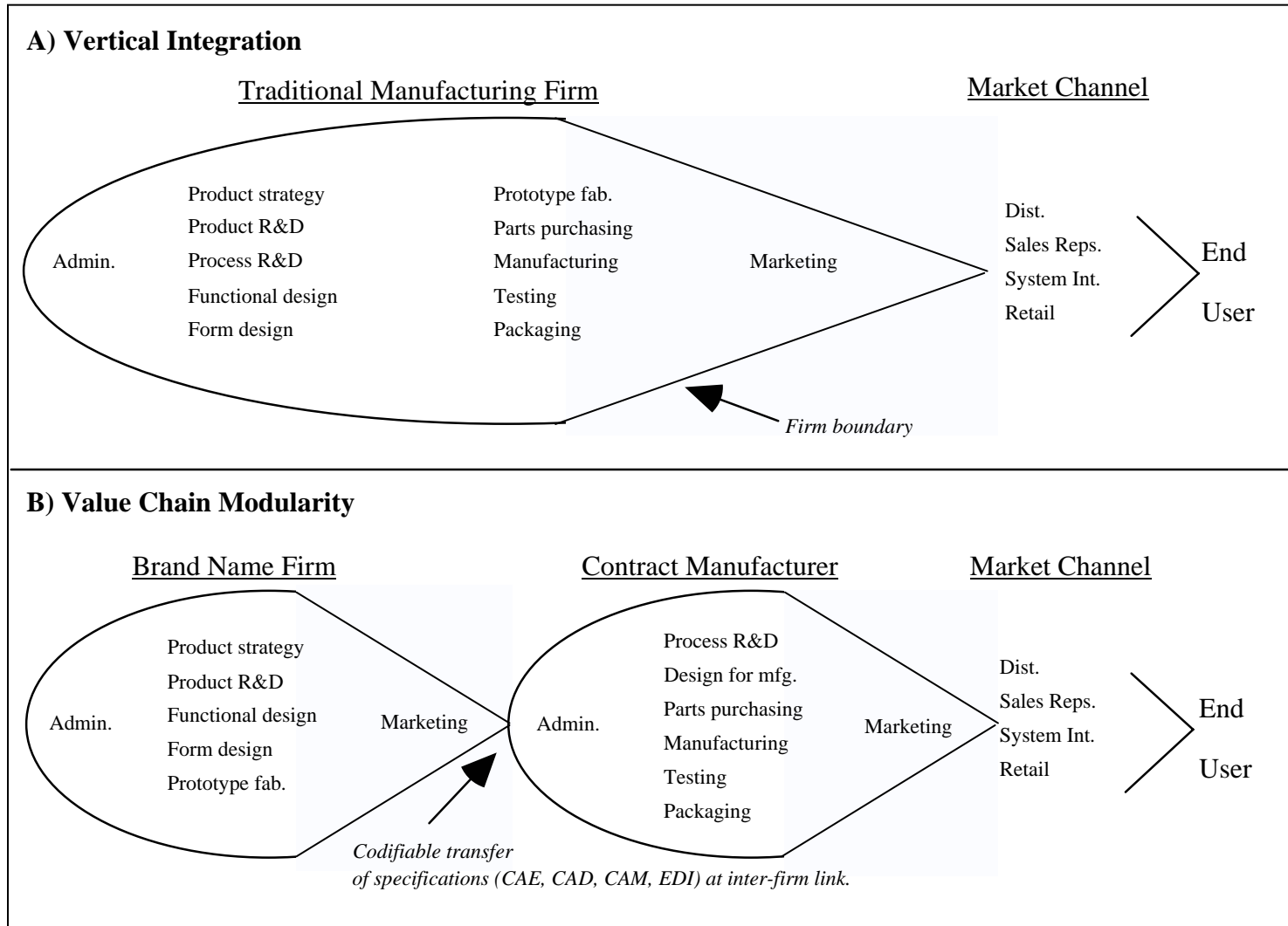
# Frame of Reference — Key Trends

- Increased outsourcing
- Computerization of product design
- Computerization of process technology
- Increasing market volatility and clockspeed
- Increasing geographic scope of production systems
- Better integration of geographically dispersed production systems
- The rise of a new, global-scale supply-base
- ✓ *The global value chains framework is an overarching rubric that ties these trends together*
- ✓ *New features are global suppliers and value chain modularity*

# Elements of Modularity

- Modular product designs (e.g., the PC)
- Modular value chain linkages (the hand-off)
- Modular value chains (internal)
- Modular value chains (external)
- ✓ *Only modularity in external value chains leads to capacity pooling and external economies of scale*
- ✓ *Modular product designs make value chain modularity easier, but only one break point is needed — full product design modularity is not required*

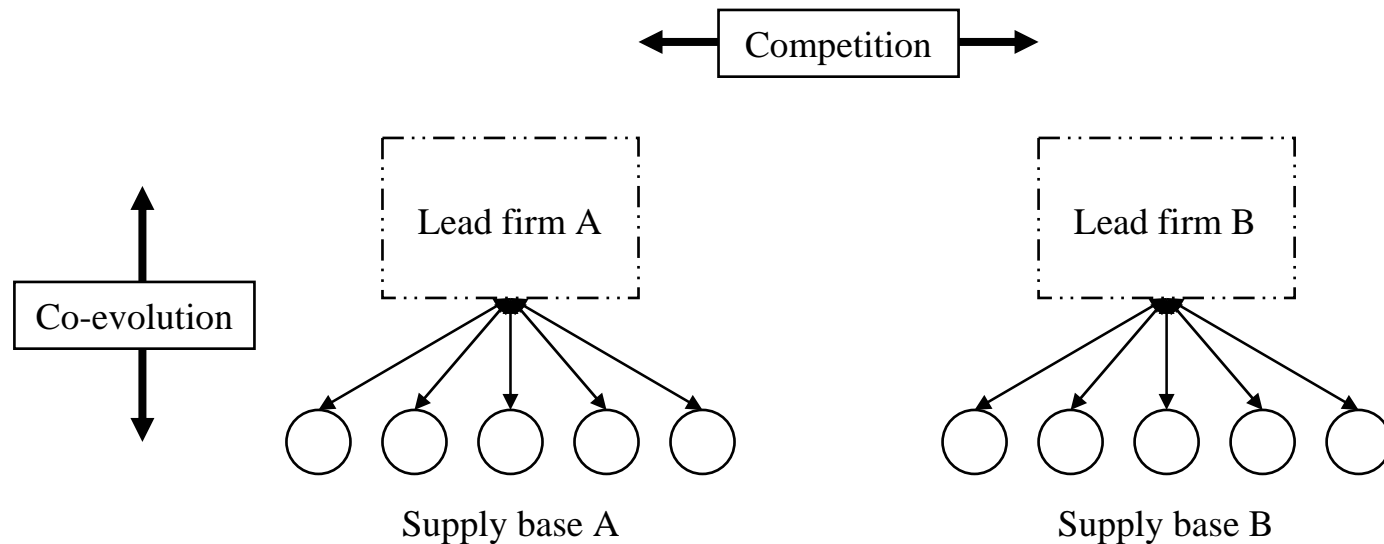
# The De-linking of Innovation from Production in the Modular Value Chain



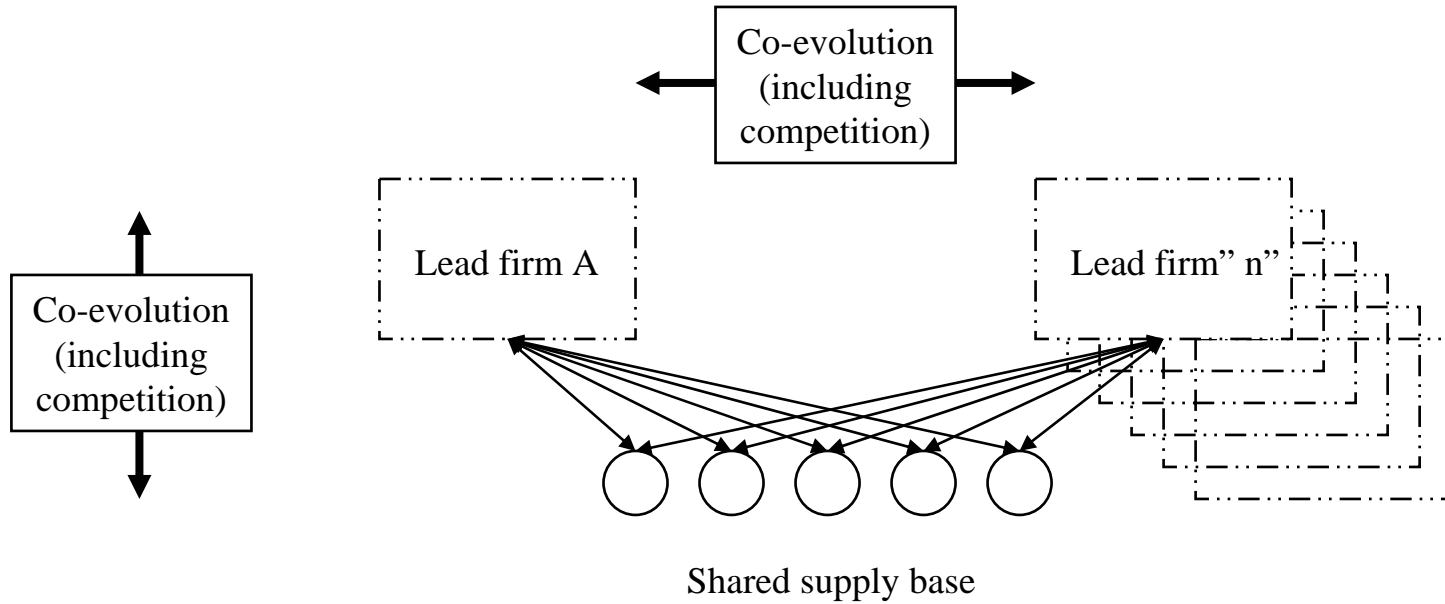
# Elements of Value Chain Modularity

- Codification of complex information eases the hand-off at the inter-firm link—information technology and widely recognized standards are key
- Highly competent suppliers with multiple locations and customers
- An adequate number of suppliers to allow lead firms to switch
- Generic production capacity
  - Allows lead firms to add and subtract suppliers on short notice
  - Allows large suppliers to substitute locations
- ✓ *Benefits for lead firms: lower costs and risk*
- ✓ *Risks for lead firms: IP leakage, creation of competitors, attenuated learning by manufacturing, forecasting and inventory distortions, de-codification with technological change*

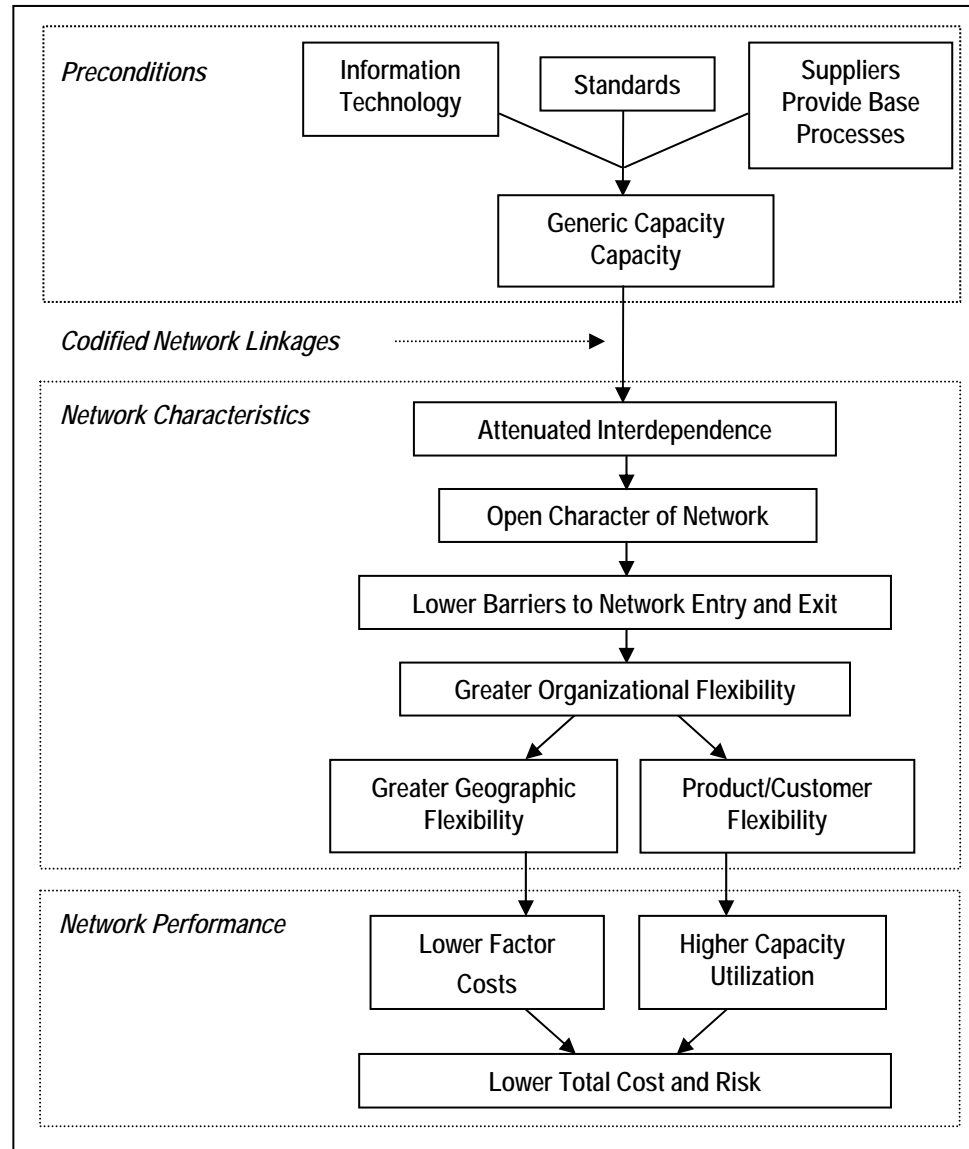
**Inter-organizational co-evolution frameworks (e.g., Nishiguchi, 2001) tend to assume that suppliers are not shared by lead firms**



# Industry co-evolution

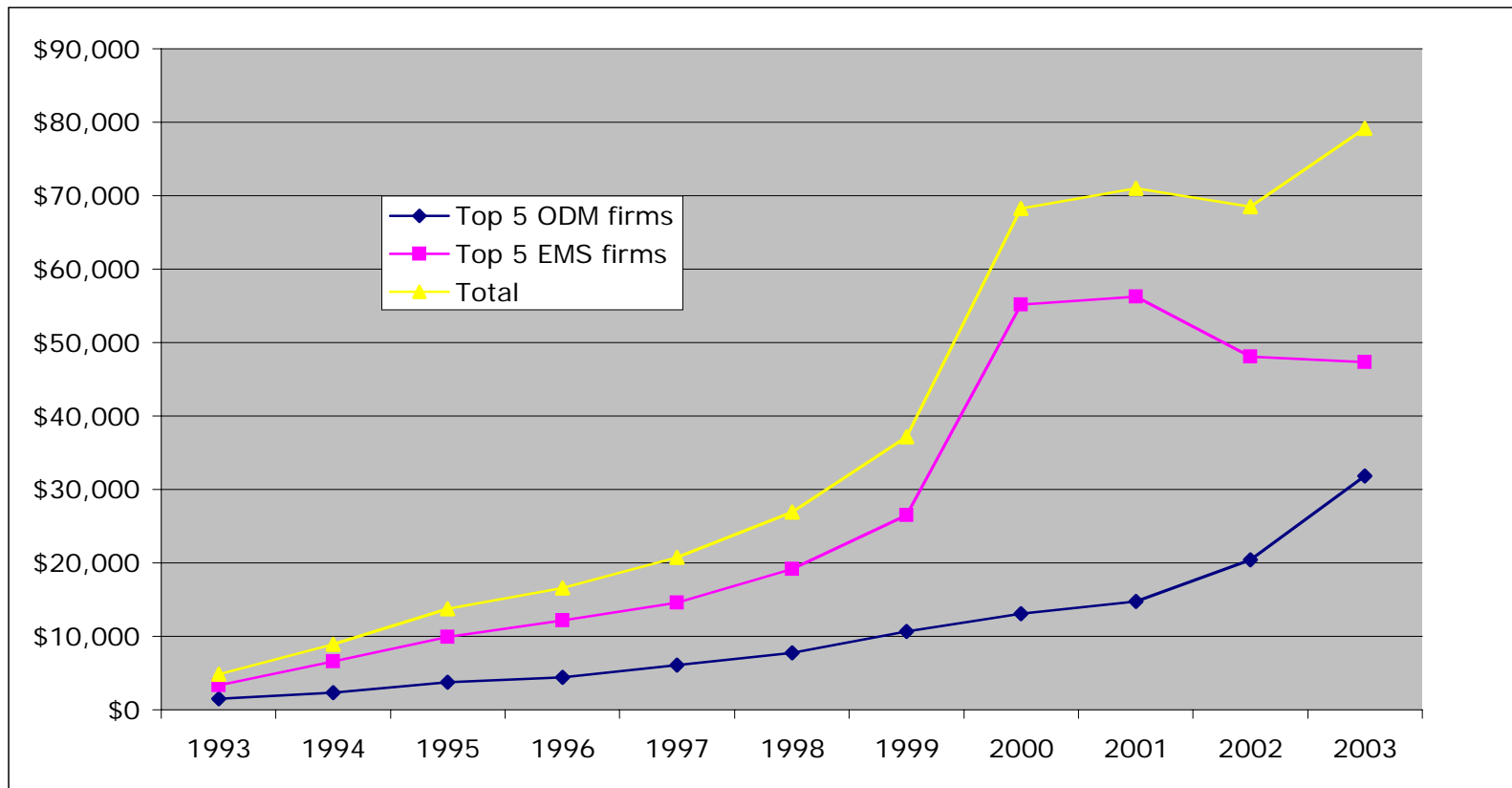


# Performance Benefits of Modular Production Networks





# Revenue Growth at the Top Five EMS and ODM Electronics Contract Manufacturers, 1993-2003, \$M



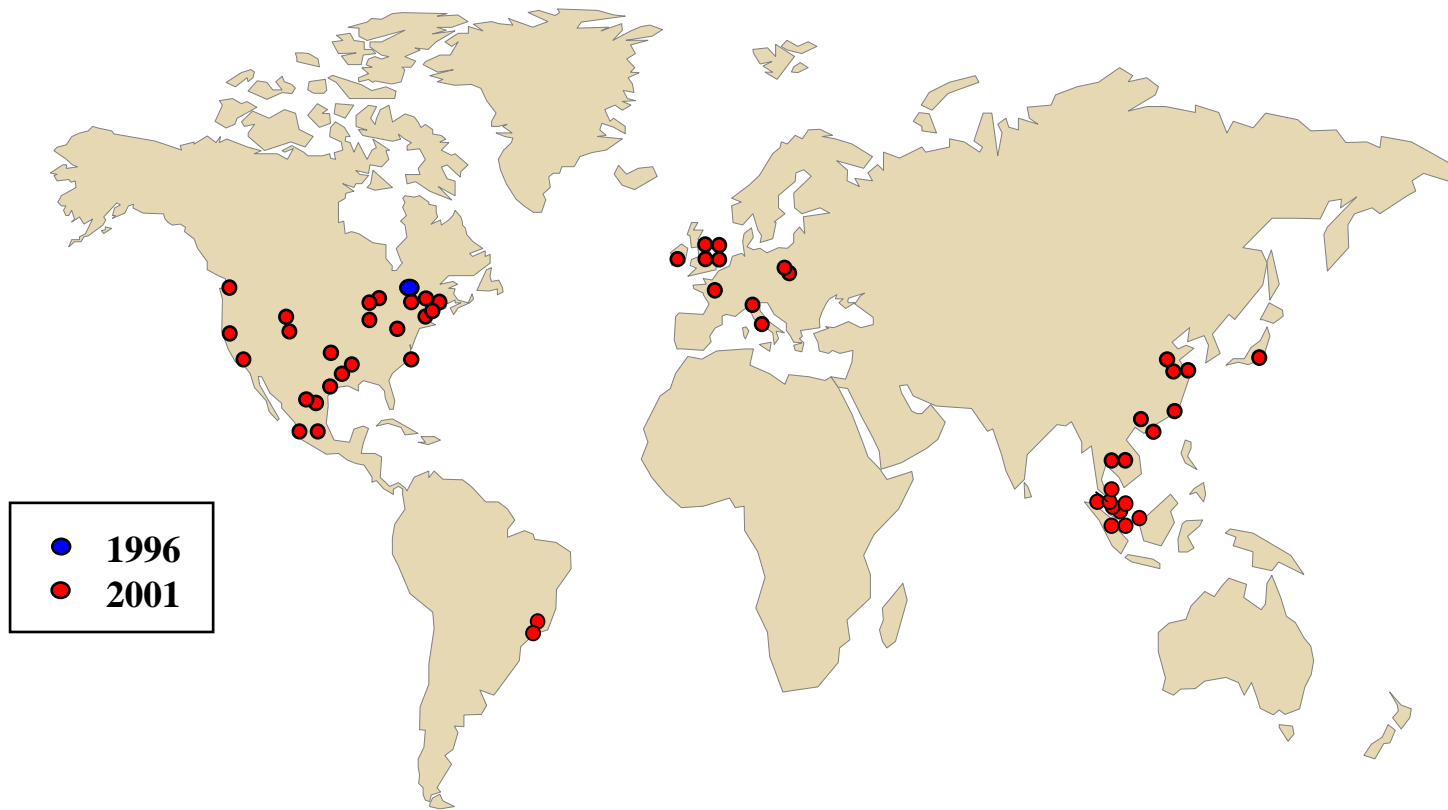
Source: Company annual reports.

Note: The largest five EMS firms are Flextronics, Solectron, Sanmina-SCI, Celestica, and Jabil.

The largest five ODM firms are Hon Hai, Quanta, Acer, Compal, and Asustek.

# The Rise of the Global Supplier

## Celestica's Geographic Footprint, 1996 and 2001



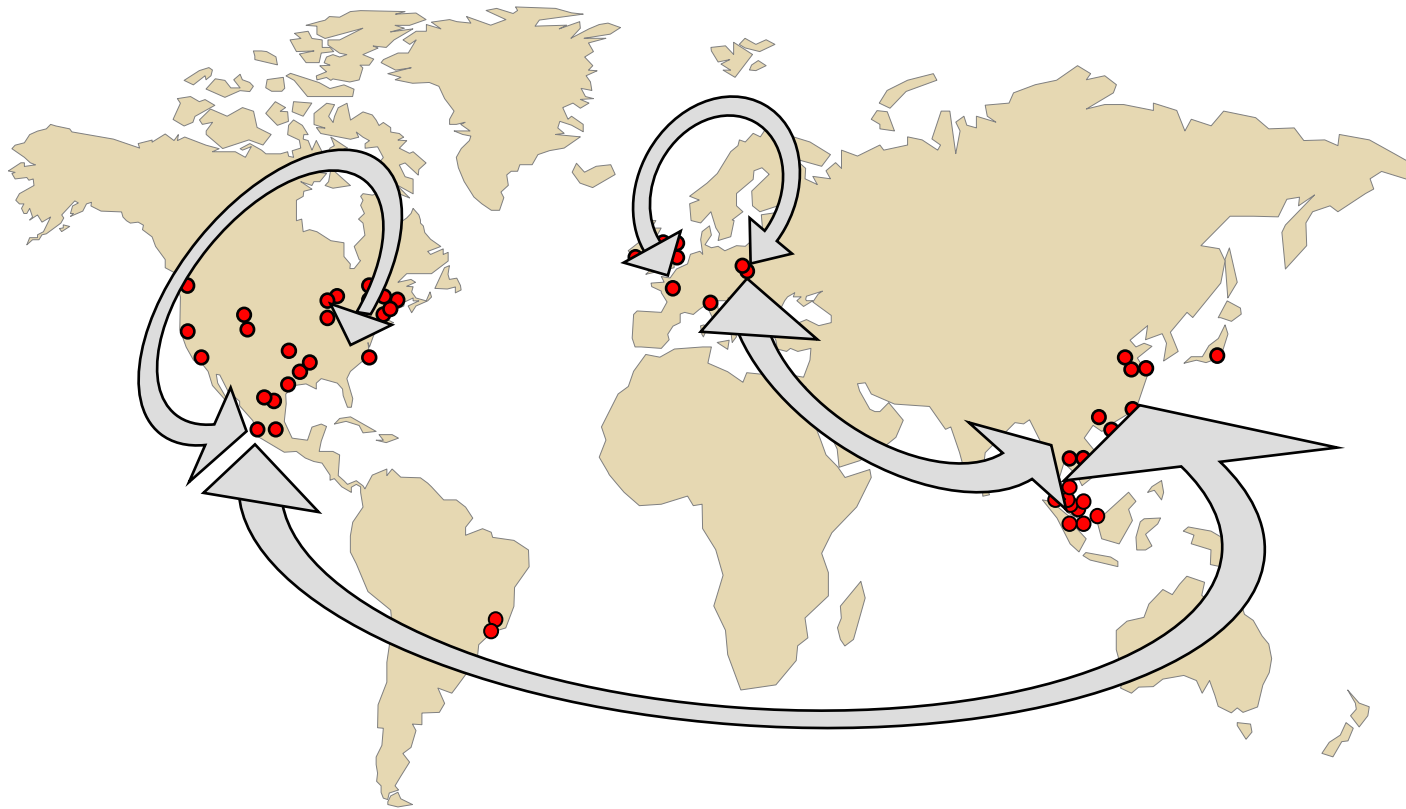
# Regional Production Systems — the shift to low cost peripheries for rapid response



Consolidation in China - larger scale, large local market, low costs



# Global Production Systems - total geographic flexibility



# Virtual Start-ups (VSUs)

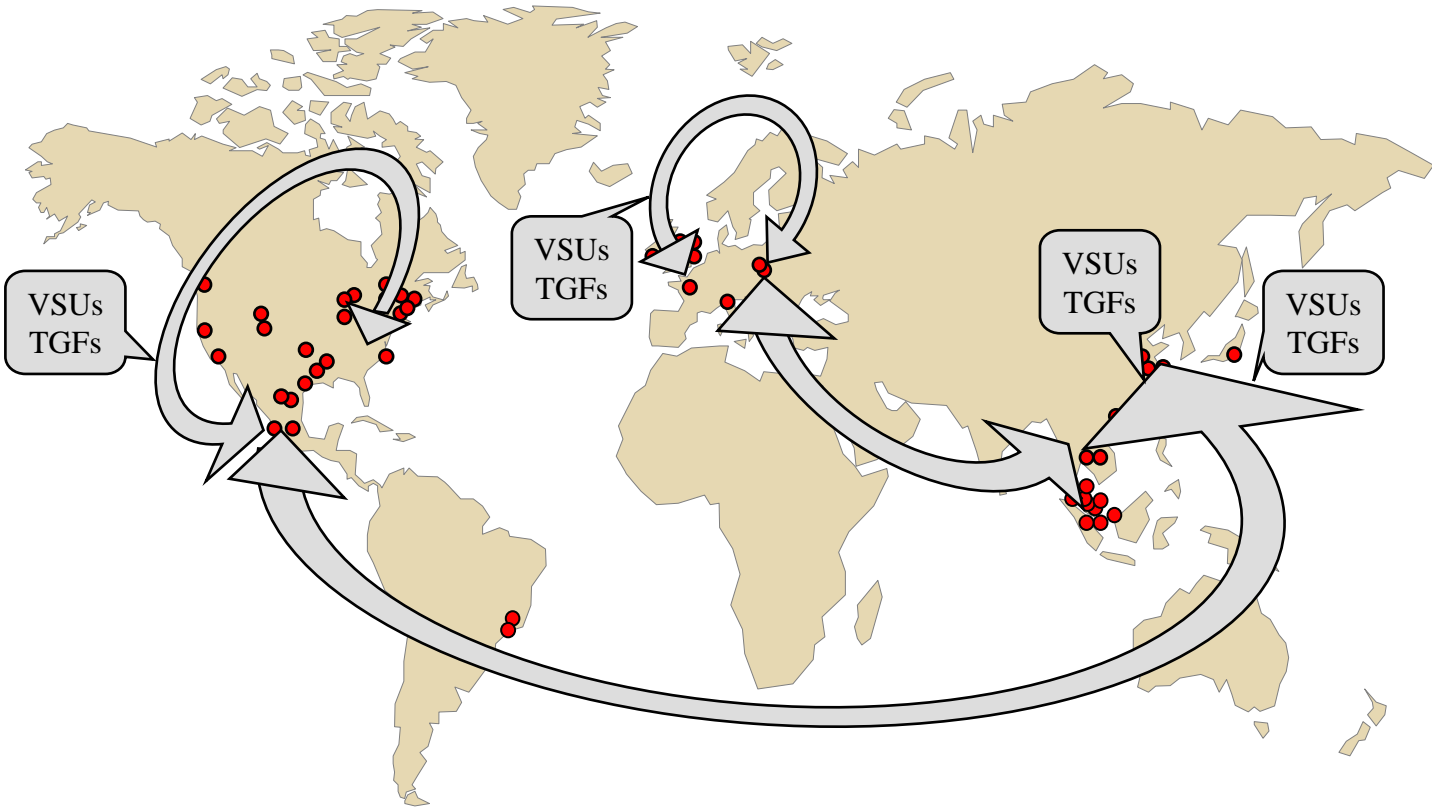
- Start-ups can now tap the global supply-base for instantaneous scale-up
- Management can retain control with market success
- Planning is key - prototype development, process development and validation, and component sourcing strategies are done in advance in collaboration with outsourcing partner
- Role of outsourcing partner is similar to venture capitalist
- Traditional venture capitalists are very reluctant to fund in-house manufacturing plants
- ✓ *Institutional supports needed, especially valuation for intellectual property*
- ✓ *Manufacturing-first business culture may be a barrier. Is in-house manufacturing needed for innovation?*

# Tiny Global Firms (TGFs)

(Dan Breznitz, Industrial Performance Center)

- Small firms with globally dispersed functions from the outset
- R&D, marketing, and manufacturing are typical functions to fragment geographically - e.g., R&D at home, manufacturing in low-cost locations, and product conception and marketing in target markets
- Key questions - where is the most advanced market and what do you need to compete in that market?
- ✓ *Not incompatible with the virtual start-up approach*
- ✓ *Most examples of TGFs have been from small countries, like Israel, that lack a large local market*
- ✓ *For the “home society” there is a risk of losing the all activities to the target market*

# Entry Points to Global Production Systems - advanced and developing countries?





*THANK YOU  
FOR YOUR  
ATTENTION!*