Regional Resilience in Era of Global Production Networks

Evidence from Ottawa’s Digital Economy

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Global Production Networks

Global Production Network (GPN) theory understands regional economic development as a process of “strategic coupling” between globally oriented firms and regions with particular advantages or assets.

Coe and Yeung 2015
A Framework for Understanding Regional Resilience in Era of Global Production Networks

Global Production Network

Lead Firms
Consumers

Regional Assets
- R&D Capabilities
- Talented Employees
- Capital
- Institutional Supports
- Cost Advantages

Technology and Market Changes
A Framework for Understanding Regional Resilience in Era of Global Production Networks

Global Production Network Couplings

Lead Firms in Global Production Network

Regional Assets

Regional Strategies

What are the technological & market dynamics of concern to lead firms?

Can regional assets developed in one period evolve, transfer over and re-couple in the next period?
Ottawa Remains a Node in Communications Tech Sector

Major Multinationals Establishing or Expanding R&D Facilities Post-Nortel

Software-Oriented & Start-up Firms
Technological & Market Dynamics

Cloud Computing
- Software as a Service
- Virtualization Platforms & Services

Next Generation Networking
- Network Function Virtualization
- Software Defined Networking

Diagram:
- Business Applications (App Layer)
- Cloud Services
- Network Control Layer
- Infrastructure Layer (e.g. routers, switches)
Ottawa’s Regional Assets

Access to Talent Pool the Key Reason Lead Firms locate in Ottawa

• Specialized skills in internet networks, transferable to a variety of emerging and fast growing ICT sub-sectors

• MNCs find that Ottawa R&D teams can surmount technical challenges much faster than expected
Concerns and Challenges

• Ottawa as R&D “branch plant”?
  • Vulnerable to decisions made by foreign MNCs
  • Value capture limited to high-tech salaries rather than build-up of indigenous firms
  • Too focused on R&D rather than commercial ventures
Strategic Coupling Initiatives

Centre of Excellence for Next Generation Networks

National Centre of Excellence headquartered in Ottawa

Key Issues
- Internal competitions for R&D mandates within MNCs
- New Technology Trends
  - Software Defined Networking
  - Network Function Virtualization
  - Internet of Things
1) Multi-vendor Physical and Virtual Platform
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2) Matching new companies with problems defined by lead firms

Ottawa SMEs
1) Multi-vendor Physical and Virtual Platform

2) Matching new companies with problems defined by lead firms

3) Training Employees & Students
Global Production Network Couplings

- Lead Firms in Global Production Network
- Regional Assets

Regional Strategies

- Attract R&D mandates related to IoT, SDN, NFV
- Link new companies with lead firm problems
- Strengthen R&D Infrastructure and Regional Talent
Investment Management firm founded by Terry Matthews (founder of Mitel, Newbridge Networks)

Incubator and Angel Investor

Strategy to build companies based on market demands articulated by lead business firms (e.g. Mitel, Fujitsu, British Telecom)
Strategic Coupling Initiatives

Partnership between Invest Ottawa & Wesley Clover, funded by “Canadian Accelerator and Incubator Program”

Connect “foundation of talented executives” with startups to “stay and build” companies in Ottawa

Focus on enterprise software solutions
  cloud
  software as a service
  virtualization platforms and services
Lead Firms in Global Production Network

Regional Assets

Global Production Network Couplings

Regional Strategies

Business enterprise “lead users” of cloud computing

Legacy of experienced managers with business enterprise market knowledge
Digital Strategic Coupling Initiatives

• Creation of organizational, physical, virtual platforms to connect new companies that embody *regional assets* with *lead firms*
  • How digital changing nature of production networks?

• Led by civic entrepreneurs with sector specific knowledge and regional loyalties
Initiatives Draw on Available Government Resources
Policy Issues

How to create regional and sector specific policies?
  • Civic Entrepreneurs with sector specific knowledge and regional loyalties can inform policymakers on possible strategic couplings

Scale-up?
  • Leverage strategic coupling initiatives with targeted and meaningful support so most promising indigenous firms coupled to global production networks can reach sufficient scale

Resilience?
  • Is Ottawa prepared to “strategically uncouple” when necessary?