GLOBAL SUPPLY CHAINS, LOGISTICS CLUSTERS AND ECONOMIC GROWTH: WHAT COULD IT MEAN TO CARIBBEAN TERRITORIES?
FROM FRAGMENTED TO INTEGRATED FLOWS MANAGEMENT

Conventional

Raw Materials & Parts → Manufacturing → Distribution → Customers

- Raw Materials
- Storage
- National Distribution
- Regional Storage
- Local Distribution
- Retailers

Contemporary

Supply Chain Management

- Raw Materials
- Manufacturing
- Distribution Center
- Retailers

Material flow (delivery) → Information flow (order)

Source: Hesse and Rodrigue (2004)
WHAT IS AN INDUSTRY CLUSTER?

“A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities.”

MP.

Christian Ketels, one of Porter’s students, adds the idea of interdependency (The Development of the cluster concept, 2003)

Clusters are groups of companies and institutions co-located in a specific geographic region and linked by interdependencies in providing a related group of products and/or services.
ADVANTAGES OF NETWORKING AND INTEGRATION PROCESS INSIDE A TERRITORY

- Having a concentration of people working on similar problems in the same location speed knowledge and innovation process

- People run into one another in hallways, cafés, and train stations, during these encounters they exchange ideas

- The collaboration and inspiration needed for the emergence of innovation are much easier on the ground that via internet
CLUSTERS AND COMPETITIVE ADVANTAGE

Productivity

- Efficient access to information, specialized inputs and employees, institutions, and “public goods”
- Achieving complementarities across business
- Better incentives and performance measurement

Innovation

- Ability to perceive and respond to innovation opportunities
- Rapid diffusion of improvements
LOGISTICS CLUSTERS DEFINITION

“A region with a very high concentration of logistics activities relative to the local population or economy”.

Sheffi, Y. (2012, p. 78)
VALUE-ADDED FUNCTIONS OF LOGISTICS
THE 3 PILARS OF LOGISTICS CLUSTERS

- Infrastructures
- Operations
- Human Resources

Supply chain integration
Transport assets utilization

Lower costs (imports & exports)
Employment opportunities
ARRAY OF SERVICES MIGHT FIND INSIDE LOGISTICS CLUSTERS

- Freight Services
- Rail services
- Trucking services
- Loading / consolidation
- Unloading / deconsolidation
- Transloading / crossdocking
- Warehousing
- Recycling
- Cold chain
- Fabrication
- Equipment maintenance
- Container and chassis maintenance
- Container and chassis depot
- Bonded warehousing

Source: adapted from Rodrigue, J.P. (2010)
Corporate Services

- Legal services
- Office space
- Customs clearance
- Security
- Site maintenance
- Parcel services
- Certification and quality control
- Cargo inspection
- Logistics equipment location
- Container and chassis location
- Export facilitation
- Works supplies
- Temporary workers agency
- IT equipment
- Offices supplies
- Accounting
- Insurance and financial services

Source: adapted from Rodrigue, J.P. (2010)
Personal services ➔ Personal Services ➔ Restoration ➔ Hospitality

Source: adapted from Rodrigue, J.P. (2010)
ECONOMIC BENEFITS AND COSTS OF LOGISTICS CLUSTERS

- Employment creation (direct, indirect, induced).
- Attracting capital investment.
- Increased distribution efficiency and lower costs to consumers.
- Innovation in industry (practices).
- Increased trade and cross-border traffic.
- Reduced congestion and emissions.

- Opportunity cost of public fund usage.
- Additional burden on taxpayers.
- Loss of economic opportunities (redundant businesses shut down).
- Negative community impacts.
TYPOLOGY OF LOGISTICS CLUSTERS

- Co-location (port/logistic park)
  - Easier inventory management and security
  - Port authorities the key actors

- Co-location (inland terminal/logistic park)
  - Hinterland integration and massification
  - Import and export platform

- Land for logistics with agglomeration economies
  - Proximity to an intermodal terminal
  - Private or public actors

- Service and transactional dimensions of freight distribution
  - Office space, hotels, convention centers

Intermodal Corridor
Drayage
FROM LOGISTICS ZONE TO LOGISTICS POLE
THE GEOGRAPHY OF LOGISTICS CLUSTERS

North America

Europe

Pacific Asia

Type of Logistic Zone
- Port Centric
- Inland Port
- Freight Village
- Intermodal Industrial Park
- Industrial Park

N = 105
Average = 435 hectares
Median = 130 hectares

Hectares
- More than 2,500
- 1,500 to 2,500
- 800 to 1,500
- 400 to 800
- 200 to 400
- 100 to 200
- 50 to 100
- 25 to 50
- Less than 25

Frequency
LOGISTICS CLUSTERS’ FRAMEWORK

Supported industries

Cluster Core
Transportation services

Logistics services

Infrastructure operators

Related industries

Critical institutions

Source: Munoz & Rivera (2010, p. 16)
LOGISTICS CLUSTERS IN SINGAPORE

Supported industries
- Container maintenance
- Ship maintenance
- Aircraft maintenance
- Marine equipment and offshore engineering
- Lighting and electrical equipment

Cluster Core
- Transportation services
  - Shipping lines
  - Airlines
- Logistics services
  - Logistics and supply chain services providers
  - Handling agents
  - Storage and warehousing
  - Regional distribution and land transport
- Infrastructure operators
  - Port operations
  - Air cargo operations

Related industries
- Chemical products
- Biopharmaceutical
- Manufacturing
- IT
- Communications and media
- Financial services
- Oil and Gas
- Plastics

Critical institutions
- National and international educational institutions
- Changi International LogisPark, Airport Logistics Park, Singapore Freeport Authorities
- R&D institutions for intelligent transport systems and Excellence research centers in logistics and SCM
- Cluster Organizations Singapore Logistics Association

Source: Munoz & Rivera (2010, p. 22)
LOGISTICS CLUSTERS IN DUBAI

Supported industries:
- Container maintenance
- Ship maintenance
- Aircraft maintenance

Cluster Core:
- Transportation services:
  - Shipping lines
  - Airlines

Related industries:
- Tourism
- Finance services
- Manufacturing (Free zones)
- Construction

Related industries:
- Logistics and supply chain services providers
- Handling agents
- Storage and warehousing
- Distribution and land transport

Infrastructure operators:
- Port operations
- Air cargo operations

Critical institutions:
- Educational institutions
- Jebel Ali and Dubai Airport Free zones Authorities
- UAE Custom and other Governmental agencies
- Cluster Organizations (Emirates Freight, Forwarders Association, Dubai Shipping Association)

Source: Munoz & Rivera (2010, p. 34)
LOGISTICS CLUSTERS IN PANAMA

Supported industries
- Container maintenance
- Ship maintenance

Cluster Core
- Transportation services
  - Shipping lines
  - Airlines

Infrastructure Operators
- Port operations
- Railroad operations
- Airport operations
- Free Trade Zone op.

Panama Canal

Logistics Services
- 3PL agents
- Handling agents
- Storage and warehousing

Related industries
- Tourism
- Maritime Law Service
- Construction
- Financial services

Critical institutions
- Free Trade Zones Authorities (CFTZ and PP)
- Panama Maritime Authority

Source: Munoz & Rivera (2010, p. 53)
MAKING LOGISTICS CLUSTERS HAPPEN

LOGISTICS HUB

ANCHOR COMPANIES AND FDI ATTRACTION

HUMAN RESOURCES
INFRASTRUCTURE
ADMINISTRATIVE PROCESSES
REGULATION

GOVERNMENT COMMITMENT AND STABILITY

STRATEGIC LOCATION

Source: Munoz & Rivera (2010, p. 41)
CUTLER - HAMMER COMPANY SUPPLY CHAIN IN THE CARRIBBEAN

CARIBBEAN TERRITORIES CAN MAKE IT HAPPEN BECAUSE THEY NEVER PASS THE BUCK, NEVERTHELESS...

TRADITIONAL BEST PRACTICES WON’T WORK.

CARIBBEAN TERRITORIES NEED A STRICTER, MORE TOP DOWN PLAYBOOK
5 RULES FOR MANAGING LOGISTICS CLUSTERS PROJECT INNOVATION

1. Start small
2. Use rigorous project management and seasoned project leaders
3. Invest time defining the innovation
4. Build enough knowledge overlap for collaboration
5. Don’t rely solely on technology for communication
THANK YOU FOR YOUR ATTENTION.

QUESTIONS?