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 → Customers

- 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

Production

Location

Logistics

Control

Time
THE 3 PILARS OF LOGISTICS CLUSTERS

Infrastructures

Improvements

Operations

Human Resources

Outcomes

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)
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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

- Insurance and financial services
- Accounting
- Human resources
- IT equipment
- Offices supplies
- Temporary workers agency
- Works supplies
- Export facilitation

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
FROM LOGISTICS ZONE TO LOGISTICS POLE
THE GEOGRAPHY OF LOGISTICS CLUSTERS

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

North America

Europe

Pacific Asia

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

N = 105
Average = 435 hectares
Median = 130 hectares
LOGISTICS CLUSTERS’ FRAMEWORK

Cluster Core
- Transportation services
- Logistics services
- Infrastructure operators

Supported industries
- [Blue block]

Related industries
- [Green block]

Critical institutions
- [Gray block]

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

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

Supported industries
- Container maintenance
- Ship maintenance
- Aircraft maintenance

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

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

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

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

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 CARRIBEAN

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?