

# Disrupting & Dismantling Transnational Criminal Organizations

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# What Science is Learning

## Network vs. Supply Chain Resilience

# Resilience

Resilience - the “ability to maintain and replace actors and linkages and make strategic trade-offs between differentiation and integration” (Bakker, Raab and Milward, 2012)

## Network perspective

- Redundant links
- Replaceable nodes

## Supply-chain perspective

- Redundant roles
- Replaceable pathways

# Resilience: Role and Operational Redundancy

## Segment of the Supply Chain

Case Study	Prod.	Dist.	Trans.	Retail	Consumer	Years	Logistics
Prada	Yes	Yes	Yes	Yes	Yes	15+	Repetitive cycle and operations
Stuart	Yes	Yes	Yes	Yes	Yes	5+	Repetitive cycle and operations
Sister Ping	Limited	Yes	Yes	Unknown	Unknown	18+	Repetitive cycle and operations
Soto-Huarta	Limited	No	No	No	Unknown	8 mo.	Repetitive cycle and operations
Rodrigues-Duindam	Yes	No	No	Yes	Yes	12+	Repetitive cycle and operations
Al-Kassar	Yes	Yes	Yes	Yes	Yes	40+	Discreet operations based on customer orders
Dadayan	Unknown	No	No	Limited	Limited	8	Atypical; non-repetitive cycle or operations
Vagner / Illich	Unknown	No	No	Limited	Limited	1	Atypical; non-repetitive cycle or operations

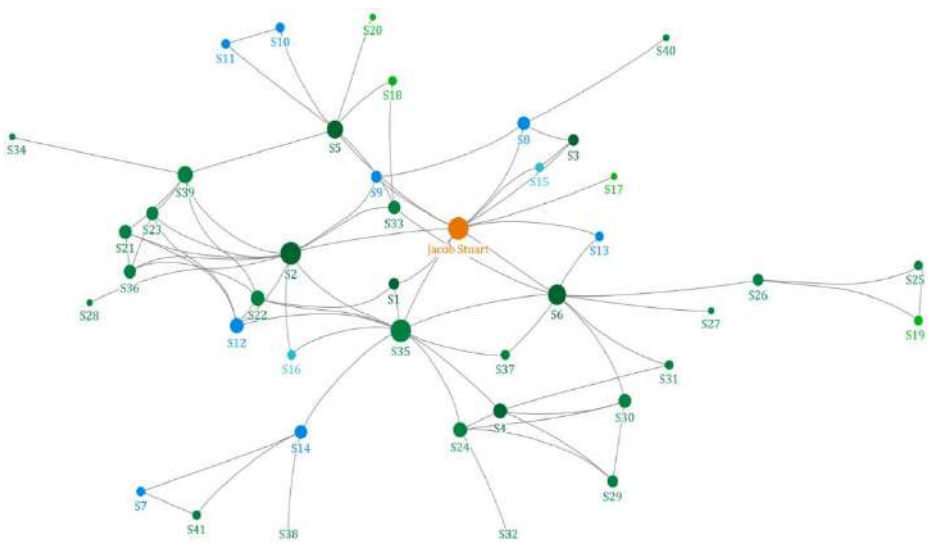
*Prod. = Production*

*Dist. = Distribution*

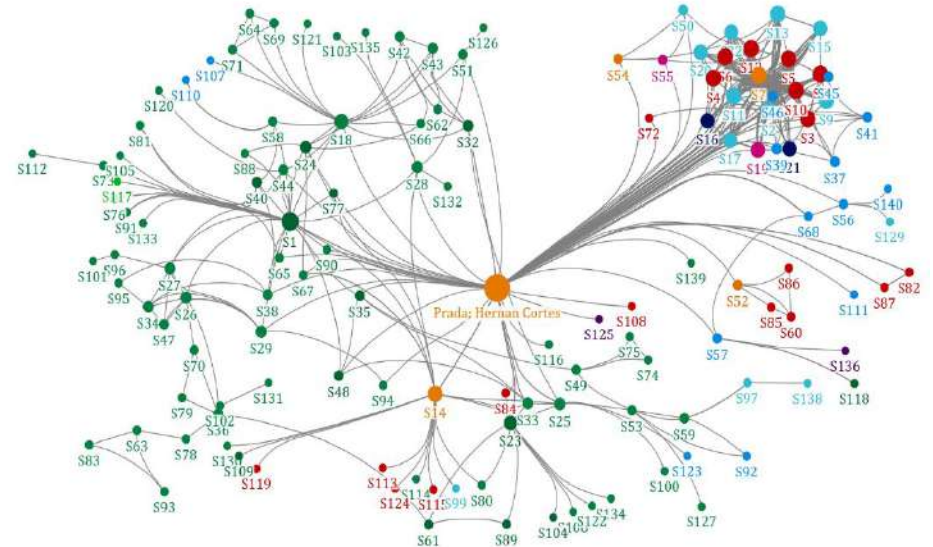
*Trans. = Transportation*

# Resilience: Cross-Functionality

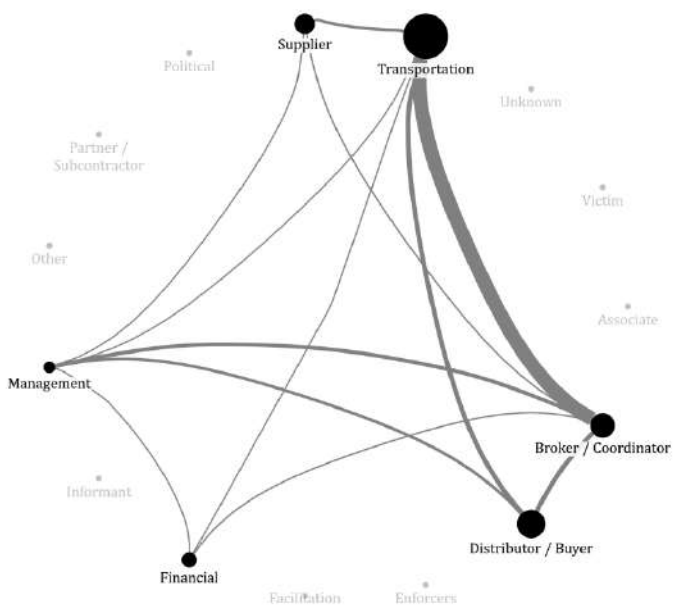
- It is more than just network ties; it is the relationships between functions within a network that are also important
- Networks often compartmentalize portions of network operations to reduce the knowledge of network operations among members
- Yet network operations are fluid, and these compartments may be interchangeable between network members
- Relationships between members of different functions can highlight resilient capabilities of the network itself



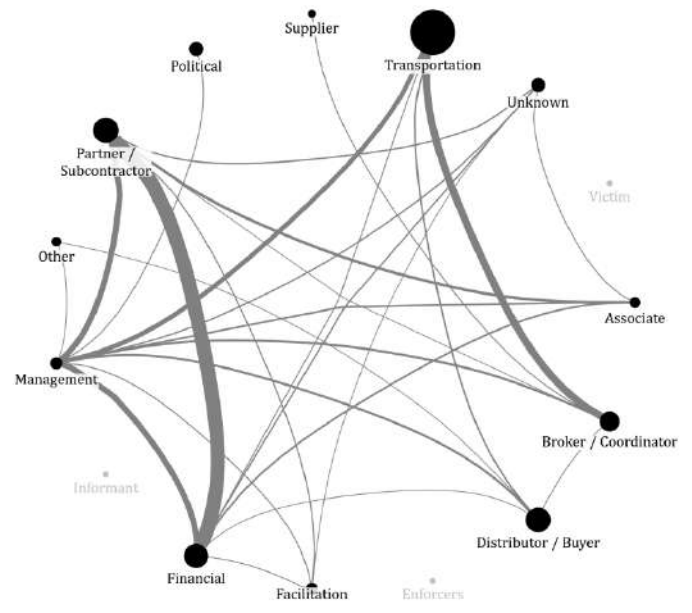
**Jacob Stuart Network  
Drug Smuggling**



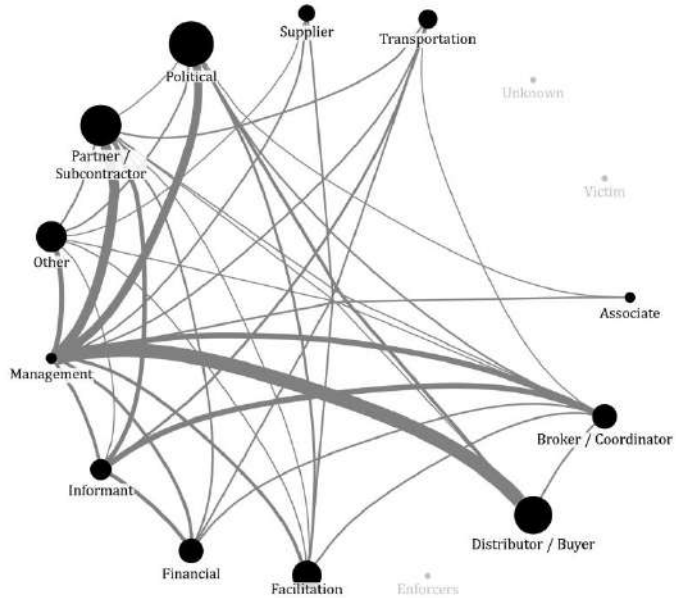
**Hernan Prada Network  
Drug Smuggling**



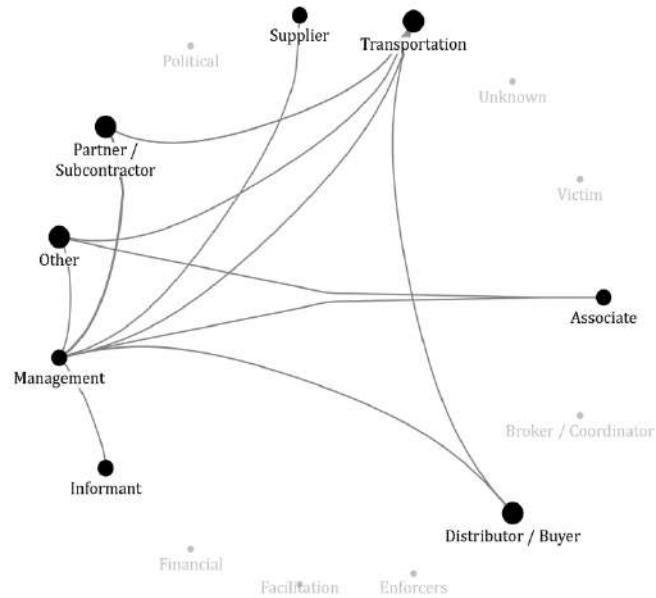
**Functional Network**



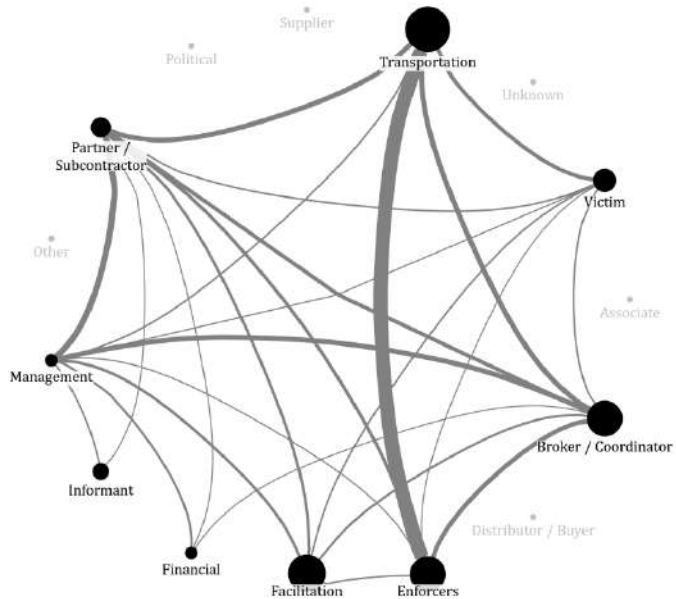
**Functional Network**



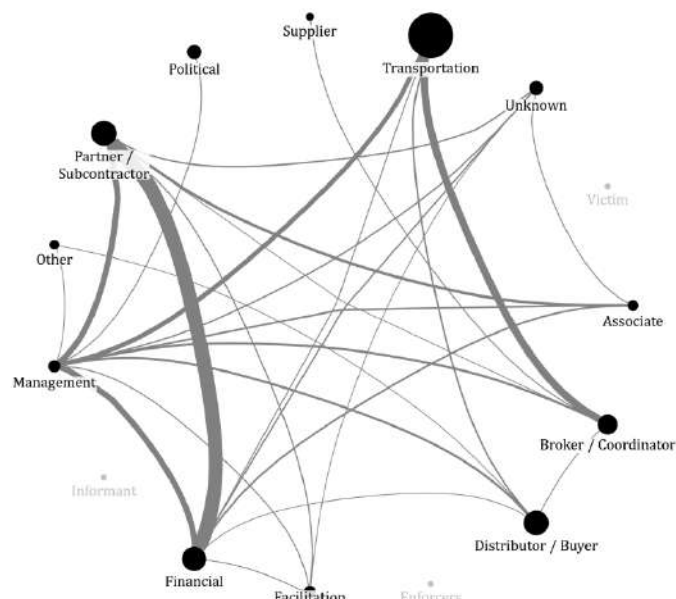
**Al Kassar Network**



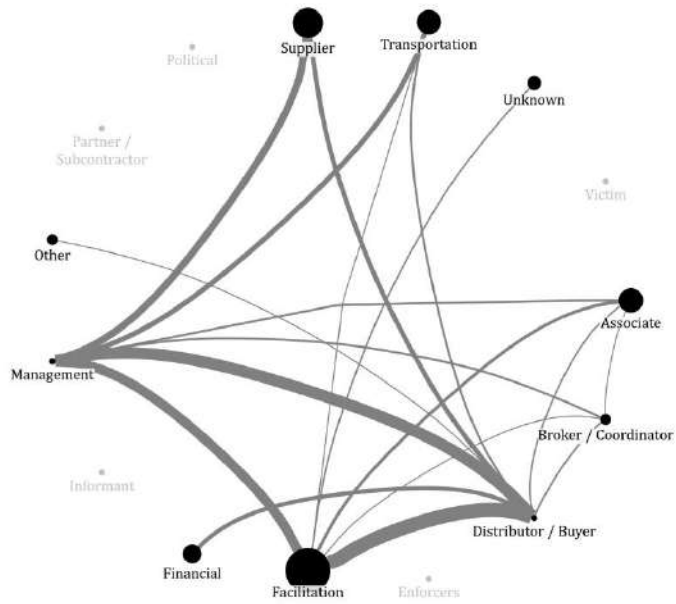
**Dadayan Network**



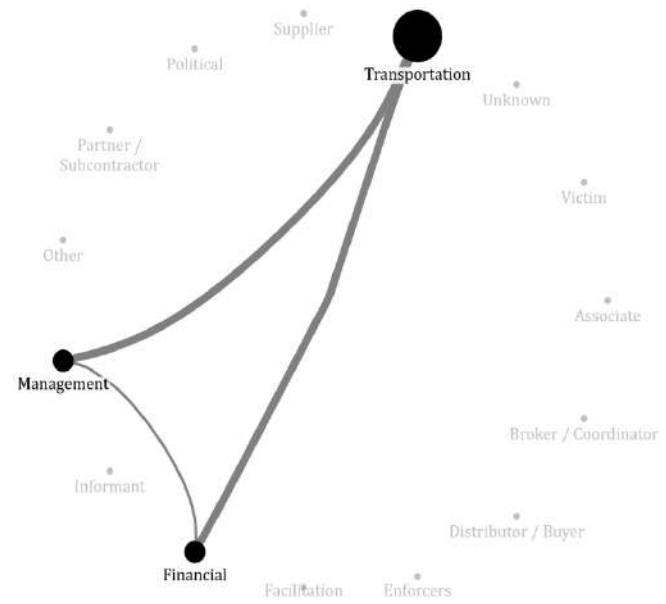
**Sister Ping Network**



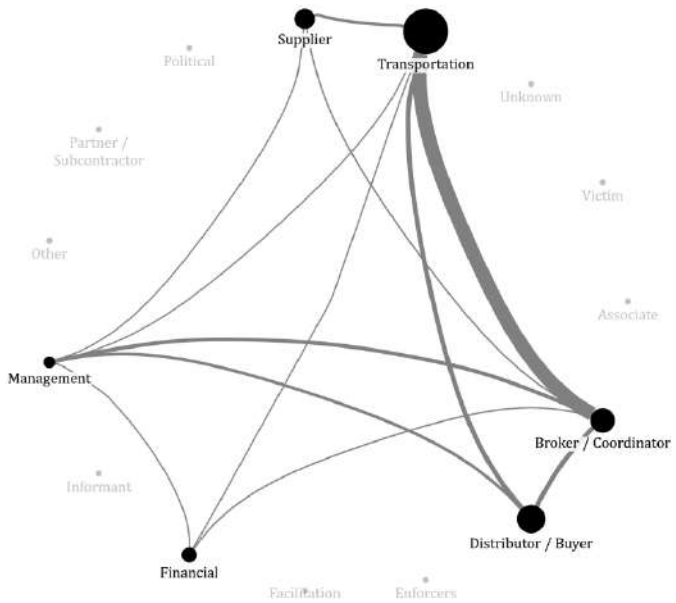
**Prada Network**



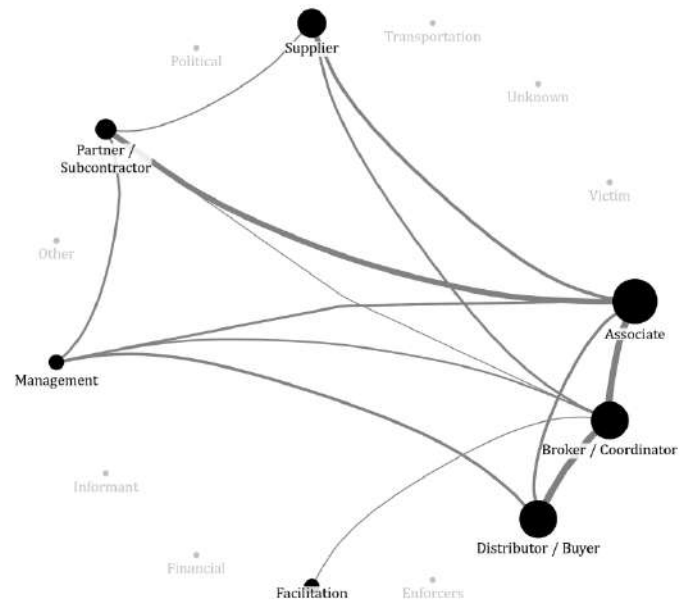
**Rodrigues-Duindam Network**



**Soto-Huarto Network**



**Stuart Network**



**Vagner/Illich Network**



# Moving Forward

## Key takeaways

- Target at least 2 “leaders” for removal
- Networks don’t always positively adapt – use for your advantage
- Pursue failure rather than dismantlement
- Failure is more than interdiction; options to encourage failure more than just arrest
- Resilience is both structural and functional; make sure you analyze both
- No one method for failure - no silver bullet

# The Science of TCOs is Young

- Most studies involve 1 or 2 organizations
- Few studies are cross-commodity
- Few (if any) studies of interdiction strategies
- Heavy emphasis on qualitative case studies
  - Most quantitative analysis is within a single network
- Few studies analyzing role and operational redundancy
- Most studies originate outside U.S.

# International Efforts Advancing

- Efforts to research disruption and dismantlement strategies have primarily originated overseas in the past 15 years
  - Primary driver - Willingness by government agencies to share data
  - Canada (Carlo Morselli, Martin Bouchard, etc.)
  - Italy (Francisco Calderoni, Ernesto Savona, Diego Gambetta, etc.)
  - UK (Federico Varese, Paolo Campana, etc.)
  - Dutch intelligence organizations embed criminologists

# Advancing the Science of Disruption

- A number of criminologists in US (Aili Malm, Gisela Bichler, etc.) already working on disruption/dismantlement questions
  - Limited access to existing data; often have to extract from court records, open sources, etc.
- A number of network scientists in US working on disruption / dismantlement applications
  - Testing methods against available data (Linkedin, Yelp, etc.) rather than valid data (criminal networks, call records, etc.)
- Need: a data warehouse of ground-truth network and operational data on transnational criminal organizations available to researchers, technology developers, and practitioners

# Proposal: Project 100

- To collect, code, and make available network and operational data from **closed investigations** against **100 TCOs** in the United States
  - Law enforcement partners will provide case files from closed investigations
  - UAlbany will extract and code structured data from case files
  - Resulting data will be stripped of PII, agency identification will be removed, and data will be geographically and temporally adjusted to prevent identification
  - Final, anonymized dataset will be made publicly-available for global research on disruption, dismantlement, and failure of TCOs

# Benefits of Mutual Partnership

- New scientific advances
- New technologies developed
- New operational strategies devised

Moving the fight against TCOs from anecdote-driven  
to evidence-based

# It's Been Done Before: Predictive Policing

- Origination = Pin Maps
- LEOs shared crime data
- Criminologists develop hotspots concept
- Hotspots leads to revised policing strategies
- Publicly-available crime data leads to other disciplines participating
- Predictive policing algorithms built on publicly-available crime data
- New deployment strategies from predictive policing



Who is willing to partner to advance the  
science of countering TCOs?

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# Q & A

# Credits & Licensing

Graphic from initial centrality slide:

<https://www.slideshare.net/tom.zimmermann/changes-and-bugs-mining-and-predicting-development-activities>

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