# Government Brokerage of Innovation Networks

Andrew Schrank
Brown University
andrew_schrank@brown.edu

Josh Whitford
Columbia University
jw2212@columbia.edu

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Networks superior
to markets and hierarchies
when demand is unstable, tasks are
interdependent, competencies are
dispersed, and knowledge is rapidly evolving.

Networks are nice.

# Advanced Regenerative Manufacturing Institute

*Manchester, NH*

Deka, United Therapeutics, AutoDesk, Rockwell Automation, UNH, etc.

# Manufacturing USA

CLEAN ENERGY SMART MANUFACTURING INNOVATION INSTITUTE™

A National Network of Institutes focused on advanced manufacturing technologies

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**REMADE**
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***DOD Funded:***

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**ATB**
Advanced Tissue Biofabrication
Manchester, NH

**ARM**
Advanced Robotics in Manufacturing
Pittsburgh, PA

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> *Efforts to create "the manufacturing equipment, procedures and the know-how to move regenerative medicine from a science experiment to mass production" grew out of a **"chance meeting"** between Dean Kamen of DEKA and Martine Rothblatt of United Therapeutics in early 2015.*
>
> Colin Woodard, 2017

# Are chance meetings necessary? Or might government take the lead?

- DARPA program managers serve as “system integrators” who “re-architect social networks” (Fuchs 2010) in order to promote innovation.
- FCC as a “collaborative public space” where competitors and collaborators are encouraged to co-develop technology (Lester and Piore 2004).
- National Laboratories promote “co-location and clustering” between their personnel and private investors via incubators, CRADAs, entrepreneurial separations, etc. (Schrank 2011).
- SBIR personnel serve as “matchmakers” who link winners to VCs, contractors, government procurement officers, etc. (Keller and Block 2012).
- NIST/MEP yields largest returns when extension agents act as “institutional or associational entrepreneurs” who build networks in their “industrial ecosytems” (Brandt and Whitford 2017) .

# Manufacturing Extension Partnerships

MEP • MANUFACTURING EXTENSION PARTNERSHIP®

- Background: NIST program designed to disseminate new techniques and technologies to SMEs; funded by federal-state-private cost-share; present in all 50 states and Puerto Rico
- Dilemma: Breadth of coverage (i.e., more clients) versus depth of coverage (i.e., more contact per client).
- Solution: Catalyst brokerage, i.e., bring in third-party experts and serve as mentors and relationship managers.

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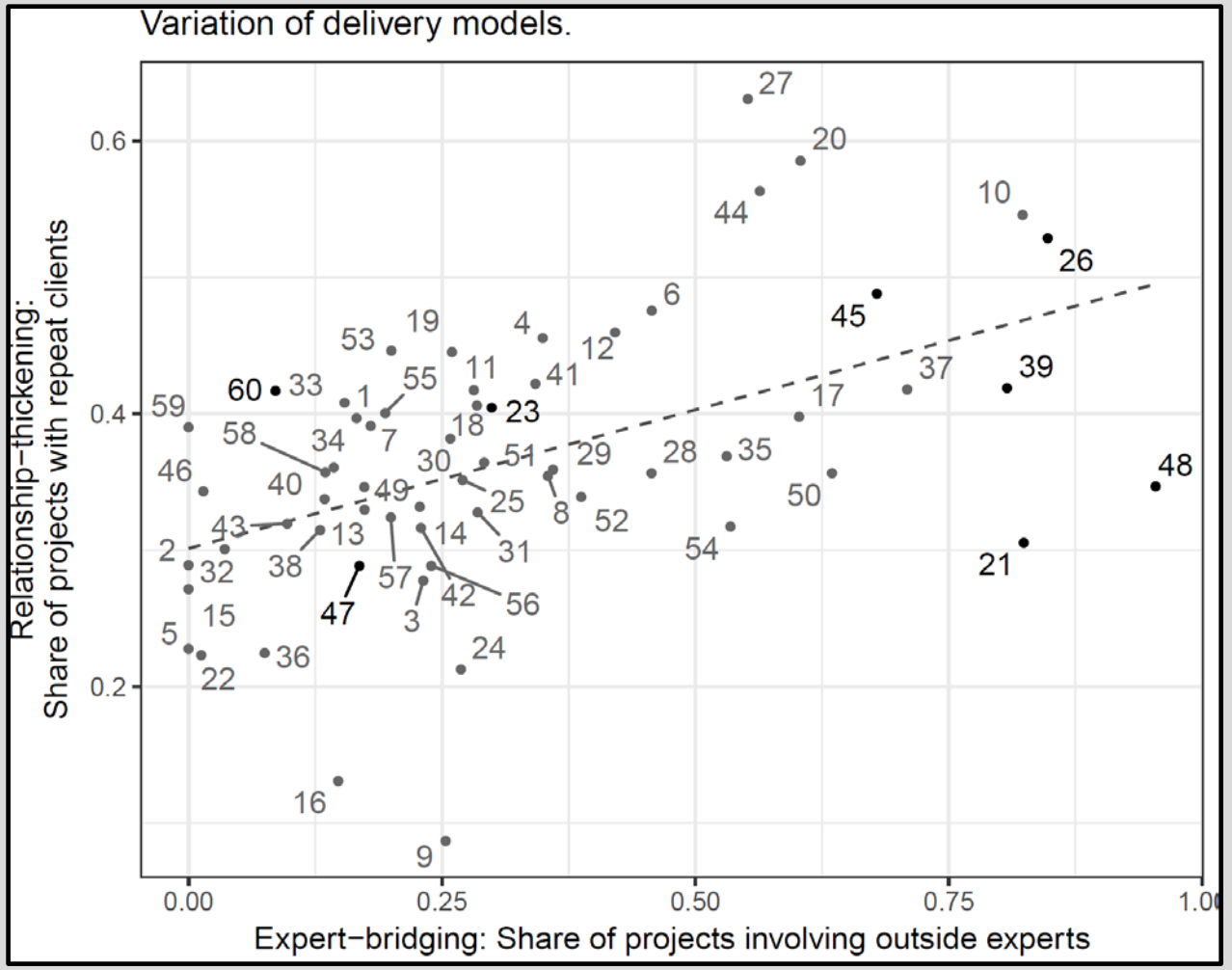

# Lessons for science and innovation policy

- Impact. Both strategies—one-off direct delivery and long-term brokerage—are valuable.
- Incentives. Brokerage is still a risky strategy for individual centers.
- Metrics. Current findings are based on “dirty” administrative data; refinement demands different metrics.
- Personnel. Brokerage is in part a product of center director background.

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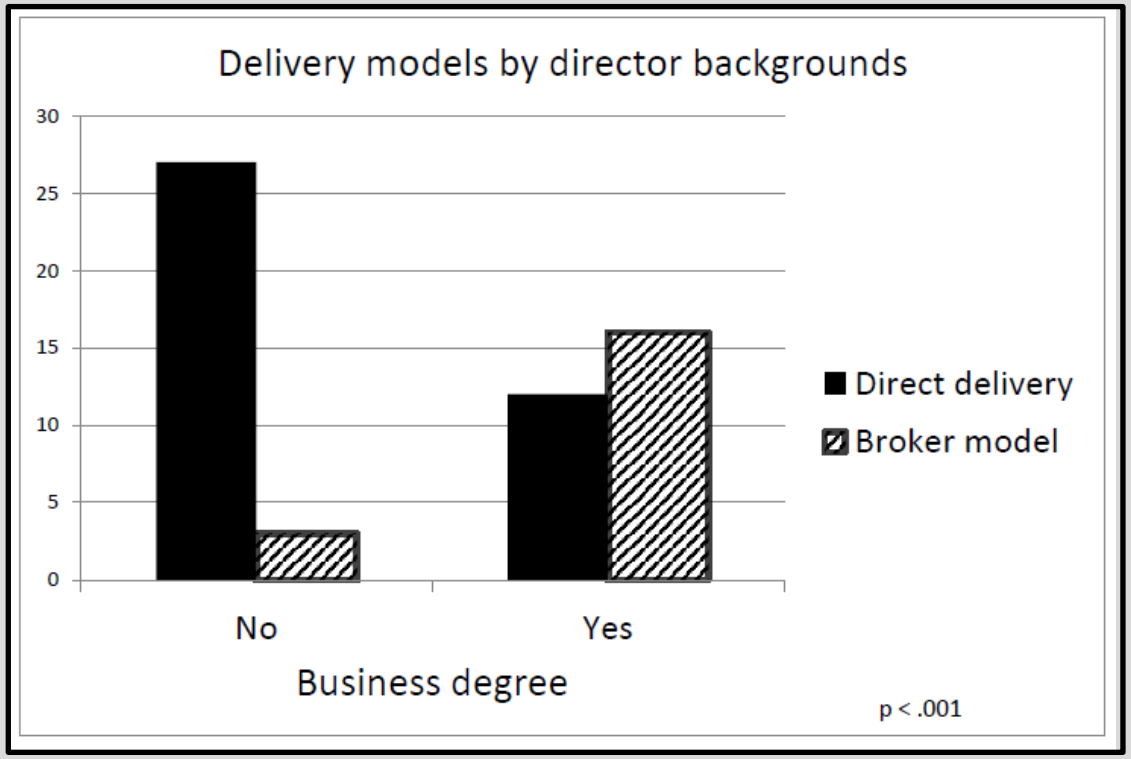


CMTC example: "I don't think boards hire folks for their service delivery model vision, but engineers are like economists and accountants. Minimal people skills so collaboration is not in their DNA."