Enterprise Network Diagrams: Insight through enterprise measurement

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Key Question
How to improve the processes of corporations and their enterprises?
- Look beyond the firm-level to describe and measure enterprise-level processes
- Understand inter-organizational processes and capabilities through study of enterprise networks

What makes for a “good” network?
- The right structure - number & arrangement of relationships
- The right content - nature of the relationships themselves
- The ability to adapt over time to new environmental conditions

Research Goal:
To visualize, analyze and evaluate enterprises as inter-organizational networks

Network of Exchange vs Network of Collaboration

Two firms may exchange goods, but their relationship may not necessarily be collaborative

Central firm Tier 1 supplier Tier 2 supplier Tier 3 supplier

Measures of Structure
- Density of collaboration network vs. density of exchange network (Wasserman and Faust 1994)
- First-order & second-order network coupling (Uzzi 1996)
- Small world Q (Uzzi and Spiro 2005)

Measures of Content
- Trust
- Joint Problem Solving
- Fine grained information transfer (Uzzi 1997, Whitford et al 2007)
- Supplier development / process compatibility (MacDuffie and Helper 1997)

Outcomes of Interest
- Average profit margin of enterprise
- Gini coefficient (measure of inequality)

Related Research Has AlreadyEvaluated Networks
- Collaborations in Broadway Musical Success, 1945-1989 (Uzzi and Spiro 2005)

Case Studies Currently Underway To Understand “Collaborative” Relationships
- Intra-organizational relationships
  United Technologies Corporation’s ACE Operating System – Deficiency Report Process Improvements
- Inter-organizational relationship
  Honda North America - supplier development activities

Collecting Enterprise Network Data
- Focus data collection on two enterprises
- Begin at central firm, followed by snowball sampling of suppliers
- Web-based survey – will include measures of
  - Network structure
  - Network content
  - Outcome measures

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