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Social network structures and Projects

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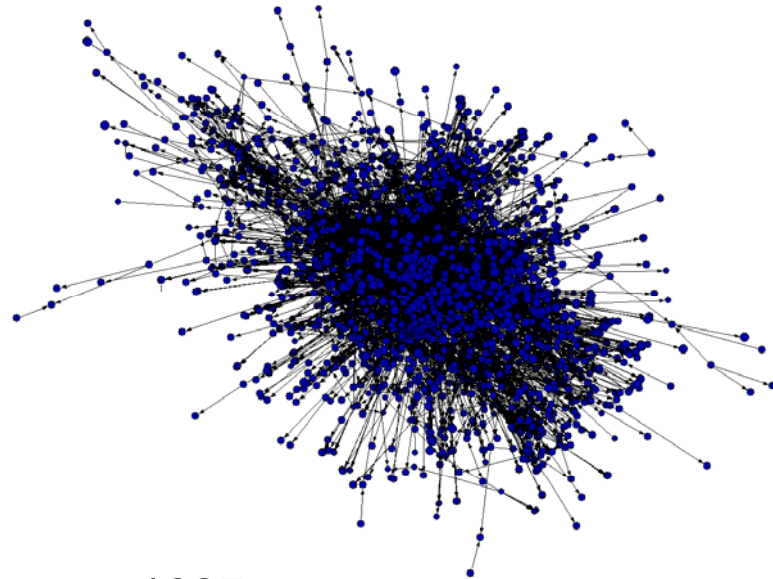
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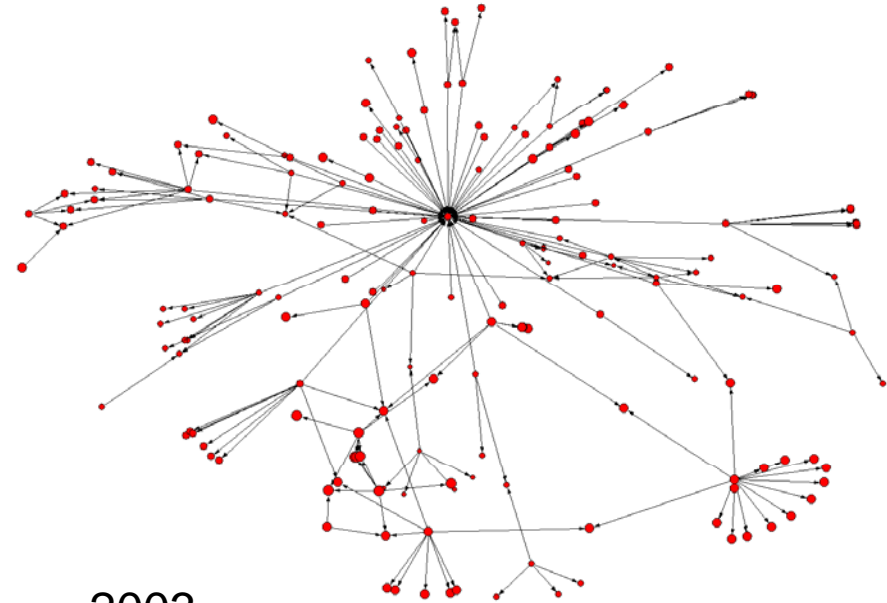
- Some examples of real-world networks
- What we can learn from example networks
- Problem-solving in networks
- Can we design effective problem-solving networks for better projects?



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1. New York Garment Industry
 2. Telephone-call based social network
 3. What do these networks have in common?
 4. What can we learn from them?
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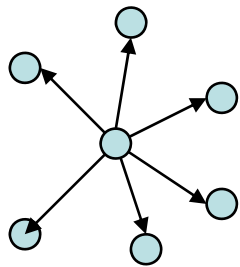
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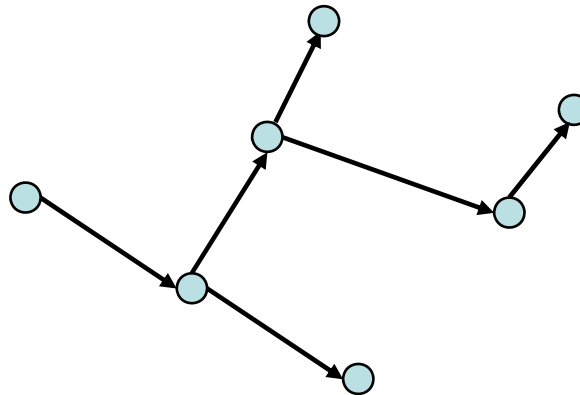
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Network shrank from over 3000 firms to fewer than 200 over a period of 20 years

1. Average number of other firms each firm linked to
2. Average number of hops between any two firms in the network



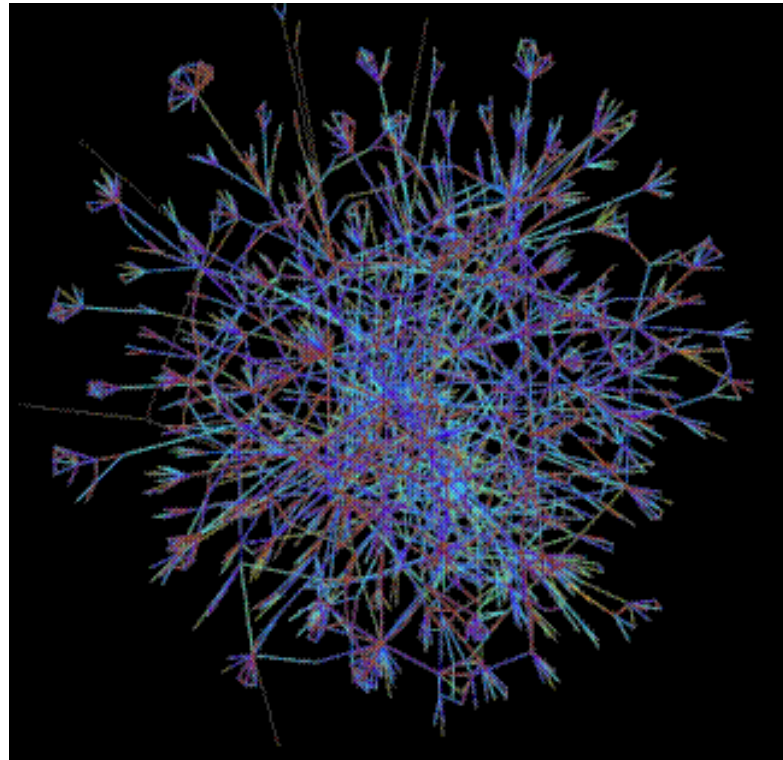
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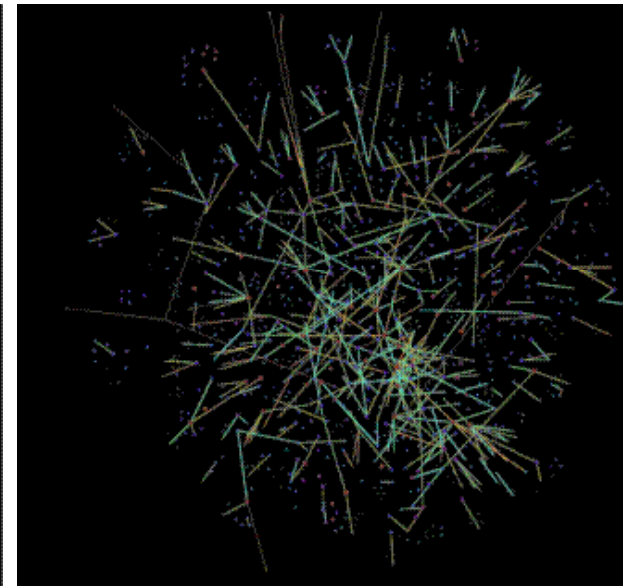
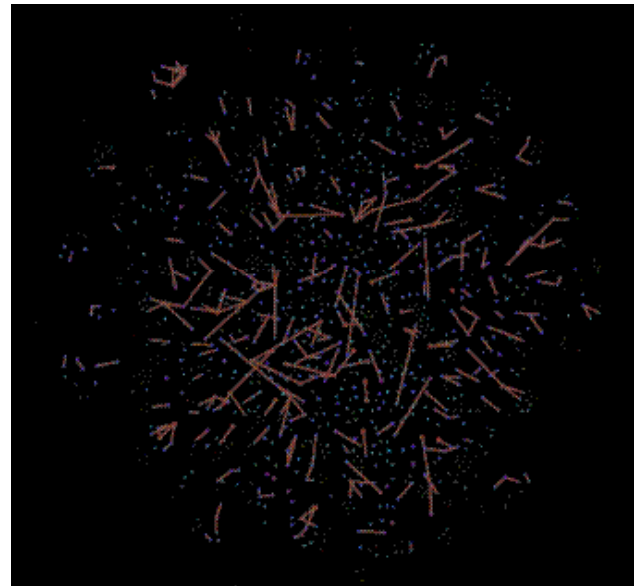
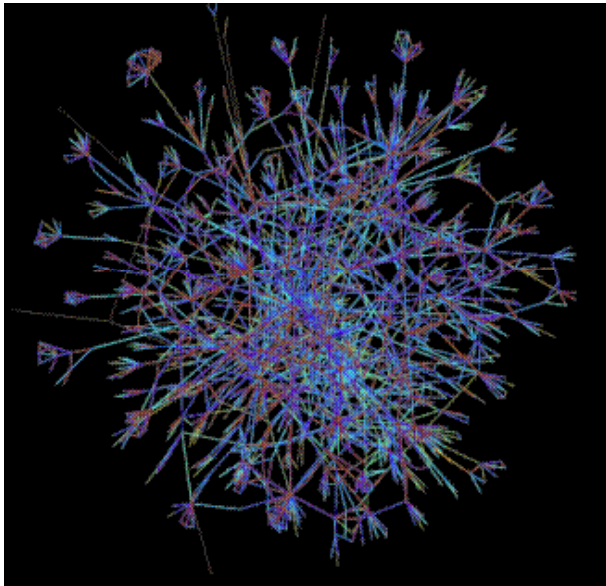
1. Over 3M calls over 18 weeks



Original network structure

Only the strongest links

Only the weakest links



1. Network of supply firms

- Measured structure remained surprisingly constant
- Co-operative behaviour preserves structure
- Network collapsed to a hub and spoke structure

2. Phone calls

- Clusters are compact and tightly connected within
- Network structure is maintained by the **weak** links

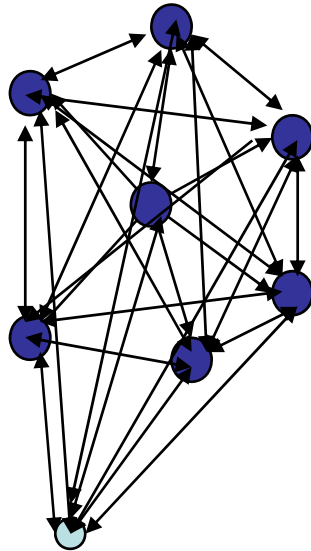
1. Project teams generate social structures
2. Project teams import pre-existing social networks
3. Can these structures make projects more effective?
 - By sharing expertise?
 - By enabling links?



N nodes produce $N(N-1)/2$ direct links

For 7 nodes, this is 21 links

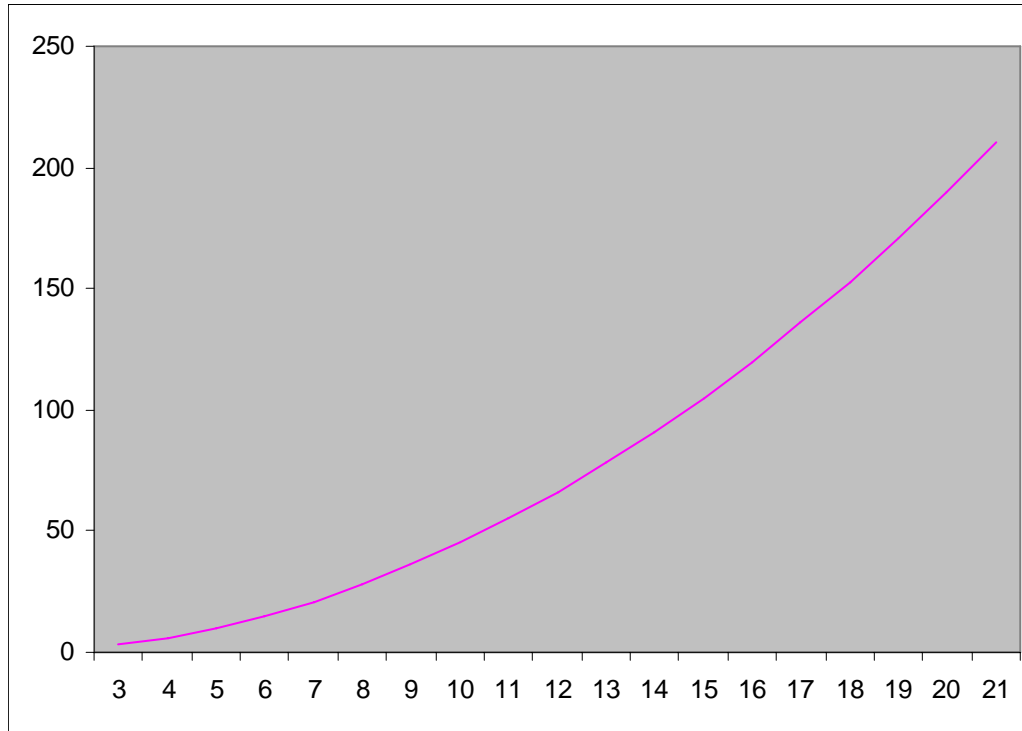
For 8 nodes, 28 links



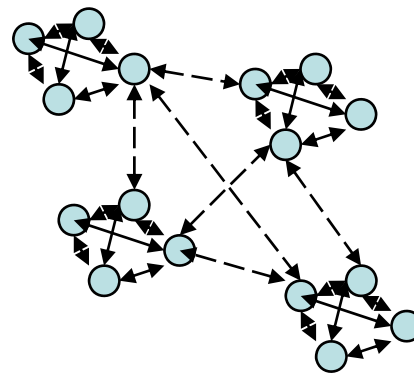
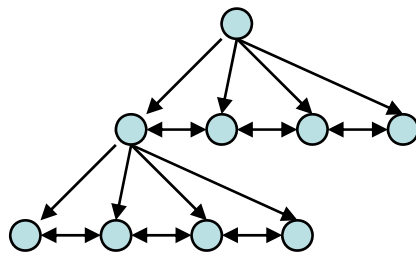
Increase in number of links / relationships



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- Introduce structure on the node-to-node network
- Hierarchical structure
- Clustered structure
- Or a hybrid, with formal hierarchical reporting, and clustered networked problem-solving communication





1. The Facebook generation will bring social networking with them
2. They will utilise informal networking structures to maintain professional and social links
3. How will informal problem-solving contribute to project delivery?
4. Who are the people every project team will need?



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1. Project management skills will always be needed
 2. Ability to maintain a social network, as a problem-solving resource
 3. What role will such a person have in next-generation project teams?
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Leadership

The end

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1. New York garment industry

- Serguei Saavedra Sanchez, Felix Reed-Tsochas, University of Oxford
- Brian Uzzi, North Western University

2. Telephone networks

- Jukka Pekka Onnela, University of Oxford

3. Facebook

- Ton Zijlstra , www.zijlstra.org