

Reputation networks within inter-firm networks

Emerging social media technologies and their impacts
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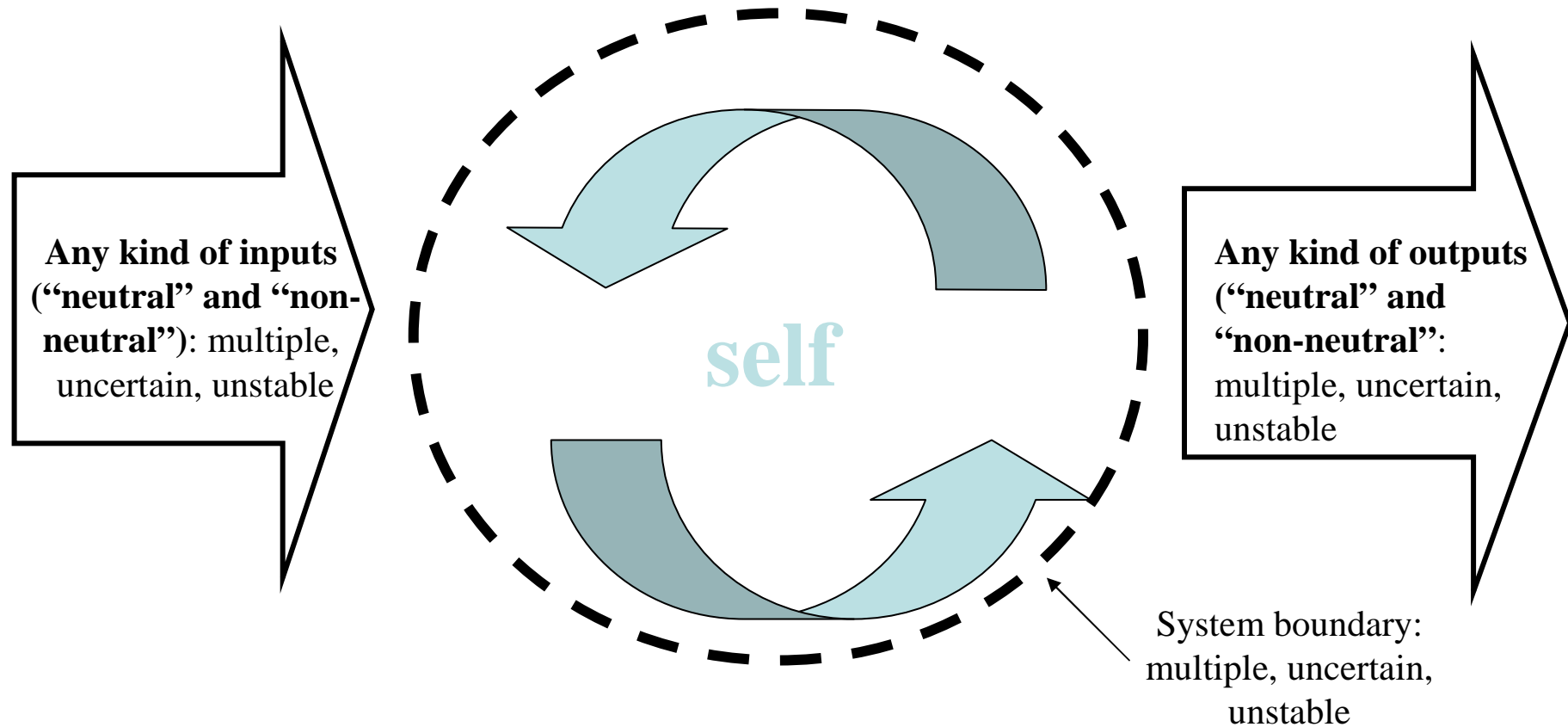
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Hetero- and self-organization

self-organization as a matter of degree

Non neutral respect to the ability to affect organizational (operational) structure (network)



The two main issues

If a social system is identifiable according to some peculiarity of its operations, the exchange density could be one of the peculiarities

Since communication is the main medium in social systems, the reputation could be the variable to be exchanged

Why reputation does matter in industrial clusters?

Trust is a competitive advantage, but agents can trust each other only if opportunism is prevented (or strongly hindered)

Hence,

information on cluster members should be efficiently transferred and reliable

hence

Reputation on (un)reliable informers
and agents' characteristics should be
efficiently transferred

and

unreliable informers and untrustworthy agents
should be heavily sanctioned

The three specific issues

What is the topology of the reputational networks?

Is reputation transmission efficient?

Is reputation correlated with economic or technological indicators?

The main traits of the Aerospace Industrial Cluster in the Lazio Region

- 27000 employees
- 5.5 billion euro
- 100 firms
- average size extremely high for an industrial cluster: 250 employees and 50 million euro per firm
- In our sample there are 8 large companies and 30 SME

The sample

- 45 companies and 6 non-profit organizations
- 21300 employees
- 4 billion euro
- 26% export share
- 474 employees per firm as average size
- 224000 euro of turnover per employee
- 40% of firms have patented

Five types of reputation

- product quality (27 nodes)
- innovation capacity (27 nodes)
- economic performance (24 nodes)
- relational (social) capital (25 nodes)
- reliability (timely delivery or payment, etc.) (27 nodes)

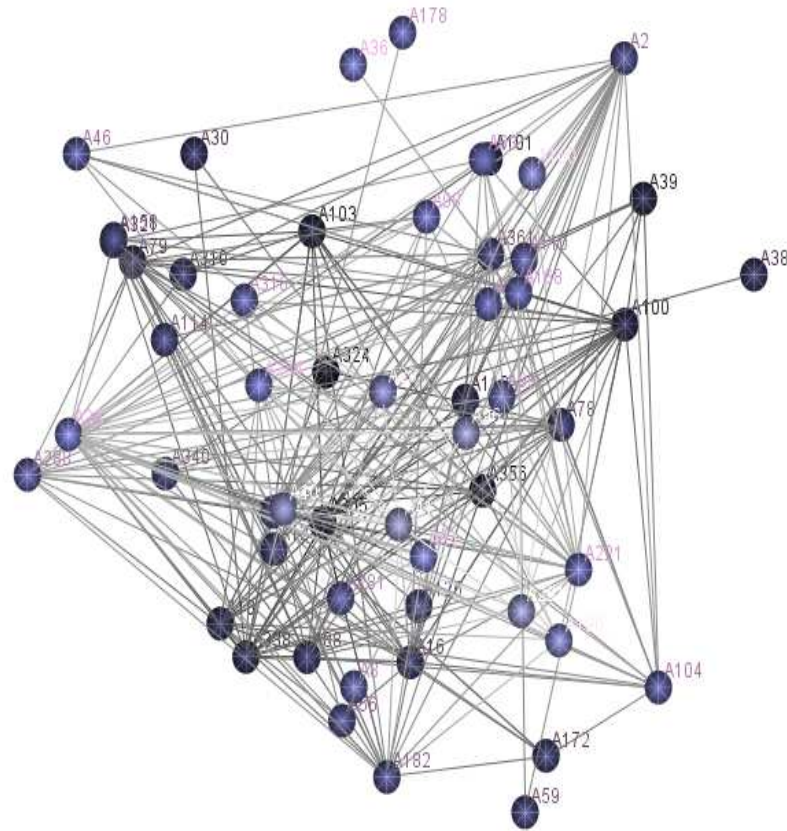
Correlation between the five types of reputational networks

	Economic performance	Product quality	Innovative capacity	Relational capital	Reliability
Economic performance	1,00	0,86	0,85	0,90	0,87
Product quality	0,86	1,00	0,95	0,90	0,94
Innovative capacity	0,85	0,95	1,00	0,88	0,92
Relational capital	0,90	0,90	0,88	1,00	0,89
Reliability	0,87	0,94	0,92	0,89	1,00

Some descriptive indexes of the five reputational networks

	Efficiency	Size (number of nodes)	Quantity of total reputation	Quantity of per node reputation	Degree of connectiveness	Degree of (dyadic) hierarchy	Average path length
Economic performance	0,77	24	554	23,1	1,00	0,53	2,16
Product quality	0,73	27	894	33,1	1,00	0,38	2,23
Innovative capacity	0,73	27	878	32,5	1,00	0,38	2,35
Relational capital	0,75	26	734	28,2	0,92	0,35	2,39
Reliability	0,74	27	836	31,0	1,00	0,37	2,24

The network resulting from all the five types of reputation

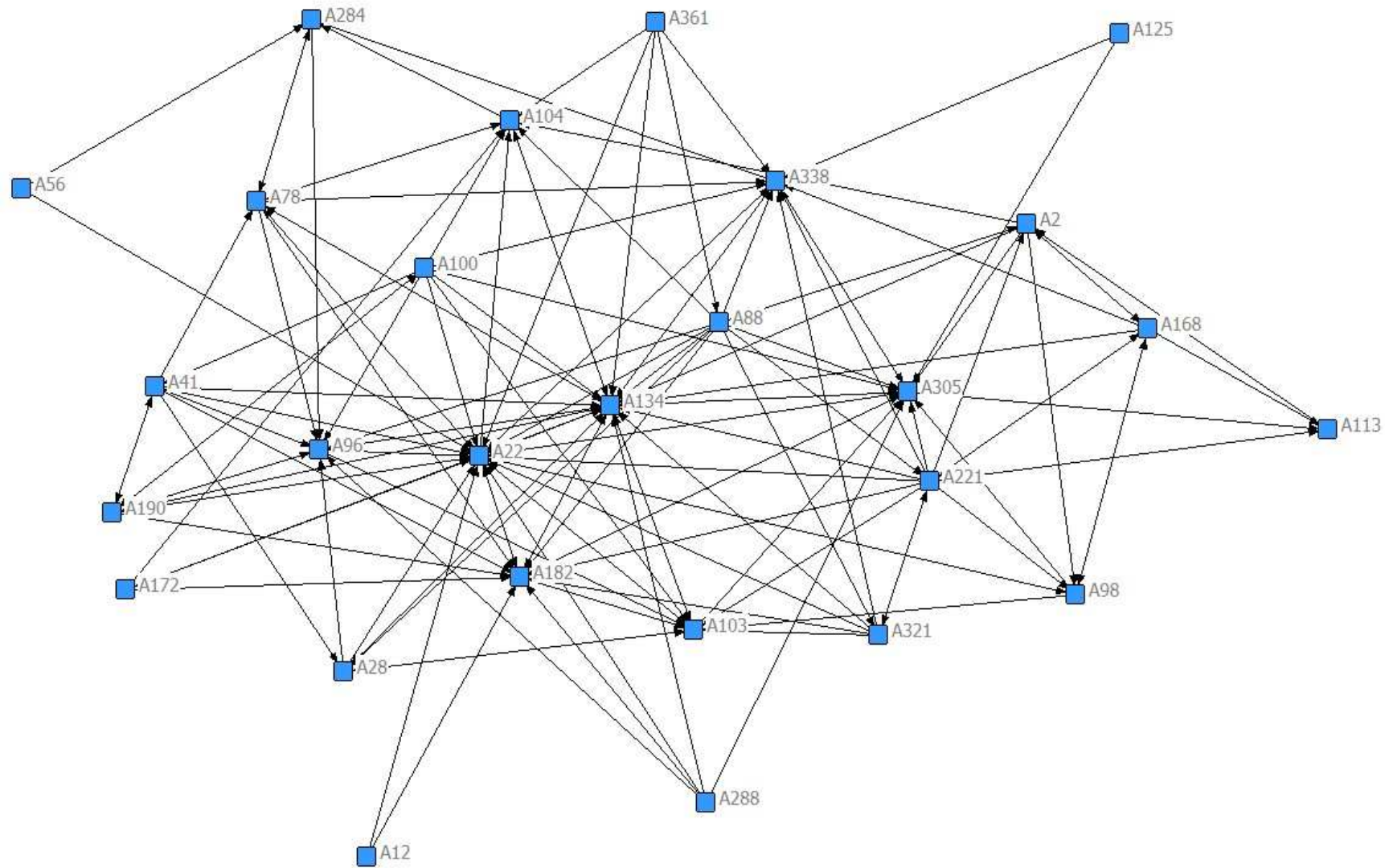


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Perceived relevance of the five types of organizational reputation

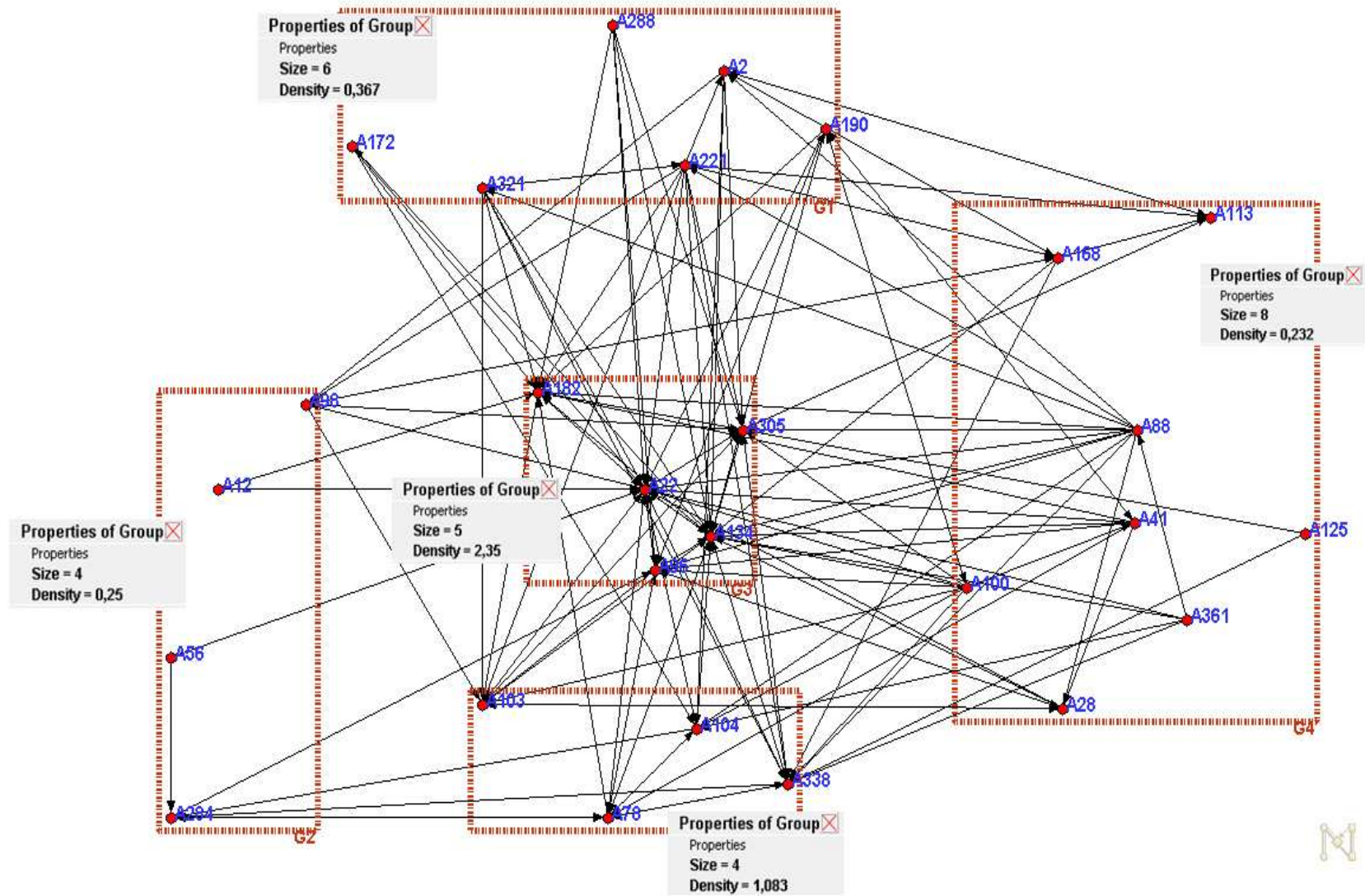
	Product quality	Innovative capacity	Reliability	Economic performance	Relational capital
Irrelevant	0	0	0	6,1	0
Few important	0	3	0	12,1	9,1
Moderately important	12,1	36,4	12,1	66,6	54,5
Very important	87,9	60,6	87,9	15,2	36,4
total	100	100	100	100	100

The reputation network based on product quality



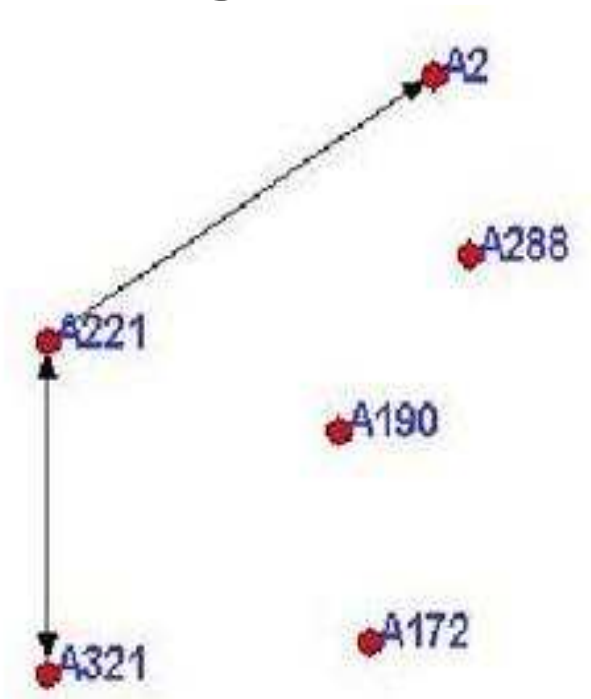
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The reputation network based on product quality with evidence of sub-networks

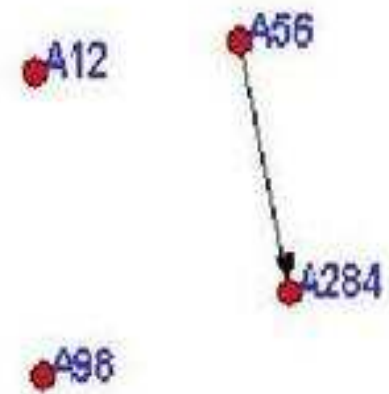


sub-networks	G4	G2	G1	G3	G5
criteria	<50	from 51 to 100	from 101 to 250	>250	Non-profit org.
Number of nodes	8	4	6	5	4
Reputation value	179,81	44,23	156,73	318,27	154,81

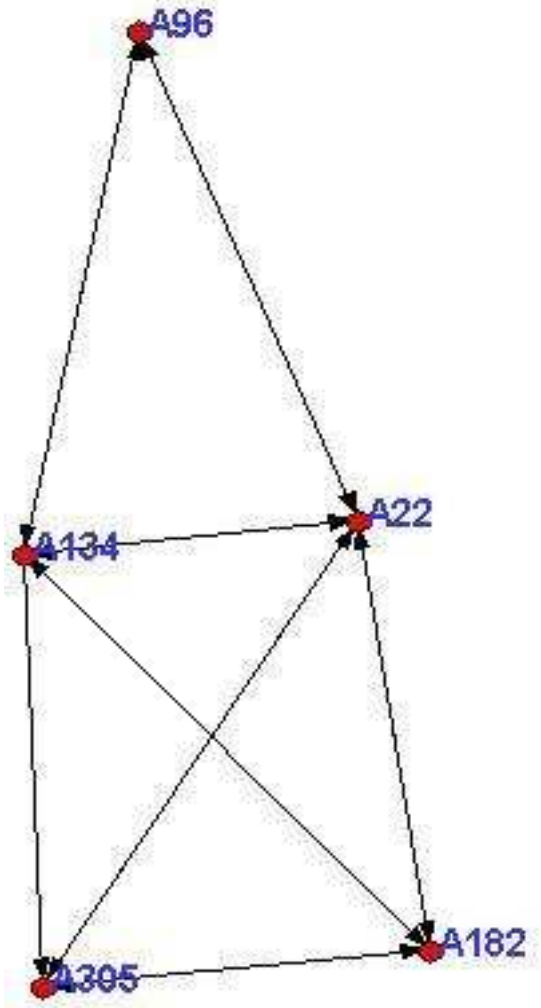
G1 group



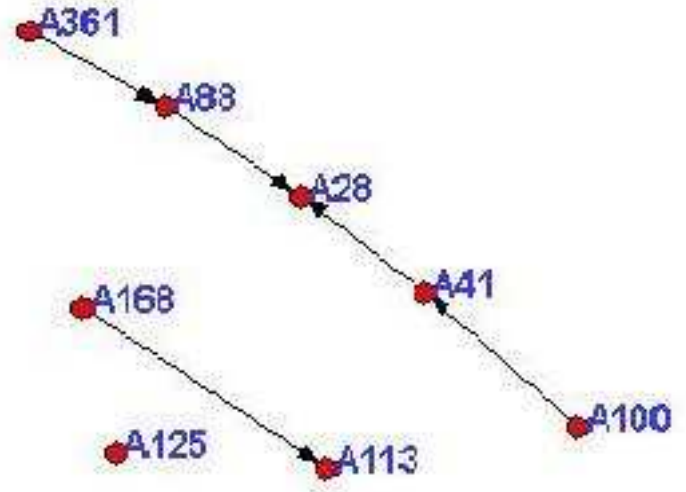
G2 group



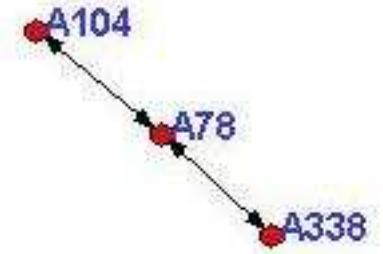
G3 group



G4 group



G5 group



Correlations between the main centrality and performance indexes

	Sales	Size	R&S %	Average number of clients	Average n of suppliers
In-Dc	Quality: 64% Inn. Cap.: 66% Perform.: 74% Reliability: 67%	Quality: 73% Inn. Cap.: 72% Perform.: 78% Rel. Cap.: 78% Reliability: 75%	Quality: 82% Inn. Cap.: 79% Perform.: 83% Rel. Cap.: 78% Reliability: 81%		Quality: 65% Inn. Cap.: 62% Reliability: 63%
Out-Cc				Perform.: 81%	
In-Cc		Quality: 61% Inn. Cap.: 62% Reliability.: 61%			
Bc	Perform.: 69% Rel. Cap.: 63%		Quality: 78% Inn. Cap.: 76% Perform.: 86% Rel. Cap.: 71% Reliability: 81%		

Conclusions

- 1. reputation is efficiently transmitted within the cluster (high density and low apl)
- 2. the five types of reputational networks are highly correlated, however
- 3. product quality, innovativeness and reliability are the most important aspects
- 4. the passive reputation and the capacity to transfer reputation are highly correlated to economic and technological indicators