Visualizing Social Networks to Discover Trends and Trendsetters

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Dynamic Social Network Analysis with Condor
Social Network Analysis (SNA)
Condor Architecture

- results
  - analysis
    - data sources

- People Map
  - Experts

- Concept Map
  - New Topics

- Trend Map
  - Emerging Trends

- Social Network Analysis Software

Data sources include:
- Web
- Blogs
- Online forums
- E-Mail archives
- Patent databases
- Scientific literature databases
New employees are integrated in about one week
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Predicting Performance by Communication

learning

innovation

interest
Combining links and content similarity
Knowledge Flow Optimization

Knowledge Flow

Business Process

Organization Structure

Data

Nervous System

Blood System

Skeleton

Body Parts
Creators
How Cool ideas develop

COINs (groups of creators)

CLNs (swarms - ecosystems of COINs)

Creators (creative experts)

CINs (crowds - ecosystems of CLNs)

World Wide Web
Don’t be a star, be a galaxy!
Collaborative Innovation Networks (COINs)
Most effective communicators

People for Innovation

Degree of Connectivity

Degree of Interactivity

Degree of Sharing

low  high

small (1-1)  high (m-m)

community personal
Swarm Creativity
100 Software Startups in Israel
250 Boston Biotech startups
250 Boston Biotech Startups
Correlating Performance & Creativity

Tech_aspectj_tools dev. dis.

E_Pde.Ui Component Developer Discussions

Performance: 0.82  Creativity: 0.21

Performance: 0.965  Creativity: 0.0878
Social Patterns of Creativity

Social Patterns of Performance
Social badges
Oscillating Centrality Indicates Creativity

- Customer service team
- Development team
- Sales team
- Management team

high oscillation = high creativity
low oscillation = high performing
E-mail (purple) and f2f/IR (blue) betweenness can (but must not) differ
Coolhunting
How Degree-of-separation-search works...

Build the “social network” of returned Web sites
Predicting Drink Sales

Results
1. main blog & Web site: bevnet.com
2. competitors: batterydrink, kabbalahenergydrink, red bull
3. Relative importance:
   1. Power
   2. Monster
   3. Kabbalah
   4. Red Bull
   5. Battery
Information Template “Nanotechnology” applied on all blogs

**Insights**
- Increasing in importance (2008 in center)
- Human benefits key
- Regulation and ethics major concerns
- Drugs against cancer
Web and Blogs correspond to Real World
Predicting Movie Success

online-forum Internet Movie Database (IMDb):
- influential people & sentiment analysis
- Predicts success at the box office.
Stock trends

For example IBM:
Web & Blog predict stock trend by 1-3 days (R=0.822***)

[Graph showing stock trend prediction for IBM]
"euro currency" and "us dollar currency"  7/18/08 to 12/31/08

Corr (EUR)=0.784***
Corr (USD)=0.534***
Thank You

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