

Social Network Analysis

Overview

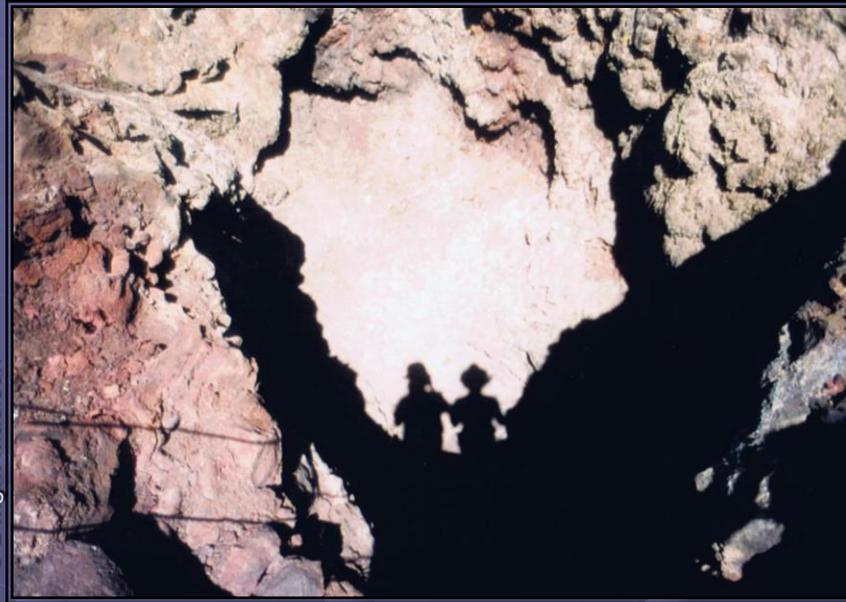


Craters of the Moon
National Monument
and Preserve

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Social Networks: The Fabric of Civilization



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Americans of all ages, all conditions, and all dispositions, constantly form associations...if they never acquired the habit of forming associations in ordinary life, civilization itself would be endangered.

~Alexis De Tocqueville, 1835

Overview

- Introduction to Social Networks and Social Network Analysis
- Areas of Interest:
Craters of the Moon NMP
Social Network Analysis
- Use of Knowledge of
CMNMP Social Network



Why are organization networks important?

Where Work Happens

- Knowledge
- Performance

Where Knowledge Lives

- Useful
- Fast



Where People Engage

- Satisfaction
- Retention

But...

- Invisible
- Tough to Know

Recognizing what each network structure does best

Characteristics of “The Formal”

- Rational
- Hierarchical
- Disciplined
- Clarity
- Aligning
- Predictable
- Scalable
- Efficient

Characteristics of “The Informal”

- Emotional
- Collaborative
- Spontaneous
- Ambiguity
- Motivating
- Innovative
- Responsive
- Adaptive

Networks Play a Key Role In Organizational Excellence

Where Innovation Lives...

Rely on people FAR more than databases for information

Innovation lives in re-combining expertise and ties bridging organizational lines

Where Work Happens...

After decades of restructurings, work and coordination of work occurs in networks

Appropriate connectivity drives performance

Invisible Source of Inefficiency...

Costs of collaboration increasing but not systematically managed

Invisible decision-making delays consume time and resources

But These Networks Are...

Invisible and highly misunderstood

At odds with formal structure, process views of work and standard culture inventories

Social Network Mapping

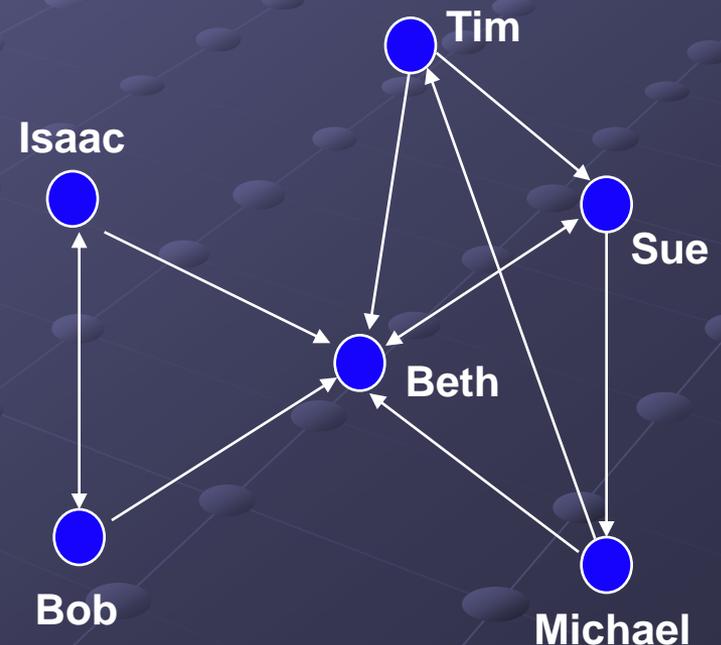
- A **social network** is essentially a map of all the relevant relationships between the network members being studied
- Key to **social network theory** is the relationship between individuals in terms of nodes and ties
 - nodes are individuals, ties are the relationships between them

What does social network analysis tell us?

Relationships Are 'Uncovered' Through Questions We Ask

Network Structure Analysis is based on five key indicators:

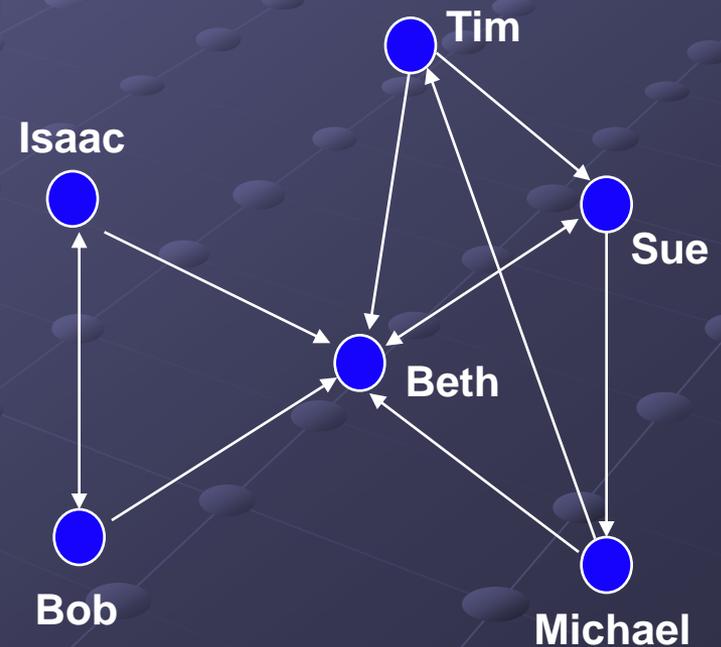
1. Direction of information flow
2. Individuals who are overly central
3. Individuals who are loosely connected and may be under-utilized
4. Off-track subgroups
5. Network level of overall connection



What does social network analysis tell us?

Network Structure focuses on three key characteristics:

1. Information / knowledge transfer
2. Task flow
3. Trust or energy



Expanding Networks

From...

Implicit philosophy that more collaboration is “better”

“Shotgun” approach promoting collaboration everywhere

No focus on relationships that underlie effective collaboration

To...

Explicit analysis to determine exactly where collaboration is/is not needed

Targeted approach to address specific barriers to collaboration

Ability to visualize and correct key relationships (e.g., awareness, trust and even fear)

Craters of the Moon National Monument and Preserve



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Areas of Interest / Social Network Analysis

Bureau of Land Management and National Park Service Monument Staff

Craters of the Moon NMP Survey Questionnaire

This analysis was based on two questions: **(1)** “Who do you go to for information and resources concerning Craters of the Moon National Monument and Preserve?”

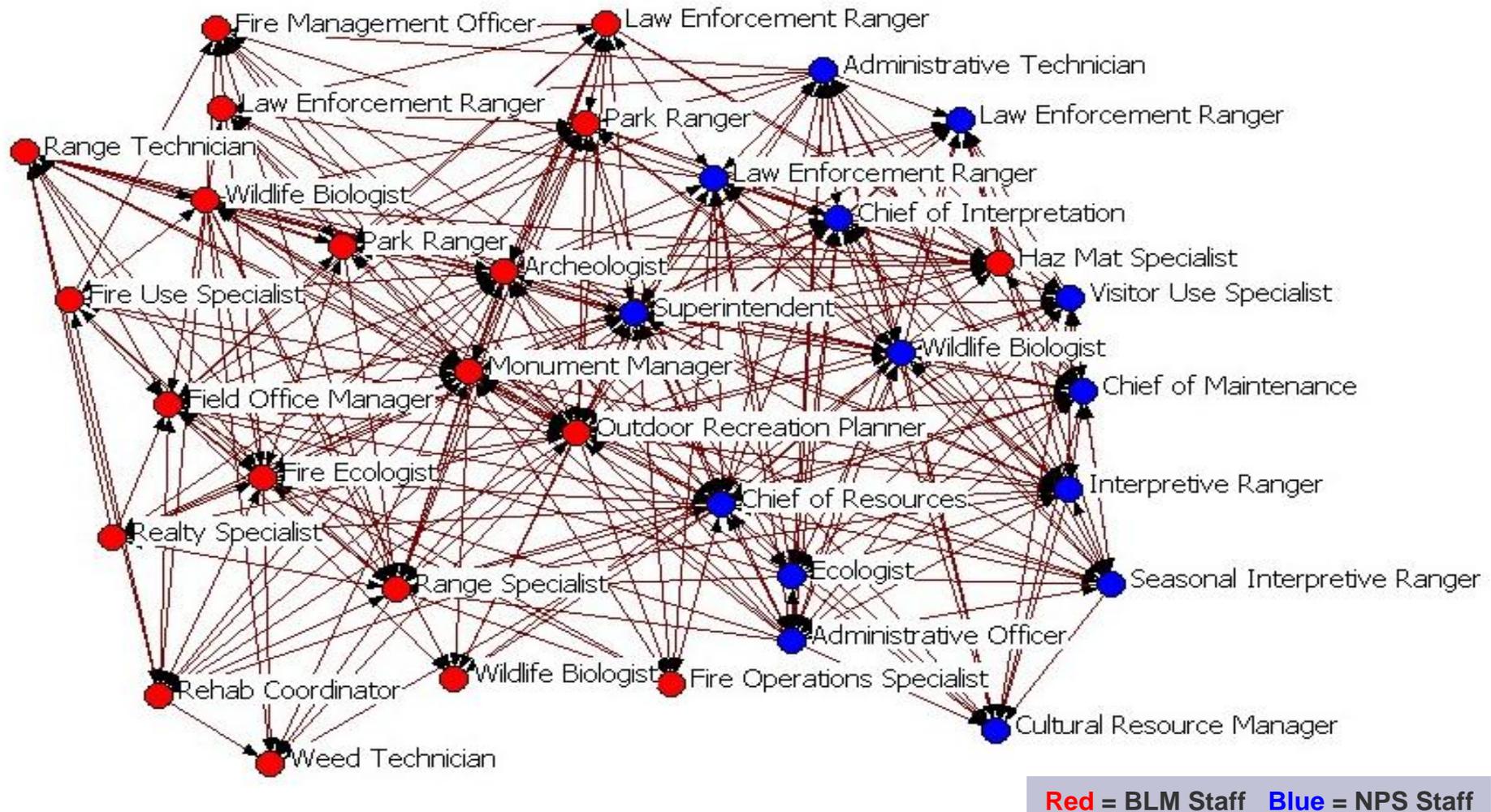
0 = I never, or rarely, go to this person

1 = I sometimes go to this person

2 = I frequently go to this person

- 34 individuals out of 38 responded with a 89% response rate
- 34 Individuals = 34 Nodes
- One Relationship = One Tie

SNA Map ~ Craters of the Moon NMP



The network is illustrated by the merger of two subgroups of BLM and NPS staff members. Strong communication ties link members across and within each agency. Note formal structure continues to cluster each agency's staff.

Brokers:

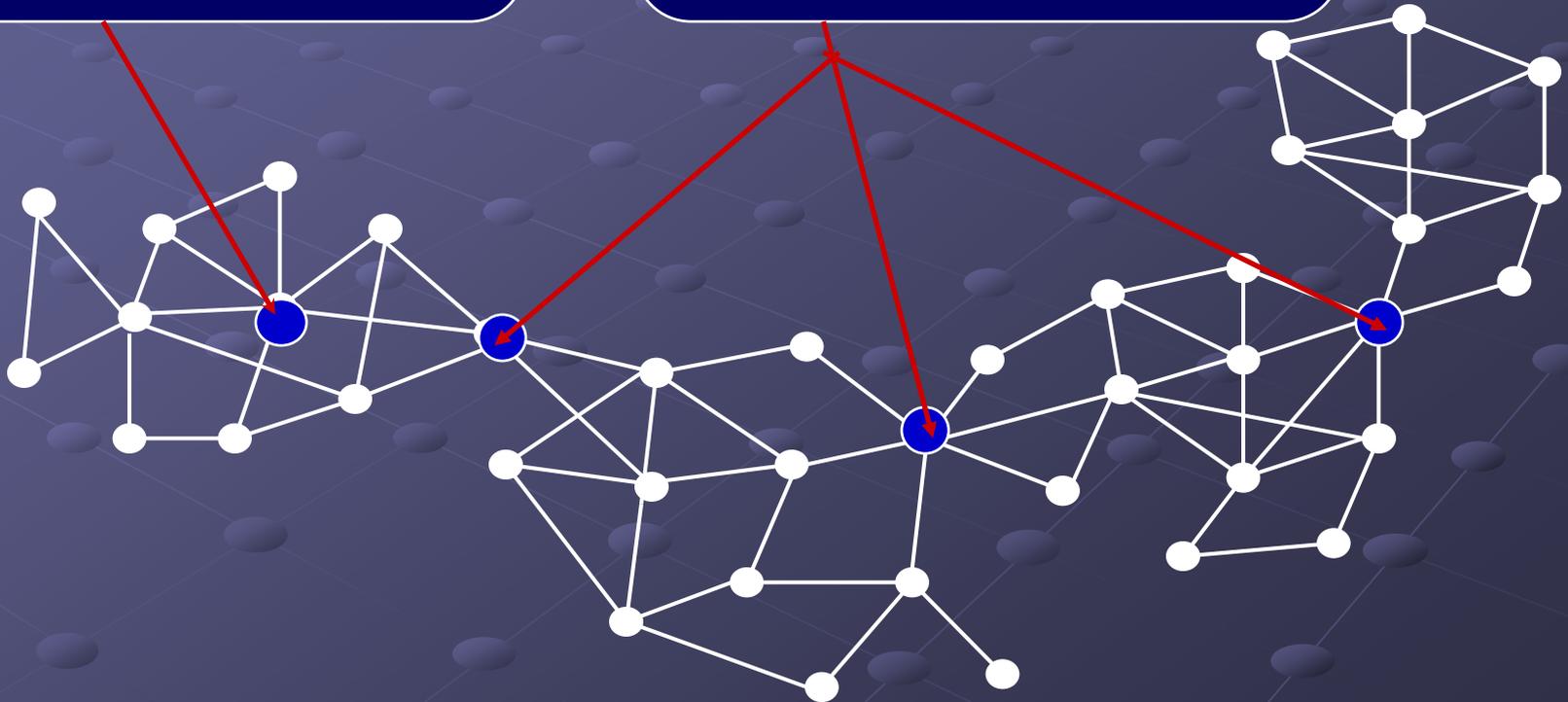
High-leverage employees who connect people across boundaries, such as functions, skills, geography, hierarchy, ethnicity, and gender.

Central Connectors

Leaders, Experts, Old Timers, Gateway Roles or Political Players

Brokers

Leverage ability to drive change, diffusion or innovate. These people can also be key liaison or cross-process roles.



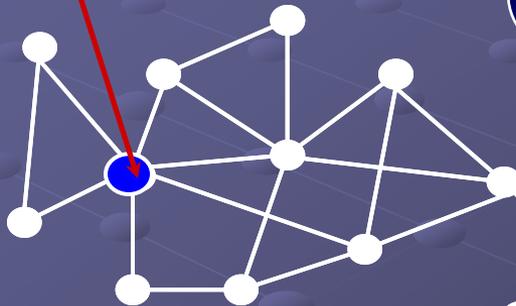
Central Connectors

Those individuals with the highest number of direct connections

Overloaded Leaders, Experts or Gateway Roles

I am working to my limits but still can't respond to everyone.

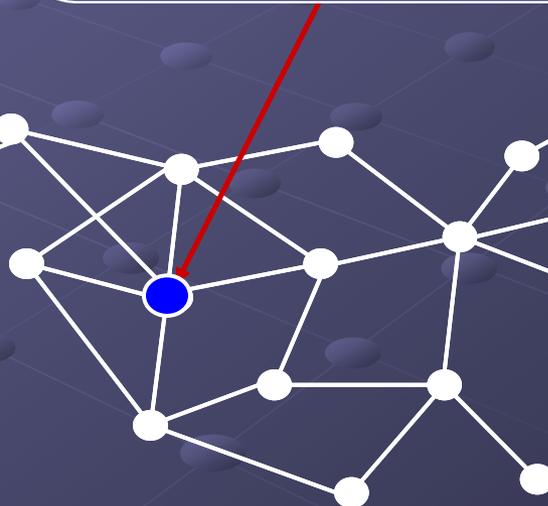
Solution: Re-allocate information, decision rights and portions of role.



Rising Stars/Flight Risks

I am rising through the organization rapidly and am being considered for new opportunities.

Solution: Recognize expertise, succession planning.



Knowledge Keepers

I control the information tightly; my position is secure.

Solution: Build connectivity to break stranglehold.



SNA Map ~ Craters of the Moon NMP

Distance

- The average number of steps it takes to reach all network participants
- Scores of 2-3 are generally good, scores of 5-6 indicate a very unconnected network
- Craters of the Moon NMP Network Analysis average distance score = 1.58
- Lower scores reflect a group better able to leverage knowledge: shorter distances mean faster, more certain, more accurate sharing

SNA Map ~ Craters of the Moon NMP

Degree Centrality

- Displays how well each individual is connected
- Technical definition: The number of ties a persons has
- Craters of the Moon NMP staff have a range of 7-31 links per staff member indicating strong communication links

➤ *Craters of the Moon NMP Network Analysis
average degree of centrality score =16*

Reflects a highly effective communication network

Individuals on the Peripheral

Those who work on the edge of the network

Niche Experts/Balance

I research very specific technologies and feed my findings to a research group.

Solution: Room to maintain a productive peripheral position; a dual career path

Disconnected Contributor

I'm new to this organization. Few people know me or my capabilities, but I don't know where to turn for help.

Solution: Orientation, staffing, mentoring, training

Loners

I prefer to work alone. I often feel out-of-step with my co-workers.

Solution: Support improve communication and collaboration.



The study included an analysis of the subgroups at CMNMP

- Natural Resource Management
- Visitor Services and Use
- Management and Administration
- Law Enforcement

How is each subgroup functioning?

Craters of the Moon NMP Survey Questionnaire

Analysis based on the second question: **(2)** “On a scale of 1-5, please rate your preferred way of communicating.”

1=favorite, 5= least favorite”

Face to face

Telephone

Email

Text Messaging

Formal Meeting

Chance Meeting

- 34 individuals out of 38 responded with a 89% response rate
- 34 Individuals = 34 Nodes

SNA Map ~ Craters of the Moon NMP

Findings

Top 2 most preferred methods of communication:

CMNMP staff = face to face, telephone

CMNMP brokers = phone, meeting

CMNMP BLM staff = face to face, phone

CMNMP NPS staff = face to face, phone

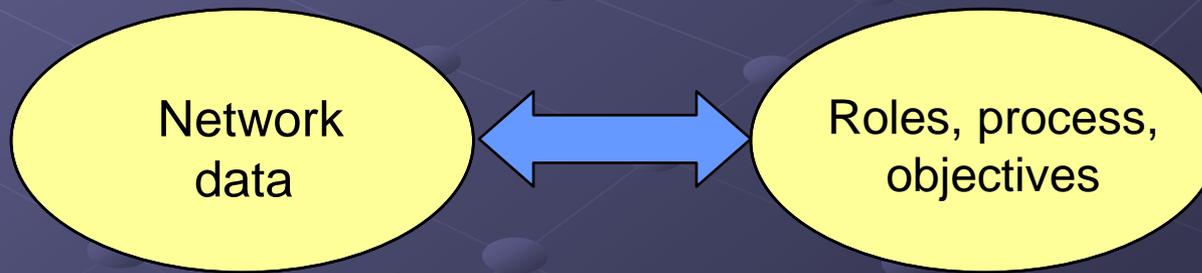
CMNMP management team = phone, meeting

Summing it up...

- Network analysis is a valuable tool for helping units to understand what their informal network looks like and how it has evolved
- Once leaders and network participants decide to evaluate their networks, the conclusions drawn must then be translated into actionable results

Creating Actionable Results

- Cultivate social networks: because networks impact individual and group success
- Network visioning: how does the monument network link to external networks
- Develop tangible goals related to work activities
- Action planning
- Factor network-building into objectives and employee development plans



Am I 'well connected
for the task?

Focus on two levels: Individual and Group

“Our network” is as important as “My network”

Individual

Assert behaviors and take individual action

Volunteer for cross-functional teams

Leverage people in existing network to establish new contacts

Use more face-to-face communication

Attend conferences

Treat network-building as integral part of my work

When interacting, ask questions to find commonalities

Group

Provide collective action, mindset and resources

Network “mentoring”

Create a unique and conducive physical environment

Ensure “Acting Responsibilities” support network communication

Joint training with colleagues

Rewards that promote trust & collaboration

Use preferred methods of communication

Discussion

- What are the most important things you learned?
- What is the biggest surprise you experienced?
- What are you most concerned with?

Discussion

- How will you use your knowledge of the social network at the monument to address the absence of staff related to details, fire duty, training, succession planning?
- How will you use your knowledge of the social network to support collaboration between BLM and NPS staff?