



Using Social Network Analysis to Advance Traditional Qualitative Methods in Evaluation and Program Design

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Why social network analysis (SNA)?

- Makes connections visible
- Can better quantify interactions & identify specific areas for improvement
- Helps overcome social desirability bias



Agenda

- What is social network analysis (SNA)?
- When/where can you use it?
- Application to California's Statewide Marketing and Outreach (SWM&O) process evaluation
- Applications of social network analysis

What is social network analysis?

- A method used to study *relationships* between *actors*
- Appropriate for *relational data* as opposed to attribute data
- Examples of connections: talking daily, sitting on the board of the same company, attending the same gym

Nodes within 2 steps of 9/11 Hijackers

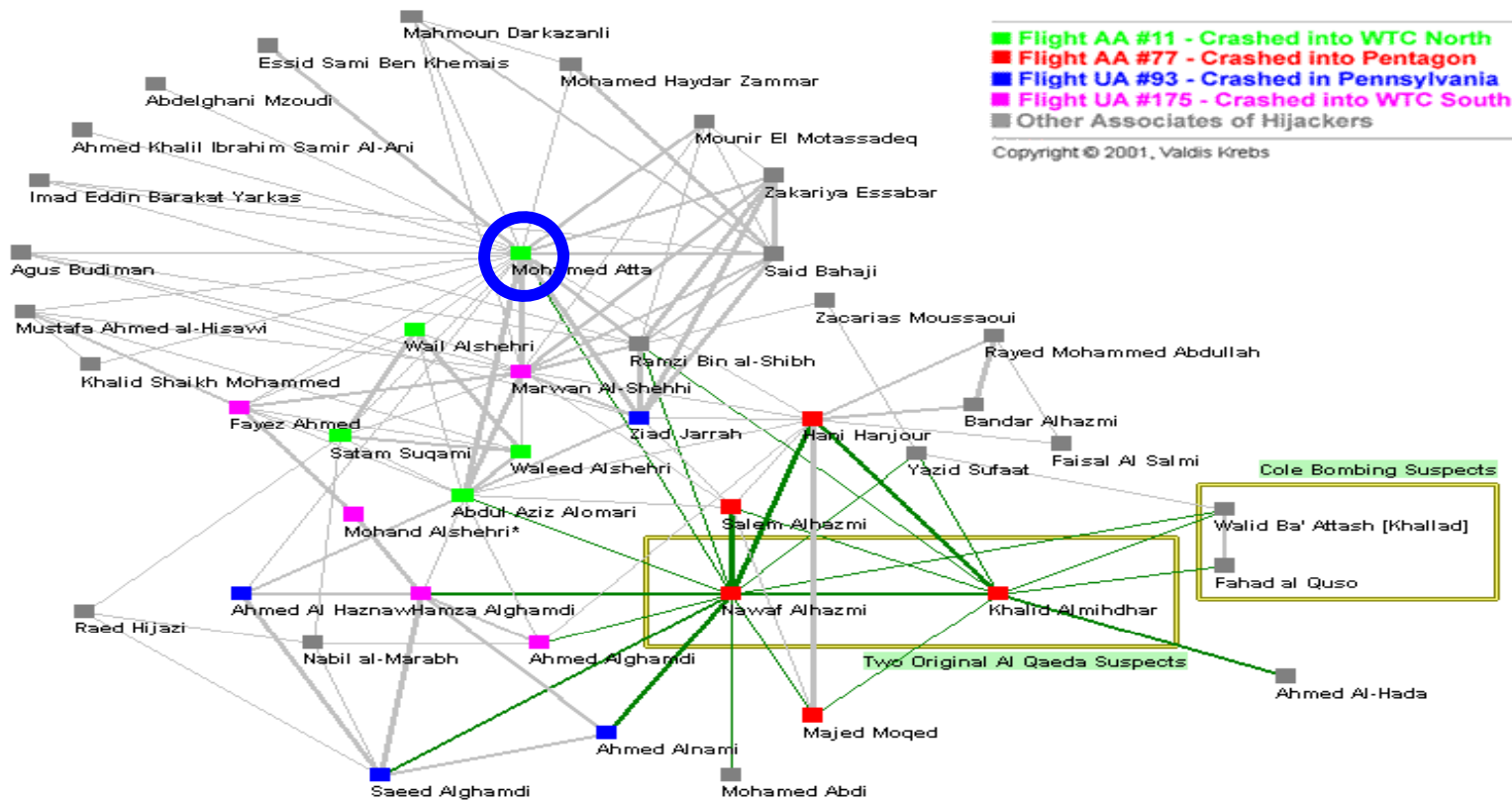


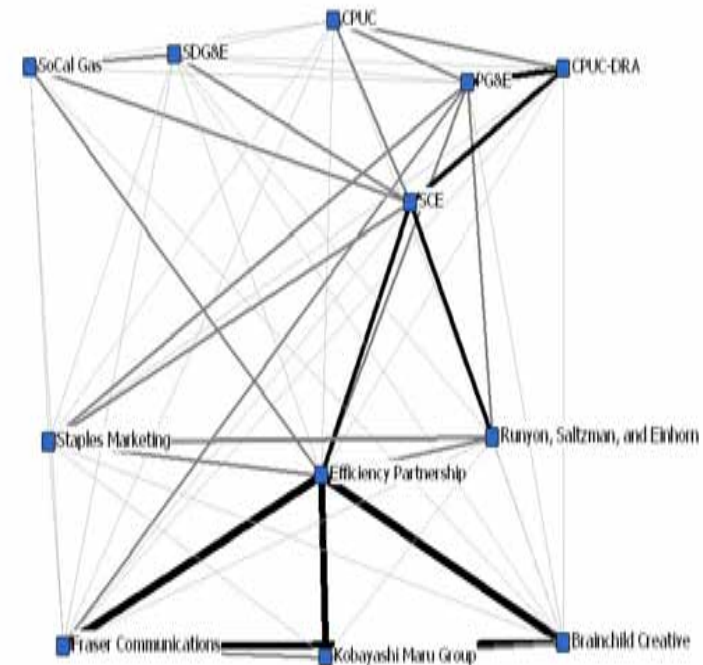
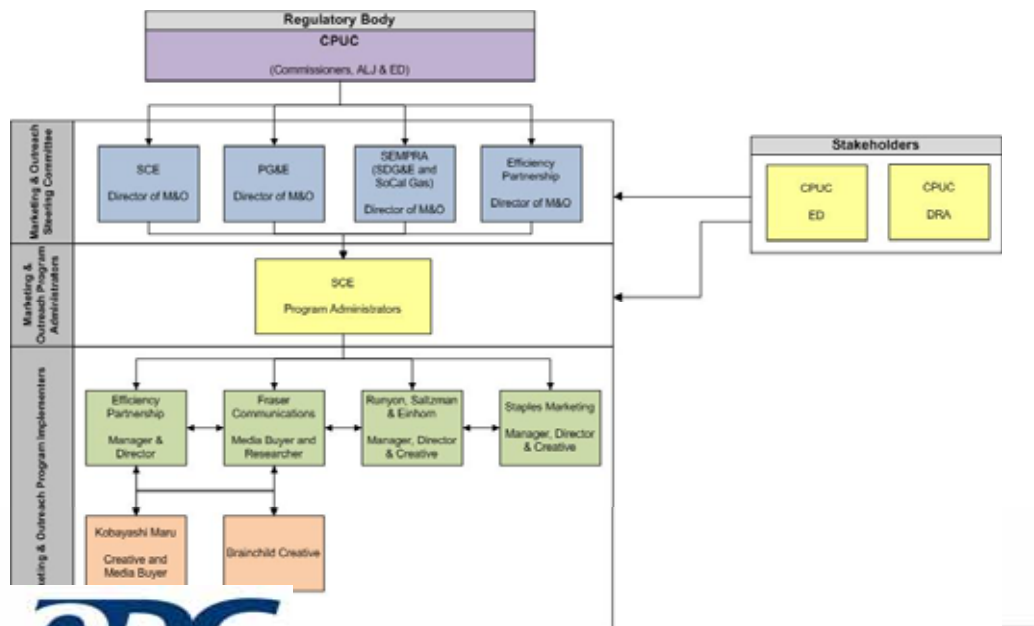
Figure 3 - All Nodes within 2 steps / degrees of original suspects

Applications to Program Design and Evaluation (in brief)

- “Upfront” to improve program design
- Process evaluation: to assess how well organizations are working together
- Impact evaluation: to understand the effects of a program

Value in Comparison to Organizational Chart

- Hierarchy based on data collected from the actors themselves, rather than formalized roles



How and why SNA was applied to evaluate the SWM&O Effort

- A rigorous approach and allows us to better quantify relationships
 - Identify specific areas where communication can be improved
 - Identify where program leadership can be improved, by determining who are the key players (centrality)
 - Assess the overall levels of communication in the network (density)

Results of Analysis (1): Leadership: Who are the key players in the network?

Organization	Normalized		
	Degree ^a	Closeness ^b	Betweenness ^c
Efficiency Partnership	72.7	78.6	36.7
SCE	63.6	73.3	25.8
PG&E	54.5	64.7	15.8
Staples Marketing	36.4	61.1	0.7
Runyon, Saltzman, and Einhorn	36.4	61.1	0.7
Fraser Communications	36.4	57.9	4.2
SoCal Gas	27.3	57.9	3.9
Kobayashi Maru Group	27.3	50.0	0.0
CPUC-ED	27.3	52.4	0.7
CPUC-DRA	27.3	52.4	0.7
Brainchild Creative	27.3	50.0	0.0
SDG&E	18.2	45.8	0.0

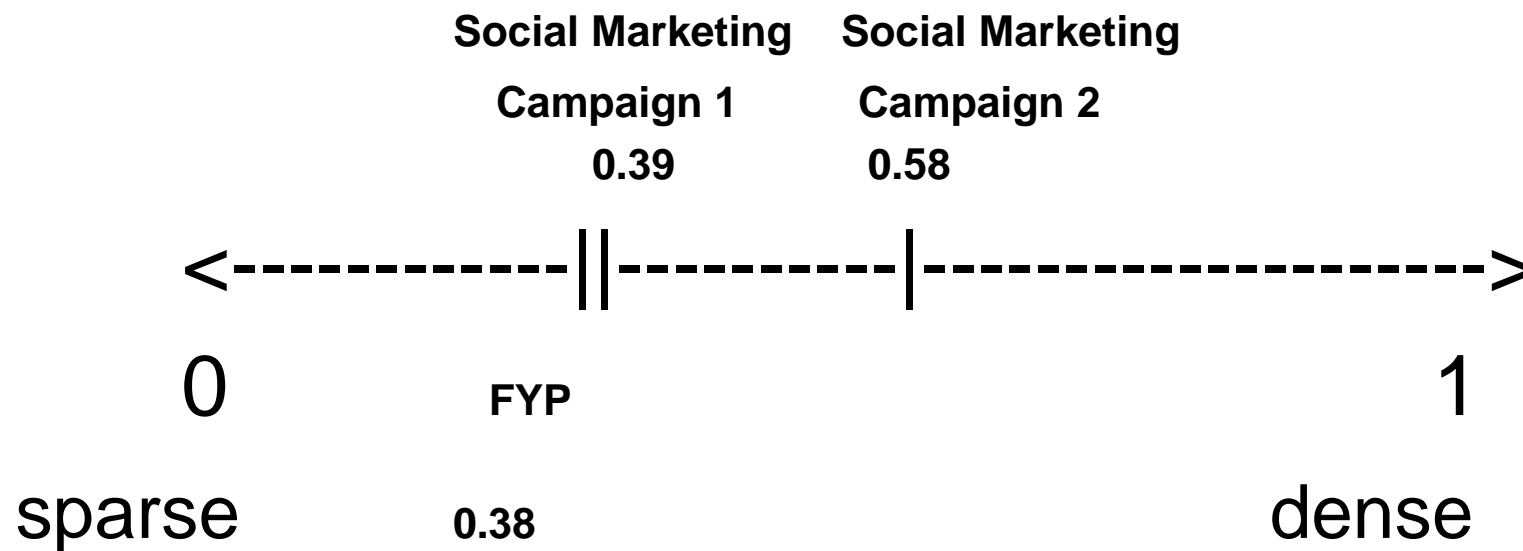
a The mean normalized degree is 37.9 and the standard deviation is 16.1.

b The mean normalized closeness is 58.8 and the standard deviation is 9.4.

c The mean normalized betweenness is 7.4 and the standard deviation is 11.7.

Results of Analysis (2): Level of Cooperation of Network

- Density is 38%
- Comparison to other networks



Applications to Program Design and Evaluation

- Program Design:
 - Are existing connections between actors sufficient?
Can communication be improved?
 - Marketing: How can we speed up the diffusion of innovations?
- Internal and External Process Evaluation:
 - Areas for improved communication, key players, cooperation levels
- Impact evaluation:
 - Program ripple effects
 - How did communication about a product increase?

Summary

- Advantages of SNA
- Research questions it can answer
- Application to program design and evaluation

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Opinion Dynamics

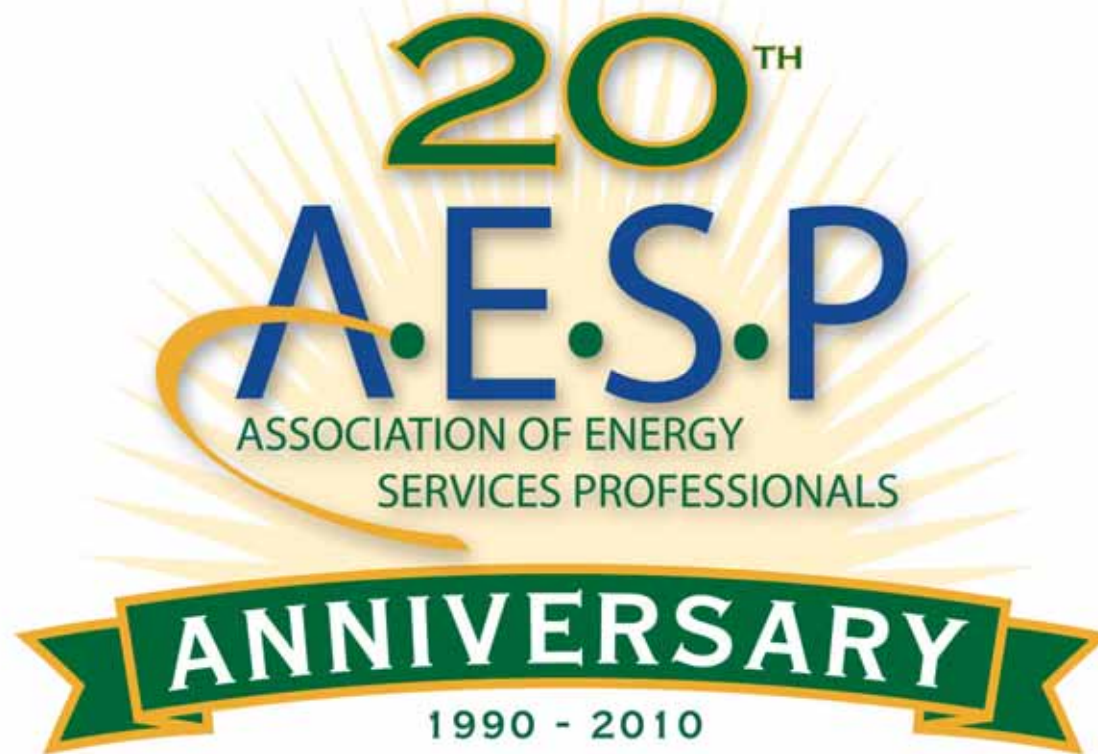
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