

MEASUREMENT OF OPINION LEADERSHIP

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The construct of opinion leadership is central to the process of how consequential innovations diffuse through populations of people, organizations, and communities. Opinion leaders are gatekeepers and standard-setters who informally but importantly govern which new ideas, beliefs, norms, programs, practices, policies, and technologies come to be accepted and normalized within a social system. The influence of opinion leaders is communicated to followers through social modeling, active and passive attention, and other communication behavior such as talking.

Usually, opinion leaders form negative or neutral perceptions about innovations. These perceptions, communicated to followers, defeat or delay diffusion. Negative opinion leadership is normal opinion leadership; it can be a very beneficial function to the social system in question, and is certainly normative for most of us most of the time.

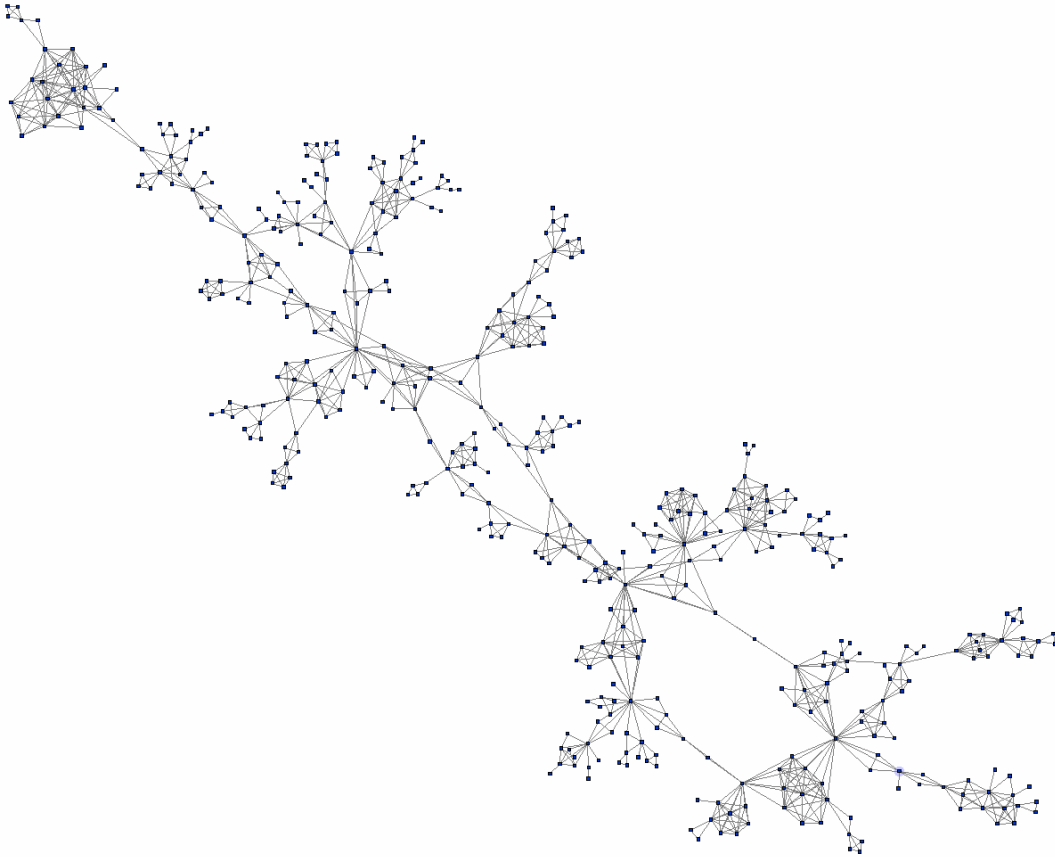
Occasionally, opinion leaders form positive perceptions, try out new things, and use them. Opinion leadership for adoption occurs early in time relative to most adoption decisions within social systems. The enactment of positive opinion leadership is termed the “critical mass”; after this point in time, further positive adoption decisions by followers can be difficult to stop. When a social system reaches critical mass, momentum to change is created and felt by all subsequent nonadopters. This momentum is called “the diffusion effect” because nonadopter perception of it is experienced as increasing social pressure to change. Nonadopters convert to adopters as each of them reaches their personal threshold for adoption.

When one wants to diffuse an evidence-based (effective and efficient) innovation such as a new peer-group method for encouraging family planning, the diffusion paradigm approach requires positive perception and communication by opinion leaders. But before you can intervene with opinion leaders to ask for their help in setting an example or demonstrating a practice or talking with others, *you must know who the opinion leaders are.*

The following diagram (courtesy of Valdis Krebs) of a communication network, with dots representing individuals and the lines connecting them representing communication among individuals as reported by them, illustrates the potential inefficiency of planned change when we do not know who talks with whom (as reported by them). If we select individuals to be first-adopters of an innovation but they are only weakly or peripherally tied into communication with the other potential adopters of interest to us, then we

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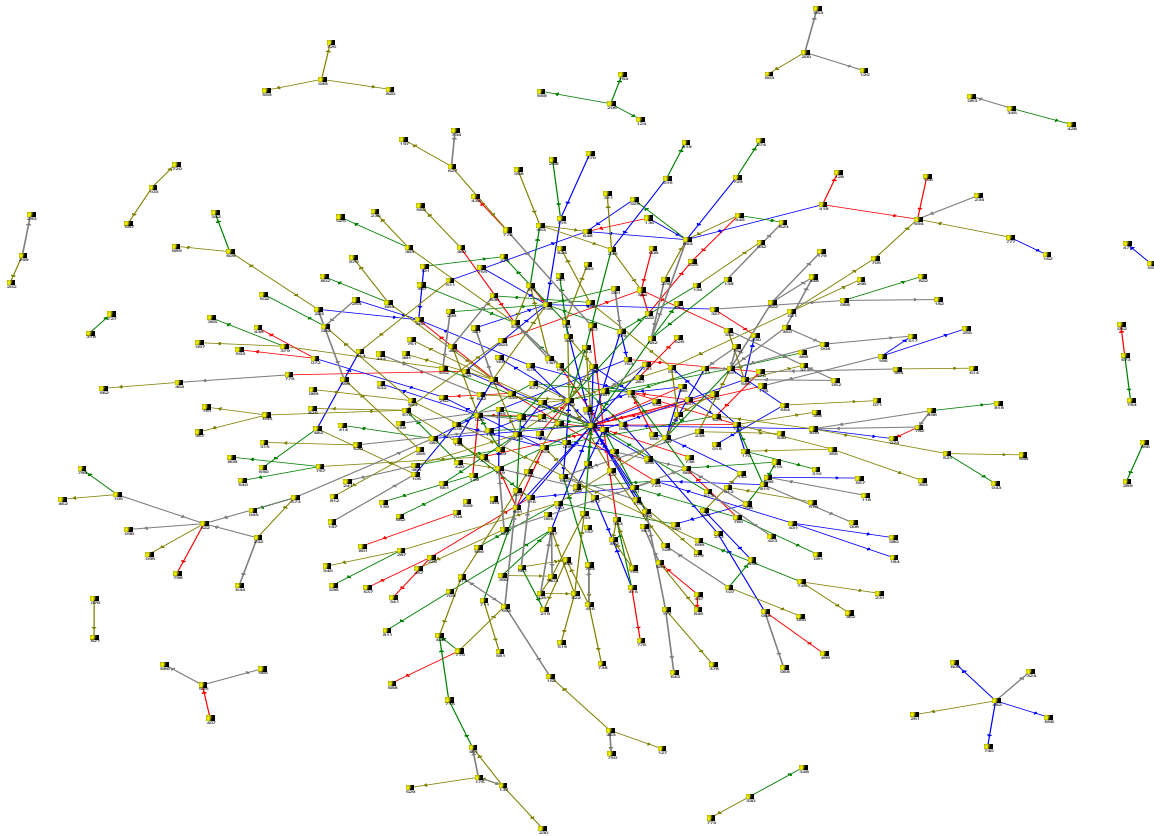
increase the likelihood that diffusion of the innovation will take longer than it would if centrally connected individuals were identified and brought onboard early. It is also common that when peripheral members of a network are first-adopters, innovations frequently do not spread at all.



I prefer the measurement of advice-seeking to the measurement of communication or other behaviors. When we ask respondents from whom they seek advice about a particular topic, the directionality of the resultant links between nodes has a lot of meaning. Advice-seeking and advice-giving can both be inferred from the responses. Specifically, the measurement of advice-seeking at either individual or organizational levels of analysis enables us to precisely associate opinion leaders with their opinion followers.

The following diagram (Dearing & Kim, 2006) is an advice network among juvenile justice stakeholders in the state of Pennsylvania, a study funded by the John D. and Catherine T. MacArthur Foundation. In this radial, highly centralized network (where a small proportion of individuals received a large number of nominations as advice-sources), we can again see the importance of accurate identification of which potential adopters are influential with other potential adopters, and perhaps more importantly, *who is not influential with others for this topic*.

Being *not* influential for a given innovation topic does not necessarily mean disinterest in the innovation on the individual's part. We often see very peripheral network members being highly experimental in nature, and most willing to try innovations. The importance of this point is that volunteerism (also sometimes termed willingness) to try or demonstrate an innovation is a risky basis for deciding who should be a first-adopter or host of a demonstration (or be an early attendee at demonstrations). If the objective is diffusion, then the social influence of the adopters *with other potential adopters* is key.



Measurement of Opinion Leadership in Surveys

As one answer to the question of how to find opinion leaders, I review how social change scholars and diffusion of innovation researchers measure the construct. In particular, here I focus on the components of sociometric self-report survey questions that purport to measure communication, popularity, social influence, advice-seeking, or opinion leadership.

There are up to four question-components that are commonly used.

1. There is always a *process* referent. This is expressed as:
 - a. “With whom do you *communicate* about...”
 - b. “Who in the following list of co-workers *influences* your decisions...”

- c. "In the spaces below, please print the names of your *closest colleagues*..."
 - d. "For each of the following individuals, indicate how often you *talk* with each other..."
 - e. "Please indicate how *central* each of the following divisions is to our corporate mission..."
 - f. "Of the people you regularly communicate with, whose *advice* do you most value..."
2. There often is a *topic* referent.
- a. "...about *contraception*?"
 - b. "...about the *future of our city and community*?"
 - c. "...in terms of *work-related issues*?"
 - d. "...about how to successfully deal with *community members and others involved in the community planning process*?"

3. There may be a measure of *frequency*.

This is often measured on a scale (e.g., 1-5, 1-7) concerning how often communication occurs, how central a colleague is to a process, how often advice is sought, or how often influence occurs.

4. There may be a measure of *importance*.

This is usually included as a check or counter-balance on frequency measurement, since proximity or liking can often contribute to frequency of interaction yet not be related to the importance of discussion or communication. Importance, like frequency, is often measured on a scale, or in terms of a rank-order of people or other units.

I asked several communication network analysts and researchers who map the structure of communication and influence networks what sorts of measures they themselves use. They replied:

The narrowly focused question almost never works well. Even if teachers cooperate, data are thin. Yes, you can use "talk to frequently" and then uses the frequencies as weights. I like this because it is behavioral. Then "influence" consists of my changing my beliefs in your direction after having talked with you. This requires longitudinal data. I also ask "who are your closest colleagues?" Closest colleagues can influence even if you don't talk with them a lot. (KF)

It strikes me that when you measure communication among adolescents or among adults in non-work settings that you are assessing popularity and not leadership. Although popularity may represent leadership in some ways, I don't know that you can confidently say that spending time with someone will translate into advice seeking. Yet the correlations between these 2 are likely to be large. So I think it boils down to: What are you trying to do with the data? If it is design an intervention I think measuring friendship/communication will serve just as well as advice seeking. If it is to understand network structure and behavior I think it will serve you better as you are likely to get people's general close network ties and these are more likely associated with

August 15, 2007

behaviors. I usually use the most general measure I have, it works, and by the time I'm done with that I've run out of time. My intuition has always been more general networks work best. (TV)

I use frequency measures all of the time...

5 - daily or more

4 - weekly

3 - monthly

2 - quarterly

1 - yearly

I'm not sure "talk to the most" would get at influence/leadership... perhaps "look to for new ideas and unique/better ways of doing things"? The less "evaluative" the questions/answers, the more people should feel comfortable in providing them. Yet, I suspect with all of the privacy issues in the news today, that people will be more and more reluctant to answer questions like these. I have never experienced a lot of reluctance by a large group. (VK)

Collection of Sociometric Questionnaire Data

Sociometric or "who-to-whom" questions are the technique of choice for collecting data that we can validly use to represent opinion leadership. Other sources of data (such as archival records) exist and can sometimes be valid representations of communication among a set of people, but self-report via survey predominates. The actual collection of sociometric data can sometimes be done on very brief online or hard copy surveys.

High response rates, which are very important for the valid interpretation of sociometric data, are best achieved by "piggybacking" onto normally scheduled in-person meetings of the potential adopters in question. For example, monthly department meetings of cardiologists will, if you can gain entrée, produce better response rates faster than online surveys of the same individuals.