

“Diffusion Networks”

Diffusion of Innovations

by Everett Rogers



Notes on Chapters 8 & 9

Susan Murcott

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Opinion Leadership

- Degree to which an individual is able to influence informally other individuals' attitudes or overt behavior in a desired way with relative frequency.
- Opinion leaders play an important role in diffusion networks and are often identified and utilized in diffusion programs.

Characteristics of Opinion Leaders (Generalizations 8-3 to 8-8)

- More formal education
- Greater mass media exposure (8-3)
- More cosmopolitanness (8-4)
- Greater contact with change agents (8-5)
- Greater social participation (8-6)
- Higher socio-economic status (8-7)
- More innovativeness (8-8)

What is homophily?

What is heterophily?

Definitions

- Homophily is the degree to which individuals who communicates are similar.
- Heterophily is the degree to which individuals who interact are different in certain attributes.
- Are either of these a barrier to diffusion of innovations?

Communication Network

- Communication network consists of interconnected individuals who are linked to patterned flows of information.
- An individual's network links are important determinants of his/her adoption of innovations.
- Network interconnectedness of an individual in a social system is positively related to the individual's innovativeness

Personal networks: those interconnected individuals who are linked by patterned communication flows to a given individual.

Personal networks that are **radial** rather than **interlocking** are more open to an individual's environment and hence play a more important role in diffusion of innovations.

Can you think of an example
where you have been in a
personal network?

What is “the strength of weak ties?”

What is “critical mass?”

Critical Mass

- Occurs at the point at which enough individuals in a system have adopted an innovation so that the innovations further rate of adoption becomes self-sustaining.
- Critical mass is especially important in diffusion of interactive innovations such as email, where each additional adopter increases the utility of adopting the innovation for all adopters

What would be your ideal in terms of your own projects successful diffusion?

What do you think would be indicative of your project's achieving critical mass?

Change Agents

- Change agent is an individual who influences clients' innovation-decisions in the direction deemed desirable by the change agency.
- Change agents undertake actions with a coherent objective to bring about behavior change in order to produce identifiable outcomes.
- What would be an example?

What is the two main problems
faced by change agents ?

1. Their social marginality, due to their position a change agency and their client system

2. Information overload – state of an individual or a system in which excessive communication inputs cannot be processed or used, leading to breakdown

7 Roles of a Change Agent

1. Develop a need for change on the part of the clients
2. Establish an information-exchange relationship
3. Diagnose problems
4. Create an intent to change in the client
5. Translate intentions into actions
6. Stabilize adoption & prevent discontinuance
- 7 Achieve terminal relationship with clients

Technology Transfer – 2-Way Exchange (“Co-evolutionary”)

Technology transfer is a communication process – a 2-way exchange

What are the 3 levels of
Technology Transfer?

3 Levels of Technology Transfer

- Knowledge – the receptor knows about the technology
- Use – the receptor has put the technology into use in his or or organization.
- Commercialization – the receptor has commercialized the technology into a product that is sold in the marketplace.

Centralized Diffusion Systems

- Flows from top down, from experts to users
- (like “vertical transfer” from biogas case study)

Decentralized Diffusion Systems

- Client-controlled, with a wide sharing of power and control among the members of the diffusion system
- Instead of coming out of R&D systems, innovations in decentralized systems bubble up from local experimentation by non-expert users.
- Local units decide which innovations should diffuse through horizontal networks, allowing high degree of reinvention.

Decentralized Diffusion Systems continued...

- Participants create and share information
- This approach can be combined with elements of centralized systems to form hybrid diffusion systems
- (Decentralized diffusion systems are like “horizontal transfer” from biogas case study)