

Exercise 5

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Complex vs Simple Contagion

In network science, contagion refers to the process by which an idea spreads through a network of individuals. Complex and simple contagion are ways to describe how such an idea spreads.

Simple contagion is a type of contagion where the spread only requires one exposure to it. In other words, a single contact is enough to make someone else adopt it. Complex contagion is a type of contagion where the spread of the idea requires multiple exposures or requires a minimum portion of individual's network to also support it. In other words, it's not enough for just one person to exhibit the idea, but rather a threshold must be reached before the idea will spread.

Overall, the difference between simple and complex contagion lies in the number of exposures required for the idea to spread, with simple contagion requiring only one exposure and complex contagion requiring multiple exposures or a critical mass.

Complex Contagion for Diffusion of Ideas

Complex contagion has important implications for the diffusion of behaviors in organizations. In particular, complex contagion implies that the effective spread of behaviors or ideas may require a intentionally designed organizational structure that might not emerge naturally.

If the network is too densely connected, this can lead to a phenomenon called "group think", where individuals in the organization become so tightly connected that outside ideas do not get enough consideration or critical mass to succeed. On the other hand, if the network is not connected enough, this can hinder the spread of ideas altogether, as some pockets of people may not be exposed to a certain idea.

An idea of a small world network can help facilitate the spread of ideas throughout organizations. Small world networks are defined as a good mix of interconnected networks and connections between clusters. This allows for the diffusion of behaviors and ideas to spread more widely through the network, allowing effective organizational change.

In summary, complex contagion suggests that the spread of behaviors and ideas in organizations may require an intentional organizational design rather than the naturally emerging one. A small world network is what the leaders of organizations should strive to create.

Threshold Models for Managing Organizational Behaviour

Threshold models are a useful tool for understanding how behaviors spread through networks. In these models, individuals have a threshold for adopting a particular behavior, and they will only adopt the behavior if enough of their neighbors have already adopted it.

In the case of prosocial behavior, we can use threshold models to identify individuals in the network who are most likely to adopt and spread prosocial behaviors. By targeting these individuals, we can increase the likelihood that prosocial behaviors will spread throughout the organization.

In the case of learning, threshold models can help us understand how new ideas and knowledge spread through the network. By identifying individuals who have a low threshold for adopting new ideas, we can target them for training and development programs, which can help to spread new knowledge and ideas throughout the organization more quickly and effectively.

Finally, in the case of toxic or unproductive behaviors, threshold models can help us identify individuals who are most likely to exhibit or spread these behaviors. By targeting these individuals for interventions such as coaching or counseling, we can mitigate the negative effects of these behaviors and prevent them from spreading throughout the organization.