Syracuse University

Faculty Mentoring in a Networked World

Section 6:

Social Network Theory and Mentoring

The complete version of the toolkit, each section and individual forms are available to download at http://suadvance.syr.edu. The complete printed version of the toolkit is available for order also at the website.

Social Network Theory

Key concepts

Social networks consist of a number of individuals each with a set of attributes or characteristics of their own. Based on their connections, the relationships build a distinct pattern. Organizations can link in the same way. Social network analysts ask:

- Who is connected to whom (pattern of connection)?

- What are the social benefits of those patterns?

- What resources can the network actors gain from the network?

- Are there gaps or structural holes in the pattern?

- Are the connections close or distant?

- What is the nature of these connections (formal or informal)?

- How many actual and potential connections do network members have access to?

Centrality

How much of the network pattern is extended from one or two individuals at the center of the
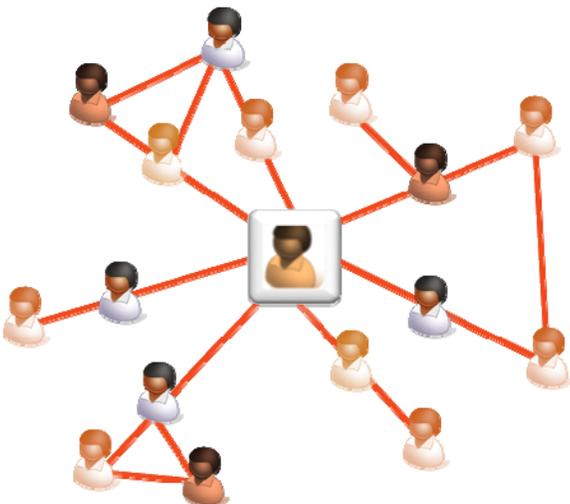
connections (Freeman, 1979) is centrality. Thus a person with centrality can "reach lots of other people in the network either directly or indirectly" (Kilduff and Tsai, 2003). Faculty with a high level of network centrality accumulate the intellectual and social capital necessary for advancement and long term career success as a result of active attention to their network building within their local networks. They can therefore be beneficial to others in accessing network resources.

Embeddedness

Embeddedness refers to how connected an individual is in the local network and how her/his actions might potentially impact others. Increased embeddedness in instrumental (career-related) and support (personal) networks can contribute positively toward retention because people are likely to afford positive rewards (information, challenging assignments, career-building opportunities, etc.) to those they feel close to.

The downside of a high degree of embeddedness is that people might only talk to the same type of people and have little access to innovative information to enrich their knowledge about the wider professional community (Krackhardt, 1992; Krackhart and Hanson, 1993). Using weak ties can mitigate over-embeddedness in a local network. Weak ties, defined as social relationships that were once established but might not be used as often as local connections that are frequently used because of proximity (Granovetter, 1973, 1983). These ties can be reactivated when needed. For example, people will more likely hear about unique career opportunities through their weak ties who are able to deliver innovative or new information than they are through their local strong tie network.
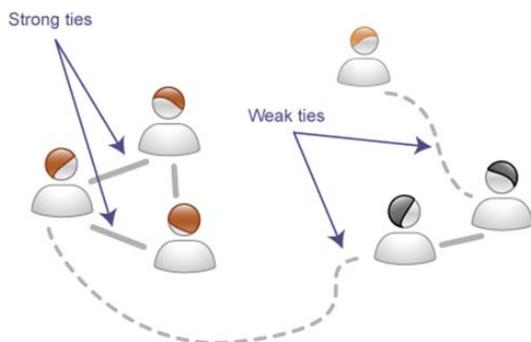
Density and Structural Holes

Density relates to the number of ties in a network. A network with many connections is a highly dense web and one with only a few connections has low density. A high density network is one that eventually results in less access to new ideas and information (Hansen, 1999; Dombrow and Higgins, 2005; and Prell, 2008). Low density offers gaps in ties, or structural holes in the network, providing opportunities to access new resources and new information when bridged. A **structural hole** can also be described as a gap in ties between two parts of a network. By acting in the "liaison role of connecting two otherwise disconnected networks" (Kilduff and Tsai, 2003), an individual can increase their social capital and opportunities. In other words, loose ties to other networks and bridging a gap in a network can provide access to innovative ideas and additional resources. As individuals build their network they can become more responsive and agile in today's rapidly changing, information based environment. In concurrence with Blickle, et al., (2009) faculty who are attentive to building their personal social network and improving their networking behavior are more likely to thrive professionally.
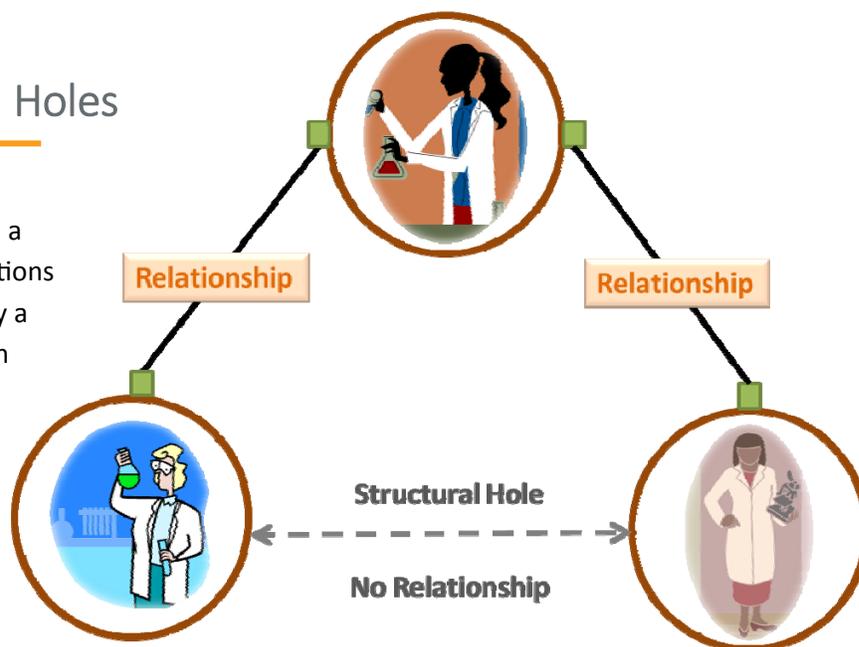
Strength of Ties

Strength of ties is defined by the degree of personal closeness, mutual exchange, and frequency of communication as described by Granovetter (1973,1983). **Strong ties** are often intimate, reciprocal and interdependent in nature resulting in motivation to help each other and a high level of trust (Crona and Bodin 2006; Cross and Parker 2004; Newman and Dale 2004). However, a long established network with only strong, centralized ties, as stated previously, also runs the risk of sharing redundant information (Prell, 2008). Conversely, varied information and new concepts are more likely to be generated from weak ties. **Weak ties** are characterized by less give and take and infrequent communication but offer more novel information and different resources. They may be social relationships that were once established but are no longer used as often as those connections in close proximity (Granovetter, 1973, 1983). Weak connections can be reactivated when needed. Weak relationship ties in the extended social network can provide access to people who can bridge a **structural hole** or become conduits to necessary resources that are not otherwise available in the existing network.

Social Network Theory and Mentoring

Applying network concepts to professional development

Social networking increases professional visibility and access to human, information, and other resources. Having a diverse web of connections made up of close colleagues and casual contacts from multiple networks is essential for acquiring advice, remaining on top of emerging information and staying on course for career success. In a social networking approach to fulfilling career development needs, individuals must proactively build connections to potential mentors. The mentors can be internal to the university as well as external networks (academies, discipline associations, industry, other disciplines, etc.), and should consist of both close and casual relationships. Higgins and Kram (2008) proposed that mentoring should consist of *"multiple simultaneous relations that provide valuable developmental assistance and advice."* They coined the phrase *developmental networks*.

Developmental Networks

The developmental network mentoring model is derived from examining:

- the developmental network as a whole,

- the strength of developmental relationships,

- the density of the connections, and

- the diversity of connections to multiple social networks (local and global).

In this model of mentoring, an individual's overall social network should include a sub-set of mentors (***developmental relationship ties***) who take an active interest in the individual and provide developmental assistance that advances her or his career. Relational ties are transfer points for flow of resources and information. The types of developmental relationship ties desired in a developmental network include individuals who can serve as navigators, coaches, sponsors, and/or confidants (see mentoring roles in Section 1). The relationships occur concurrently, are long or short term, can be close or casual (see below), and will evolve or be replaced over the course of a career.

Developmental relationships are considered strong or weak describing the degree of personal closeness, mutual exchange, and frequency of communication. ***Strong ties*** in a developmental network are relationships between people who work, live, and/or play together. They are utilized frequently and need a lot of management to stay healthy. With a greater degree of connection comes an increased capacity to trust and to convey complex information (Hansen, 1999). Overtime, people with strong ties tend to think alike, as they share their ideas all the time, and may even be connected to each other regardless of the developmental network of a single individual. Most mentoring experiences rely on a heavy dose of strong ties, mostly because individuals define "mentoring" as a relationship of trust and close affiliation. However, developmental networks with more weak ties can actually be more beneficial (though we infrequently describe these relationships as "mentoring").

Varied information and new concepts are more likely to be generated from weak ties as they connect disparate modes of thought. ***Weak ties*** in a developmental network are relationships that are "interpersonally distant" though may be formally connected (e.g. members of the same department or unit). They are utilized infrequently and therefore don't need a lot of management to stay healthy. Weak ties may be social relationships that were once

Developmental Networks continued:

established but are no longer used as often as the local connections that are frequently used because of proximity (Granovetter, 1973, 1983). Weak connections have been found to speed up less complex tasks (Hansen, 1999). These ties can be reactivated when needed.

Members in the extended social network who are weak relationship ties can become conduits to necessary resources that are not otherwise available in the existing developmental network. Weak relationship ties with an individual from another network may help bridge the gaps (structural holes) in a network. For example, a former colleague (maintained only a casual, minimal connection) working in a large government research lab may be able to make connections to a researcher at that lab who has access to a piece of equipment that is needed. That former colleague becomes a bridge to a resource. In other words, an individual forms a bridge when the tie between them connects the two disconnected individuals or networks.

A savvy individual learns to cultivate both strong and weak relationship ties facilitating the ability of one's developmental network of mentors (subset of one's personal social network) to be dynamic and responsive to changes in circumstances.

Density relates to the number of possible ties in a social network that are realized. A network with many connections is a dense web and one with only a few connections has low density. A high density network is one that eventually results in less access to new information and ideas. (Hansen, 1999; Dombrow and Higgins, 2005; and Prell, 2008). Low density offers gaps in ties, or structural holes in the network, providing opportunities to access new resources and new information when bridged.

The last element, ***diversity*** of connections, relates to the different social networks an individual belongs to. A group or network is made of members who are in the same work unit, organization or have a unified purpose. A faculty member's primary system or social network is generally their department and a secondary close system is the college or school. A faculty member will have multiple relationship ties with people in these highly localized networks and these individuals will have close relationship ties to each other as well. As a result, they are dense and closely linked systems within the individual's personal social network with few structural holes. Important but lacking the weak relationship ties that can generate new ideas, information and resources. Therefore ***one should also have mentors from other networks such as different academic departments and university offices, as well as external colleagues from academia, disciplinary associations, industry/government and other external organizations/systems.*** Within this multi-system social network for a particular individual, colleagues and acquaintances may or may not know each other. These other social networks are only moderately or weakly linked to an individual's primary system (e.g. department). If an individual only has a localized, low diversity social network, for example only involved in the department and college, it will result in more redundant information and reduced access to advice.