5.3: Informal Communication Networks

Learning Objectives

- Understand Mishra's (1990) eight reasons for the existence of grapevines in organizations.
- Differentiate among Davis's (1969) four informal communication networks.
- Explain the relationship between social capital and communication networks.
- Understand Brass's (1995) typology for the measurement of ties.
- Understand Brass's (1995) typology for the measures assigned to individual actors.

In the previous section of this book, we examined the three types of formal communication networks that exist within organizations (downward, upward, & horizontal/lateral). While formal communication networks are very important for the day-to-day functioning of any organization, there exists another set of communication networks that also dramatically impacts the day-to-day functioning of any organization. This second set of communication networks are called informal communication networks, or communication networks that do not exist within the structure of the organizational hierarchy. Early research in organizational communication didn’t even acknowledge the existence or the importance of these informal networks. However, the Hawthorne Studies suggested that a great deal of what happens within an organization is a result of informal communication networks. Often informal communication networks have been referred to as “grapevine communication” or “water cooler communication.”

The term “grapevine” was originally coined during the Civil War because the telegraph lines used by Army intelligence were strung through trees and the wires often resembled grapevines. According to Mishra, "The messages that came over these lines were often so confusing or inaccurate that soon any rumor was said to come from the grapevine.” Mishra, J. (1990). Managing the grapevine. Public Personnel Management, 19, 213–228, pg. 214. Today...
organizational grapevines are a standard part of anyone’s organizational life. In fact, researchers estimate that 70 percent of all communication that occurs within an organization occurs in informal communication networks. DeMare, G. (1989). Communicating: The key to establishing good working relationships. *Price Waterhouse Review, 33*, 30–37. In essence, the bulk of actual communicative behavior within an organization does not go according to the prescribed lines of communication desired by upper management. Furthermore, researchers found that many managers were surprisingly unaware of the informal communication networks that existed within their organizations. Crampton, S. M., Hodge, J. W., & Mishra, J. M. (1998). The informal communication network: Factors influencing grapevine activity. *Public Personnel Management, 27*, 569–584. Only 70 percent of top-level managers, 81 percent of middle level managers, and 92 percent of lower level managers were even aware that a grapevine existed within their organizations. We should also note that research has found that informal communication networks are just as likely to exist among management as among subordinates. In fact, “Bosses who chose not to pay attention to the grapevine have 50% less credible information than those who do” Mishra, J. (1990). Managing the grapevine. *Public Personnel Management, 19*, 213–228, pg. 215. Furthermore, there are eight reasons why grapevine communication exists in organizations:

1. Grapevines are faster than formal communication networks and can easily bypass individuals without restraint.
2. Grapevines can carry useful information quickly throughout an organization.
3. Grapevines can supplement information being disseminated through formal communication networks.
4. Grapevines provide outlets for individual’s imaginations and apprehensions.
5. Grapevines satisfy individuals’ need to know what is actually going on within an organization.
6. Grapevines help people feel a sense of belonging within the organization.
7. Grapevines serve as early warning systems for organizational crises and to think through what they will do if the crises actually occur.

While grapevines are clearly beneficial to organizations and their members, there are obvious problems with informal communication networks. The biggest problem stems out of the unreliability of information being transmitted in informal communication networks. We should mention that research has found that information transmitted through informal communication networks tends to be 75 to 95 percent accurate. Davis, K. (1969). Grapevine communication among lower and middle managers. *Personnel Journal, 48*, 269–272. Unfortunately, the 5 to 25 percent of the time the informal communication network contains false information is highly problematic for organizations.

Now that we’ve examined the nature of informal communication networks and the reasons for informal communication networks, we need to switch gears and look at the types of informal communication networks.

### Types of Informal Communication Networks


Figure 5.3 Informal Communication Networks
The first type of informal communication network described by Davis was the single strand communication network (Figure 5.3a). Davis, K. (1969). Grapevine communication among lower and middle managers. Personnel Journal, 48, 269–272. In a single strand network of informal communication network where information travels from one person to the next person, the process of communication is very linear and information travels from one person to the next person. The best way to think of this type of informal communication network is like a relay race. But instead of passing a baton between runners, some type of information is passed from person to person. This communication network represents the traditional notions of serialized transmission. Redding, W. C. (1972). Communication with the organization: An interpretive review of theory and research. New York: Industrial Communication Council, Inc.

The second type of informal communication network Davis discussed was the gossip communication network where one individual who serves as the source of the message who transmits the message to a number of people directly. (Figure 5.3b). Davis, K. (1969). Grapevine communication among lower and middle managers. Personnel Journal, 48, 269–272. In a gossip network, you have one individual who serves as the source of the message who transmits the message to a number of people directly.

The third type of informal communication described by Davis is referred to as the probability communication network where one individual serves as the primary source of the message who randomly selects people within her or his communication network to communicate the message, and then these secondary people randomly pick other people in the communication network to pass along the message. (Figure 5.3c). Davis, K. (1969). Grapevine communication among lower and middle managers. Personnel Journal, 48, 269–272. In a probability communication network, you have one individual as the primary source of the message who randomly selects people within her or his communication network to communicate the message. These secondary people then randomly pick other people in the communication network to pass along the message. Think of this type of informal communication network as really annoying internet spam. In the case of internet Spam, someone creates the e-mail, and then sends it to random people who then feel the need to forward it to other people, and so on and so on. There is no way for the source of the message to truly track where the message has been sent after the message is communicated because the transmission is random.

The final form of informal communication network described by Davis is the cluster network where the source of the message chooses a number of pre-selected people with whom to communicate a message, and then the secondary people then pass on the message to a group of people who have also been pre-selected to receive the message. (Figure 5.3d). Davis, K. (1969). Grapevine communication among lower and middle managers. Personnel Journal, 48, 269–272. Cluster networks are considerably more systematic than probability networks. In the case of a cluster network, the source of the message chooses a number of pre-selected people with whom to communicate a message. The secondary people then pass on the message to a group of people who have also been pre-selected to receive the message. This type of network is the origin of the telephone tree. In a telephone tree, one person calls two people. Those two people then are expected to call three other people. Those three people are then also expected to call three other people. Before you know it, everyone who is on the telephone tree has received the message.

Researcher Profile—Everett M. Rogers (1931–2004)

Everett M. Rogers is generally viewed in the field of communication studies as the father of information diffusion. Rogers grew up in Caroll, Iowa, and ultimately earned his Ph.D. in sociology and statistics from Iowa State University in 1957.

https://socialsci.libretexts.org/Bookshelves/Communication/Book%3A_Organizational_Communication_-_Theory_Research_a...
Over the course of his academic career, Rogers taught at numerous universities both within the United States and abroad including: Ohio State University, Michigan State University, National University of Columbia, and Universite de Paris.

In 1962, Rogers published the first edition of his book *The Diffusion of Innovations* where he described how, why, and at what rate new ideas and technology spread through social groups. One of the social groups Rogers specifically examined was organizations. Through his analysis, Rogers proposed that there were five types of individuals involved with the diffusion of innovations: innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%) and laggards (16%). Innovators were people who created new ideas and technology or brought the new ideas and technology to the social group. Early adopters were those people who quickly latched on to the new innovations. The early majority were those individuals who comprised the first massive wave of people adopting a new innovation. The late majority were those individuals who waited a little longer than the early majority. Lastly, Laggards were those individuals who really put off adopting the new innovation, and some laggards simply never would adopt the new idea or technology.

One area that diffusion of innovations has been particularly utilized has been in the field of health communication. Specifically, health communication researchers have examined how health related mediated messages get transmitted between individuals within a social network, which ultimately has been shown to lead to social change (Smith, 2004). Hornik (2004) summarized that diffusion of innovations ultimately examines four basic questions:

1. What is the process of invention and adaptation of technologies or ideas subject to diffusion?
2. Why do some people (or collectivities) adopt before others?
3. What is the process that people go through as they adopt?
   - What are the stages they go through?
   - What influences them at each stage (sources)?
4. What are the consequences with regard to social welfare (growth and equity) given particular policies about, or patterns of, diffusion? (p. 143)

As a diffusion scholar, Rogers was very aware of network analysis and during his tenure at Michigan State University (1964–1973) he actively included information on network analysis in his courses and seminars on diffusion. Furthermore, Rogers created the first undergraduate course in organizational communication in 1966, which is considered to be the first such course on the undergraduate level in the world (Susskind, Schwartz, Richards, & Johnson, 2005).

In 1981, Rogers with his former student Larry Kincaid published the seminal work on communication network analysis titled *Communication Networks: Toward New Paradigm for Research*. In this book, Rogers and Kincaid argue:

*Communication network analysis* is a method of research for identifying the communication structure in a system, in which relational data about communication flows are analyzed by using some type of interpersonal relationship as the unit of analysis. This distinctive emphasis of network analysis upon communication links, rather than on isolated individuals, as units of analysis, enables the researcher to explore the influence of other individuals on human behavior. (p. xi)

Ultimately, Rogers and Kincaid’s book ushered in the modern era of communication network analysis within the field of
communication studies as well as the fields of business and sociology.

References


Analyzing Communication Networks

The last part of this chapter is going to examine how researchers observe both formal and informal communication networks. Peter Monge and Noshir ContractorMonge, P. R., & Contractor, N. (2003). *Theories of networks*. New York: Oxford University Press. define communication networks as “the patterns of contact between communication partners that are created by transmitting and exchanging messages through time and space.”Monge, P. R., & Contractor, N. (2003). *Theories of networks*. New York: Oxford University Press, pg. 440. Of course these networks can range in size from interpersonal interactions to global networks.Harris, T. E., & Nelson, M. D. (2008). *Applied organizational communication: Theory and practice in a global environment* (3rd ed.). New York: Lawrence Erlbaum. When attempting to study communication networks within organizations, researchers complete what is called a network analysis. Monge and Contractor discussed the science of network analysis, “network analysts often identify the entities as people who belong to one or more organizations and to which are applied one or more communication relations, such as ‘provides information to,’ ‘gets information from,’ and ‘communicates with.’ It is also common to use work groups, divisions, and entire organizations as the set of entities.”Monge, P. R., & Contractor, N. (2003). *Theories of networks*. New York: Oxford University Press, pg. 441. In essence, network analysis is a process whereby researchers attempt to determine both the formal and informal communication networks that exist within an organization and between the organization and its external environment. Ultimately, there are four types of communicative activities that occur within networks: exchange of affect (liking, friendship), exchange of influence and power, exchange of information, and exchange of goods and services.Tichy, N. M., Tushman, M. L., & Fombrun, C. (1979). Social network analysis for organizations. *The Academy of Management Review, 4*, 507–519.

In recent years, there has been a resurgence in the analysis of organizational communication networks as a result of sociological construct social capital. Social capital is a term that dates back to 1916 when L. J. Hanifan used the term to discuss the importance of rural communities’ involvement in schools in West Virginia.Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster. The first modern definition of “social capitalThe creation and utilization of communication networks to obtain specific goals.” is attributed to Pierre Bourdieu who defined it as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition.”Bourdieu, P. (1980). *Le capital

The rest of this section is going to examine the commonly discussed aspects of communication networks. Specifically, we are going to examine the three categories created by Daniel J. Brass for analyzing communication networks: measurement of ties, measures assigned to individual actors, and measures assigned to networks. Brass, D. J. (1995). A social network perspective on human resources management. In G. R. Ferris (Ed.), *Research in Personnel and Human Resources Management* (vol. 13, pp. 39–79). Greenwixh, CT: JAI Press.

**Measurement of Ties**

The first category involves the typical communication network measures of ties. The word “tiesThe linkages between people in a communication network.” here refers to the linkages between people. When we talk about “linksThe communicative relationship between two people in a communication network.” in network analysis we are talking about the communicative relationship between two people. Specifically, Brass notes that there are seven commonly utilized measures of ties: indirect links, frequency, stability, multiplexity, strength, direction, and symmetry.

**Indirect Links**

If we reexamine Figure 5.3, the last two informal communication networks (probability and cluster) contain indirect links. In the case of probability communication networks, we see A only communicating with E and C, and all of the people in the network receive the message from someone else. While A does not communicate with D directly, there is an indirect link that goes from D → I → E → A. The same is also true in the cluster sample where A only communicates to B and F, but everyone else in the network then receives the message from B or F.

**Frequency**

The second measure of ties examines the existence of the frequency of communication between individuals within a network, which is a numerical indicator of the quantity of communication that exists between two individuals. In most organizations, there are some people you communicate with multiple times a day and others you see only once a year.
Stability

When researchers examine the stability of communication networks, they are interested in how long a specific link has existed. Some links may exist for decades, while other may exist for only a few hours. For example, maybe you have colleagues around the country that you are constantly in contact with, but then you have other colleagues you only meet for a few minutes one time in a meeting. While you may have established a link with the person in the meeting, this link was quick and not considered stable.

Multiplexity

The concept of multiplexity refers to the number of links individuals have to one another. In essence, people within an organization can have multiple links to each other as a result of different relationships both within the organization and within the environment. For example, maybe you have a colleague you work with, you go to the same church, and your kids go to school together. In this case, you are linked through multiple relationships.

Strength

The strength of a link refers to the “amount of time, emotional intensity, intimacy, or reciprocal services (frequency or multiplexity often used as measure of strength of tie).” Brass, D. J. (1995). A social network perspective on human resources management. In G. R. Ferris (Ed.), Research in Personnel and Human Resources Management (vol. 13, pp. 39–79). Greenwixh, CT: JAI Press, pg. 44. Some links within a communication network are just bound to be stronger than other links. Maybe you and a colleague are good friends and go shopping together, go to the theatre together, and take trips together. Obviously, if you are spending more time with and establishing multiple links with an individual, that link is going to be stronger than one you have with someone you never see outside of work.

Direction

The concept of direction is very similar to the process of vertical communication. In essence, does communication flow one-way? For example, maybe the CEO of your organization is allowed to communicate with you, but you are not allowed to communicate directly with the CEO.

Symmetry

The opposite of direction is symmetry, which examines whether or not communication links are open and messages are able to go bi-directionally. In essence, symmetry inspects whether communication is one-sided or whether both parties are actively involved in the communication.

Measures Assigned to Individual Actors

The second category involves the typical social network measures assigned to individual actors. Term used in social networking research to refer to an individual participating in a communication network. The term "actor" here is not
meant in the theatre sense of the word. Instead, “actor” is used to represent an individual participating in a
communication network. Brass identified seven different types of measures commonly assigned to individual actors in
communication networks: degree, range, closeness, betweenness, centrality, prestige, and roles.

Degree
The topic of degree in network analysis refers to the “number of direct links with other actors.” Brass, D. J. (1995). A
social network perspective on human resources management. In G. R. Ferris (Ed.), Research in Personnel and Human
Resources Management (vol. 13, pp. 39–79). Greenwixh, CT: JAI Press, pg. 45. Some individuals will have many links
and others will have very few links. Typically, links are discussed by examining the number of in-degree links and the
number of out-degree links. In-degree links examine the number of links directed towards an actor from other actors. In
other words, in-degree links are “in-coming links” and can help researchers ascertain the number of sources of
information an actor has. Out-degree links, on the other hand, involve the number of links where a specific actor
communicates information to other actors. These are also referred to as “out-going links” because information is flowing
away from the actor to other actors in her or his network.

Range
Range refers to the diversity of links an individual has within her or his communication network. This diversity can refer
to dissimilar groups of individuals or individuals on different levels of the hierarchy. In a multinational firm, developing
links around the globe can be very beneficial for an individual. In fact, having diverse links in one’s communication
network can help one receive the best possible information because the more homogenous one’s links are, the greater
likelihood that the information one receives will be identical.

Closeness
The term closeness refers to the number of links within a communication network it takes for an individual to
communicate with her or his entire network. In essence, how easily can an individual actor reach everyone in her or his
network? Brass explains how closeness is analyzed by network analysts, “Usually [closeness is] measured by averaging
the path distances (direct and indirect links) to all others. A direct link is counted as 1, indirect links receive
Press, pg. 45. For example, in the communication networks exhibited in Figure 5.3, the gossip network is much closer
than the single strand network. In the gossip network, Person A can communicate directly with everyone in her or his
network, whereas in the single strand network, communication from Person A to Person D takes two extra steps
(through Person B and Person C).

Betweenness
Betweenness is the “extent to which an actor mediates, or falls between any other two actors on the shortest path
In essence, is the shortest path between two individuals directly through you? For example, maybe you’re the administrative assistant for a CEO. Everyone knows that the only way to get to the CEO is to go through you. In this case, by being in the position of administrative assistant, you function as the between point between the CEO and other people in the organization.

**Centrality**

Centrality refers to the extent to which an individual is at the core of one’s communication network. If you examine Figure 5.3 again, Person A is clearly the central figure in each of the forms of informal communication networks. However, Person A is clearly more centrally located in the gossip communication network than the other three because in the gossip network all of the links are out-degree from Person A.

**Prestige**

The concept of “prestige” in network analysis is a little ambiguous and harder to map because it refers to the reasons people want to be a part of an actor’s communication network. In essence, the more people want to be part of your communication network, the higher your prestige is within the network itself.

**Roles**

Within any communication network, there are a number of roles that people may exhibit within the network. Roles in this sense refer to specific behaviors people exhibit within a communication network. Research in network analysis has found a number of different types of role that are common within organizations: stars, liaisons, bridges, gatekeepers, and isolates.

**Stars.** The concept of stars existing within a communication network stemmed from the research by Thomas J. Allen and Stephen I. Cohen who found that some individuals just standout and have more communication links than other people. Allen, T. J., & Cohen, S. I. (1969). Information flow in research and development laboratories. *Administrative Science Quarterly, 14*, 12–19. Michael L. Tushman and Thomas J. Scanlan examined how stars function in communication networks. Tushman, M. L., & Scanlan, T. J. (1981a). Characteristics and external orientations of boundary spanning individuals. *The Academy of Management Journal, 24*, 83–89. One of the primary functions of stars is the ability to cross organizational boundaries in their links. Tushman and Scanlan noted that “boundary spanning individuals are those who are internal communication stars (that is, they are frequently consulted on work related matters) and who have substantial communication with areas outside their unit.”

Tushman, M. L., & Scanlan, T. J. (1981a). Characteristics and external orientations of boundary spanning individuals. *The Academy of Management Journal, 24*, 83–89, pg. 84. Ultimately, Tushman and Scanlan realized that there were two types of stars in communication networks: internal stars and external stars. Tushman, M. L., & Scanlan, T. J. (1981b). Boundary spanning individuals: Their role in information transfer and their antecedents. *The Academy of Management Journal, 24*, 289–305. Internal stars are individuals who develop competence in a specific internal unit and are able to gain and disseminate information within their communication network. Internal stars are also referred to as opinion leaders, because they are seen as the go-to people for information and problem solving. External stars, on the other hand,
develop competence in an area external to the organization and are able to receive and disseminate information within their communication network outside of the organization itself. External stars are also referred to as cosmopolites because they have stronger ties to the external environment, and cosmopolites bring in information to the organization from the external environment. The last type of star identified by Tushman and Scanlan are individuals who engage in informational boundary spanning, which are both internal and external stars who can bridge the gap between their communication network and other communication networks who could utilize their information.


**Liaisons.** According to Everett M. Rogers, a liaison is “an individual who links two or more cliques in a system, but who is not a member of any clique.” Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: The Free Press, pg. 111. (p. 111). Rogers uses the word “clique” to refer to communication networks in this definition. In essence, a liaison is an individual who does not belong to two communication networks, but is the between person in the middle of the two networks.

**Bridges.** Bridges, on the other hand, are individuals who link two or more communication networks together and is a member of the two communication networks. In essence, a bridge is someone who belongs to two groups and is able to send and receive information along between those two groups.

**Gatekeepers.** A gatekeeper is an individual who has the ability to filter information from the external environment to internal communication networks or filter information that is passed from one communication network to another communication network. Tushman, M. L. (1977). Special boundary roles in the innovation process. *Administrative Science Quarterly*, 22, 587–605. Because gatekeepers have the task of determining what information is delivered within the organization, they play a very important role in the day-to-day functioning of the organization. If gatekeepers let in too much information, the organization will suffer from communication overload. On the other hand, if the gatekeepers filter out too much information, the organization will suffer from communication underload.

**Isolates.** The last role that people exhibit in communication networks are isolates. Isolates are individuals who have withdrawn themselves from the communication networks. Tichy, N. M., Tushman, M. L., & Fombrun, C. (1979). Social network analysis for organizations. *The Academy of Management Review*, 4, 507–519. These are individuals who typically have very few links if any at all. One of our coauthors worked for an organization that was located six hours away. Our coauthor would go for weeks without having any kind of direct contact with the organization. Many members of this organization didn’t even know that our coauthor had been hired and was working for the organization. In this case, our coauthor was clearly isolated from the communication network within the organization.

**Measures Assigned to Networks**

The final category discussed by Brass involves the typical social network measures used to describe networks. Brass, D. J. (1995). A social network perspective on human resources management. In G. R. Ferris (Ed.), *Research in Personnel and Human Resources Management* (vol. 13, pp. 39–79). Greenwixh, CT: JAI Press. The previous two classifications of measures looked at more micro-level aspects of communication networks, whereas this section is going to examine nine measures used to describe networks on a macro-level: size, inclusiveness, component, reachability, connectedness, density, centralization, symmetry, and transitivity.
Size

The size of a communication network relates to the total number of actors within a network. Some communication networks are small involving only a handful of actors, whereas other networks are very large containing hundreds of actors.

Inclusiveness

The issue of inclusiveness is related to the total number of possible actors within a communication network minus the number of isolates. The more isolates a communication network has, the less inclusive the network is.

Component

A component within a communication network is the largest subset of actors or groups of actors who contain multiple links. In essence, is there one group of actors within the communication network that are clearly more linked to each other than any other actors or subsets of the larger communication network? Often, these components will actually have no links outside of the group of actors. Sometimes people refer to components as the “in-crowd” because the people within the “in-crowd” typically do not allow outsiders access to the component clearly establishing who is and who is not within the group. When referring to groups of individuals who are highly linked within an organization, we call these groups “nodes.” An organization's total communication network will consist of a variety of nodes.

Reachability

Reachability refers to the average number of links it takes to link any two individuals within a communication network. Reachability is measured by examining both direct and indirect ties.

Connectedness

Connectedness is similar to reachability, but instead of evaluating individual actors we are evaluating groups of actors or nodes. Connectedness, then, is the degree to which all of the nodes in a communication network are reachable, and is usually determined by comparing the number of nodes that are clearly reachable with the number of nodes that are not.

Density

Within any communication network, most people are linked (either in or out-degree) to others within the network, but are not linked to every possible person within the communication network. Density refers to the number of links that exists within a communication network as compared to the total number of links possible within a communication network.
Centralization

The idea of centrality starts with realizing that most organizational communication networks have one star who is the most linked person within the organization. Centralization then is comparing that individual star to the rest of the people within the communication network. In highly centralized communication networks, the average person and the star’s number of links will be very similar. In highly decentralized communication networks, most people contain only a few links and no one comes close to the number of links that the central star has.

Symmetry

Earlier we discussed the notions of “symmetry” and “direction” in conjunction with looking at the typical social network measures of ties. Symmetry on the network level compares the number of symmetry ties with the number of direction ties. The more bi-directional or symmetrical ties that exist within a communication network, the more symmetrical the communication network is. On the other hand, the more uni-directional or direction ties that exist within a communication network, the less symmetrical the communication network is.

Transitivity

The concept of transitivity in communication networks refers to indirect relationships between three people. For example, if A communicates a message to B and then B communicates the message to C, the three individuals are considered transitive. In essence, A and B are directly linked, B and C are directly linked, and A and C are indirectly linked through B. The concept of transitivity then “is the number of transitive triples divided by the number of potential transitive triples” within a communication network (Brass, 1995, p. 44).

Current Research—Papa & Papa

Communication Network Patterns and the Re-invention of New Technology

By Wendy H. Papa and Michael J. Papa (1992)

In this study, Papa and Papa (1992) wanted to examine how communication networks impact on re-invention, or a user’s likelihood of changing or modifying a new innovation during the innovation’s period of adoption. For this study, the researchers used an insurance office in New Jersey because the office planned on introducing a new computer system. There were 137 participants who worked in the office ranging in age from 23 to 44. The sample consisted of 64 females and 73 males. Furthermore, the organization consisted of 13 departments and included five unique hierarchical levels.

In this study, Papa and Papa had three basic hypotheses to test:

H1: A positive linear relationship exists between the activity level of an employee’s network (as measured by interaction frequency and network size) and the speed with which that employee implements a re-invention.

H2: A negative linear relationship exists between the integrativeness of an employee’s network and the speed with which...
which that employee implements a re-invention.

H3: A positive linear relationship exists between the diversity of an employee’s network and the speed with which that employee implements a re-invention.

To collect their data, Papa and Papa trained the employees within the insurance company in making accurate assessments about interactions related to the new computer system. The participants then kept a diary of their interactions related to the new computer system over the course of 5 weeks.

The results for the three hypotheses found that an individual’s network diversity and network integrativeness positively related to an individual’s adoption of a re-invention, but network size and interaction frequency did not.

Furthermore, the individual who initiated the re-invention (or re-inventor) had a more diverse communication network, a larger communication network, greater frequency of interaction, and less integrative than the average worker within the organization.

Conclusion

In this chapter we have examined a number of very important concepts related to organizational communication. Specifically, we started the chapter by examining the three types of formal communication networks that exist in organizations (upward, downward, and horizontal/lateral). We then switched gears and looked at informal communication networks specifically examining communication grapevines and rumors. The last part of this chapter contained a brief overview of the field of communication network analysis. We examined the historical roots of network analysis, the place of social capital, and how communication networks are measured by organizational scholars. In the next chapter, we will continue to examine communication within an organization by exploring leadership.

Key Takeaways

- Mishra (1990) noted eight reasons why grapevine communication exists in organizations: (1) grapevines are faster and can bypass people, (2) grapevines care useful information quickly, (3) grapevines supplement formal communication networks, (4) grapevines provide outlets for individual’s imaginations and apprehensions, (5) grapevines help people know what is actually occurring, (6) grapevines make people feel like they belong, (7) grapevines are early warning signs for looming crises, and (8) grapevines help to build teamwork, motivate people, and create corporate identity.
- Davis (1969) proposed four basic types of informal communication networks: single strand (one person tells one other person), gossip (one person tells many people directly), probability (one person tells a few people, who turn around and tell more people), and cluster (similar to a telephone tree—one person tells her or his designated network, who then tell their designated networks).
- An individual who has a strong and diverse social network will be able to tap into that social network faster in an effort to achieve specific goals. When people tap into their social networks to help them complete tasks, they are using their social capital.
- Brass (1995) identified seven commonly assigned measures to individual actors in communication networks: degree, range, closeness, betweenness, centrality, prestige, and roles.
Brass (1995) examined nine measures used to describe networks on a macro-level: size, inclusiveness, component, reachability, connectedness, density, centralization, symmetry, and transitivity.

**Exercises**

1. Think of a time when you’ve tuned in to the grapevine at your workplace. How accurate was the information you received? Would you still trust the grapevine in your workplace today? Has social media made grapevine communication better or worse?

2. Do an analysis of your own social capital. The Canadian Government put together a document describing how to analyze one’s social capital (www.horizons.gc.ca/doclib/Measurement_E.pdf). Use one of the 15 different methods for analyzing social capital described in this document (Appendix 1–15) to analyze your own social capital.

3. Conduct a simple network analysis of an organization you belong to currently. If your organization is very large, you may want to only analyze one division of the organization.