Chapter 2
Benefits of Organized Networks

Abstract What are organized networks, how do they function and to what extent can they be useful? In order to understand the main benefits of organized networks, it is helpful to become familiar with the underlying theory and how it was developed. In total, eight different theories and concepts are considered. It is argued that organized networks enable professionals to get new ideas, make the world smaller, help to better understand different cultures, and provide access to Buying Centers.

Keywords Network theory · Social capital · Strength of weak ties · Structural holes · Brokerage · Small world phenomenon · Cultural dimensions · Buying center · Network effect

2.1 Network Theory

Anticipated in the late 18th century by Leonhard Euler, network theory examines the structure and development of any kind of network.[1] Euler, one of the greatest mathematicians ever to have lived, solved the problem known as "Seven Bridges of Koenigsberg". The city of Koenigsberg was located on two large islands that were connected to each other and the mainland by seven bridges. A puzzling question at that time was whether it is possible to walk across all bridges and never cross a bridge twice. Euler offered a mathematical proof that such a path does not exist. This finding is considered to be the first theorem of graph theory which has become the backbone of social network analysis (Barabasi 2002, 9–11; Alexanderson 2006, 573ff.).

Substantial progress was achieved in the 1930s when scholars from different disciplines worked independently on the subject.[2] In the field of psychology, for

[1]Leonhard Euler (1707–1783) was a pioneering Swiss mathematician.

[2]Emile Durkheim, Ferdinand Toennies, Georg Simmel and others also contributed to the development.

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instance, Jacob Moreno began the systematic recording and analysis of social interaction in small groups. In anthropology, Alfred Radcliffe-Brown inspired scholars at Harvard University to recognize the importance of interpersonal relations in social systems. Meanwhile, scholars at Manchester University began to conduct field research on social networks (Scott 2004, 7).[3]

By the late 1970s, a larger number of scholars were working on different issues. One important group was led by Harrison White. In his book "Identity and Control", White discussed how social formations emerge. He argued that society should be understood as a network rather than as an aggregate of individuals, because identity is largely influenced by the social structure. Later, he extended this approach to markets which result from networks from his point of view (White 1992, 2001; Fuhse 2008, 2933ff.).[4]

Harrison White and his works have had a strong impact, because many of his students specialized in this field of research. As they moved through their careers to institutes across the globe, the arguments of White and Radcliffe-Brown were merged into a complex but increasingly coherent framework of social network analysis (Scott 2004, 8). One of White's most successful students was Mark Granovetter (1943–). Focusing on the spread of information in social networks, his article "The Strength of Weak Ties" has become standard literature in network theory and social sciences. Today, network theory is applied in various disciplines ranging from business administration to sociology and computer science.[5]

Though network theory is complex in its whole, its methods and underlying principles are relatively simple. Generally speaking, there are three kinds of levels on which to analyze networks (Wassermann and Faust 1994, 25, 26). On the micro level, the focal point is on the individual and his or her links to or within the network. On the macro level, the organizations and their links to other large entities matter, and the meso level is somewhere in-between. In business-related contexts, the focus is usually on the micro or meso level and so it is here.

On the micro and meso level, an essential aspect is the position of the individual to and eventually within the network. Obviously, it makes a huge difference if one is affiliated with a network or not (Fig. 2.1). Depending on the subject, an affiliation ("membership") can be very beneficial, but also very harmful. Also, the number and quality of ties as well as the size, density and reach of the overall network matter. Furthermore, it is important to keep in mind that networks do not exist per se but emerge and develop over time.

For illustration, let's imagine a party or ball such as the opening reception of the Asia-Pacific Conference of German Business in November 2014 in Ho Chi Minh

[3]Jacob Moreno (1889–1974) was an Austrian-American psychologist. Alfred Radcliffe-Brown (1881–1955) was a British social anthropologist.

[4]Harrison White (1930–) is an American economist and sociologist, now at Columbia University.

[5]Some noteworthy authors include Ronald Burt (1949–), Stephen Borgatti (1956–) and Albert-Laszlo Barabasi (1967–).

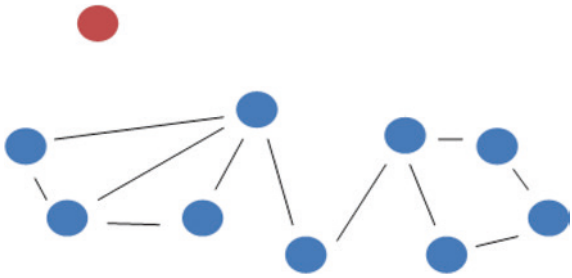


Fig. 2.1 The individual and the network

City, Vietnam. Although many people do not know each other yet, they soon start chatting, as people normally do on such occasions. In the beginning, there is a large number of small groups which are separate from each other (Fig. 2.2). Most likely, each group consists of two, three, four or five persons only. As time goes by, some people move on to another group. As a result, a giant network emerges in which still not everyone knows each other, but all people are somehow linked with each other (Fig. 2.3).

The example of the party illustrates not only how (informal) networks emerge, but also how they function and how members can benefit from them. Simply imagine that the host tells only one person about the exclusiveness of the red wine; it is just a matter of time until many other people know about it (and many people will then probably try the red wine). Of course, networks are not free from risk or even fraud. For example, the information about the red wine can be false. From a theoretical point of view, however, the most unfavorable position is not to join the event and, thus, not to become a member of the network—presuming that there are no better alternatives. In this case, you would not receive any information at all or at least not at the right point in time.[6]

The red wine is just an illustrative example for any spread of information within a network. Sometimes, information is much more valuable. Simply imagine the host did not spread the information about the exclusiveness of the red wine, but rather his intention to invest several million Euros. Certainly, your company would like to find out about it in order to place an offer. There is even a chance that you might receive such valuable information more frequently, as events such as the opening of the Asia-Pacific Conference of German Business are organized on a regular basis. This already indicates how organized networks facilitate the exchange of novel information which can be of high value.

[6]The example and figures are largely based on the book by Barabasi (2002, 15).

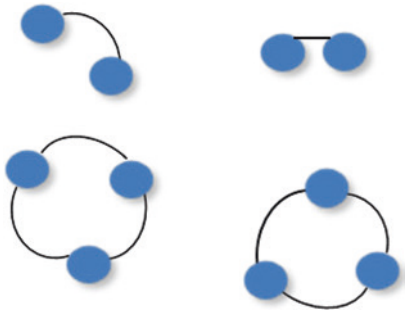


Fig. 2.2 Emergence of a network at the beginning of a social event

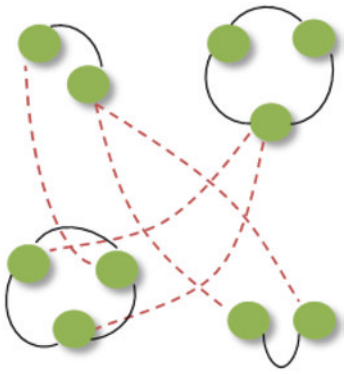


Fig. 2.3 The status of a network at the end of such an event

2.2 Economic Value and Social Capital

When mentioning the prospective of high value, the question typically arises how to measure the exact sum. This is absolutely fair, because economic value—usually given in units of currency—measures the benefit one can gain from goods or services. In many situations, it is possible to calculate the amount one can get for a specific product or service. It does not even matter so much that services are intangible. But it becomes complicated when a large part of the service—or rather, benefits—is more or less incidental.

In illustration, let's look one more time at the example described before: At high-level events, there is often an entrance fee, which means costs. In return, the guest can drink (red) wine and enjoy the party for a few hours, which also equals a certain amount of money. We could even put a price tag on the rumor about the planned million-Euro investment as such market information is also provided by consulting or research companies. As a result, the direct value for the company can easily be calculated.

But the situation might offer even more benefits. As the guest, you might not only hear about the planned investment, but speak directly to the investor as well as to the people surrounding him. During the conversation, you can get a glimpse

of what is important to them. As a result, you might come to the conclusion that you better cooperate with another guest, rather than pitching for the order as a stranger. Six months later, however, you could get a phone call from the investor asking you to become his general manager who finally selects the suppliers. By now, no one would seriously try to measure every single incident and conclusion in units of currency—and this is just a very simple example. Instead, we can better speak about it as social capital.

The idea of social capital can be traced back to the 18th century. Already Adam Smith, well known for his advocacy of the merits of markets, emphasized the importance of social relationships for business and proposed a theory of sympathy (Halbern 2005, 6). Also, Alexis de Tocqueville observed in "Democracy in America" that many people are prone to meeting at as many gatherings as possible to discuss various topics (de Tocqueville 1835, 2012, Chap. 6).[7] The term itself is credited to Lyda Judson Hanifan, who used it to refer to those "assets [that] count for most in the daily lives of people: namely good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit" (Hanifan 1920, 78).[8]

Major academic discussion, however, did not emerge until the 1980s, when in America James Coleman and in Europe Pierre Bourdieu sparked interest in the subject.[9] Bourdieu, for instance, criticized that economists neglected the importance of huge areas of social and economic life and proposed three forms of capital, namely economic capital, cultural capital and social capital (Bourdieu 1986, 241ff.).

According to Bourdieu, "social capital is the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition. Acknowledging that capital can take a variety of forms is indispensable to explain the structure and dynamics of differentiated societies" (Bourdieu and Wacquant 1992, 119).[10]

Robert Putnam, whose name is today very much associated with the topic, defined social capital similarly, but from a broader point of view. According to Putnam, social capital refers to the collective value of all "social networks […] and the inclinations that arise from these networks to do things for each other […]" (Harvard University 2013).[11]

The differences in the definitions show that social capital can be applied to the micro-level as well as to the macro level. In fact, there are good reasons to apply the concept to individuals as well as to groups, networks and society (Halbern 2005, 14–27).

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[7]Adam Smith (1723–1790) was a Scottish philosopher and a pioneer of political economy. Alexis de Tocqueville (1805–1859) was a French historian and political thinker.

[8]Quoted from Halbern (2005, 6).

[9]This chapter is mainly based on the findings and assumptions of Bourdieu and not Coleman. James Coleman (1926–1995) was an American sociologist. Pierre Bourdieu (1930–2002) was a French philosopher.

[10]Quoted from Halbern (2005, 7).

[11]Robert Putnam (1941–) is an American political scientist at Harvard University.

Let's look at the company level a bit closer and discuss how social capital affects economic growth. Actually, it can be argued that one of the most significant forms of social capital is a firm or company. Obviously, there are many economic advantages to bringing individuals with complementary skills together in a company. In these organized networks, they can more easily support and rely on each other, which means making use of the companies' social capital, and working together towards a common goal (Giddens 2009, 825). As a result, they are much more effective than individuals who rely on themselves and must negotiate almost every single act (Halbern 2005, 14–27). An illustrative example for an intra-company network is the BASF "Verbundsystem", because it very much obligates the employees to cooperate with each other. The general idea of the system is to use the by-product of one plant as the raw material of another plant (BASF 2014).[12]

Of course, social capital can also be generated between companies. Well-known examples are the large automotive firms such as Toyota, Daimler or Volkswagen which have established large production networks with and among their suppliers. As a result, they can more easily share information, optimize production processes and, thus, achieve competitive advantages. Similarly, many companies establish networks with their customers. Popular examples are the countless bonus and loyalty programs. In fact, the general idea of any business network is to support the generation of social capital.

2.3 Strength of Weak Ties, and Structural Holes

The Network Theory includes various models explaining the benefits of organized networks. One well-known theory is the "Strength of Weak Ties" which was developed by Mark Granovetter and has become one of the most cited papers in disciplines such as business administration, information science and politics.[13] Another theory named "Structural Holes" was developed by Ronald Burt and is often mentioned in papers on social capital. Both models are based on the same underlying principles (Borgatti and Halgin 2011, 1).[14]

Generally speaking, Granovetter's theory of the "Strength of Weak Ties" argues that people with whom we are the least connected provide the most valuable information to us. The theory is based on a set of premises and conclusions. One central premise is that the stronger the ties between two people, the more likely it is that their social contacts overlap. For example, if A has two close friends, meaning strong ties with A and B, there is a high change that B and C also have at least a weak tie. The reason is that people tend to have stronger ties with people who are

[12]In total, BASF has six "Verbundsysteme" with about 380 production sites.

[13]Google Scholars lists more than 24,900 citations (July 2013).

[14]Mark Granovetter (1943–) is an American sociologist at Stanford University. Ronald Burt (1949–) is an American sociologist at the University of Chicago Booth School of Business.



Fig. 2.4 The advantage of the bridging tie

similar to themselves such as neighbors, colleagues, etc. As a result, these people often share similar knowledge and experiences (Granovetter 1973, 1362, 2011, 47).

Another central premise focuses on the so-called "bridging ties" which link a person to another group, meaning to someone who is not connected to his or her friends. For exactly this reason, bridging ties are a potential source of novel information. For example, if A is the only person in his social group with a (weak) tie to someone from another group, he has access to a number of people his friends do not know. As a result, A has the advantage of receiving information all his friends have not even heard about (Fig. 2.4).[15]

Combining these two premises, Granovetter concludes that strong ties are unlikely to be a source of novel information, but weak ties are very likely to be. The reason is—to emphasize it once more—that only weak ties are likely to be bridging ties between different social groups. As a result, people with more weak ties generally have better chances of being successful (Borgatti and Halgin 2011, 4).

Of course, Granovetter tested his theory in practice. In a labor-market study, he asked professionals who had changed their job how they got to know about the new position. Indeed, only 16.7 % of the participants got a new job through people they know well. Instead, the vast majority benefited from the "Strength of Weak Ties" (Granovetter 1973, 1371).

In a similar way, but from another point of view, Ronald Burt explains the advantages of so-called "Structural Holes". Burt does not stress the quality of weak ties so much. Instead, he focuses on one's location and the number of contacts to other groups. As mentioned before, social groups tend to be homogenous and often exchange redundant information. For this reason, it is worthwhile to establish contacts to people actually belonging to other groups. It is even better if one is the only one with such contacts (Burt 1992, 18ff., 2004, 349ff.).

For example, if A is the only person linked to G, A has a strategic advantage over B and C simply because of this unique position (Borgatti and Halgin 2011, 4). A can even exploit this situation, if B and C are not so strongly connected. As a result, A not only receives novel information from G (and his or her friends and

[15]According to Granovetter's first premise, A's tie to someone outside his group can hardly be strong, but must be weak. Otherwise, it would be unlikely that A is the only one in his social group with this specific tie (Granovetter 1973, 1364). Figures 2.4 and 2.5 are based on a model by Borgatti and Halgin (2011, 4).

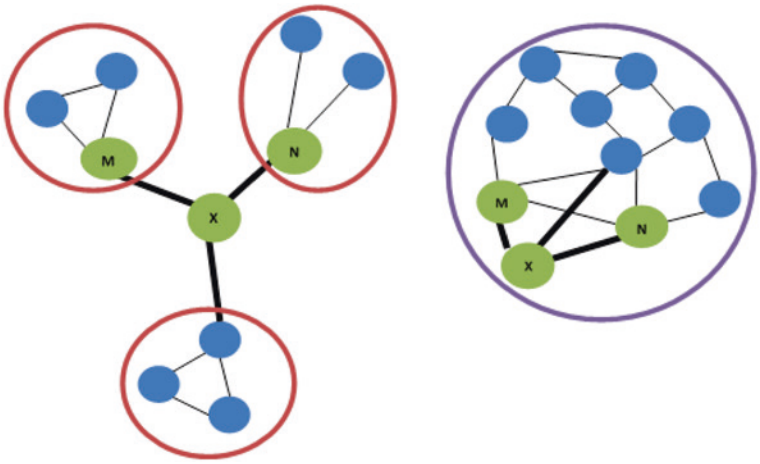


Fig. 2.5 The advantage of structural holes

acquaintances), but A can also decide if he provides the information to B and C separately, together, to only one of them or even neither of them at all. This simple example illustrates the advantages and power of structural holes. Figure 2.5 might illustrate the advantage of structural holes even better. Obviously, X has is a better position over M and N, if they are not so strongly connected.

Although Granovetter and Burt differ in some details and the terms they use, both theories are based on the same underlying principles which can easily be adapted to the business world. As both theories prove, it is absolutely worthwhile to establish contacts to people from other social groups such as other companies, other industries and other cultures. The main reason is that—in comparison with the own company—such "bridging ties" provide much more novel information and, thus, enable individuals to get new ideas. Organized networks such as business associations or online communities can be very helpful in this regard, because they provide access to different kinds of individuals and organizations. Of course, the benefits are limited and also not free from risks, as shown before (Sect. 2.1).

For example, if A—or alternatively X—is a professional responsible for the China business of a German company and affiliated with a German-Sino business network, it is very likely that he will hear about a completely new business opportunity in China through the German-Sino business network and not through his company. His boss and colleagues will certainly be very interested in it, because they have not heard about it before. But A should be aware that a number of other people also belonging to the network have the same information and so might come to the same conclusion. Of course, the information can also be completely wrong. However, receiving novel information is generally better than receiving redundant information only, because novel information inspires new ideas. For this reason alone, it is generally worthwhile to join a business network.

2.4 Small World Phenomenon

Several studies have been undertaken to explain how people are connected with each other and how information travels. The best known study is the "Small-World Experiment" by Stanley Milgram using letters. More recently, Eric Horvitz and Jure Leskovec conducted a similar but much larger study using e-mail. Both studies measure the "distance" between people.[16]

With his ground-breaking experiment, Milgram intended to find out how many acquaintances it would take to connect two randomly selected individuals. For this purpose, he asked 296 people in the U.S. cities of Wichita, Kansas, and Omaha, Nebraska, to forward a letter to a specific person in Cambridge, Massachusetts. If the participants did not know the target person on a personal basis, they should not try to find and contact him but send the letter to someone who is more likely to know the target person. In addition, the participants had to return a postcard to Milgram and his students in order to keep track of the proceedings. In total, only 64 letters reached the target person, but in these cases only between two and ten intermediaries were necessary. On average, 5.5 intermediaries were required to bridge the long way across the United States (Milgram 1967, 64ff.; Travers and Milgram 1969, 430; Barabasi 2002, 28ff.).

Depending on the point of view, "Six Degrees of Separation" is either very little or very much.[17] Usually, six is considered to be a very small, manageable number. Still, there can a huge social distance between the two ends.[18] For this reason, Milgram recommends not to think of the ends being six persons apart but six "circles of acquaintances" (Milgram 1967, 65). As a result, the total number of persons involved is much larger (Fig. 2.6).[19]

Of course, Milgram's experiment has been strongly challenged and criticized. Notably Judith Kleinfeld, who reviewed the original documents in the Yale archives, has doubts that the experiment was conducted in an appropriate scientific manner. In particular, the return rate of less than 30 % is lacking. For example, presuming a constant proportion of participants do not forward the letter for whatever reason, longer chains are under-represented, because it is more likely that they encounter an unwilling participant. Despite such deficiencies, Kleinfeld admits that Milgram could still be right in his general conclusions (Kleinfeld 2001).

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[16]Stanley Milgram (1933–1984) was an American psychologist. Eric Horvitz (1965–) is an American computer scientist at Microsoft. Jure Leskovec is a data mining specialist at Stanford University.

[17]The concept and term of "Six Degrees of Separation" was actually set out by the Hungarian author Frigyes Karinthy. In his short story "Everything is different—Chain-Links", he bet that it requires no more than five individuals to contact a selected individual using nothing except the network of personal acquaintances (Karinthy 1929, 2; Barabasi 2002, 25ff.).

[18]In his first article on the topic, Milgram spoke of five intermediaries. Later, he adjusted the number to 5.5 and rounded it up to six (Milgram 1967, 64ff.; Kleinfeld 2001).

[19]Figure 2.6 is based on an illustration by Walter (2010).

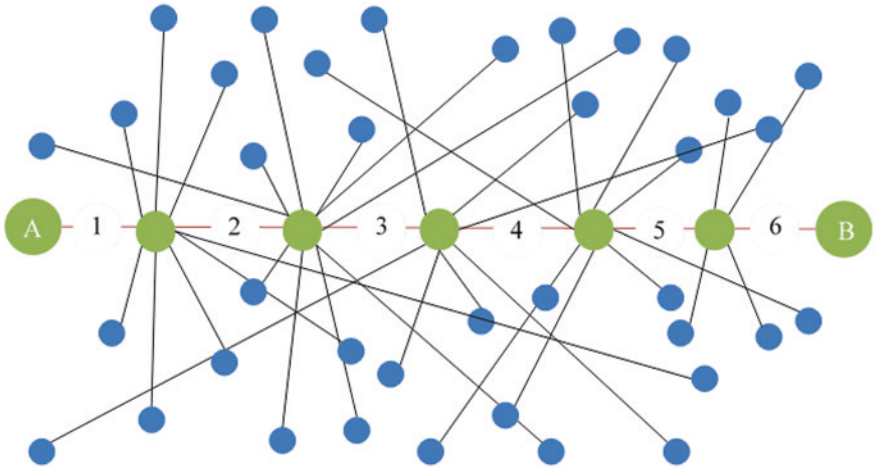


Fig. 2.6 Six degrees of separation

In the meantime, however, a number of further studies have been conducted on the topic. Most recently, Eric Horvitz and Jure Leskovec captured a snapshot of the MSN Messenger system by Microsoft. The database contained about 30 billion conversations among 240 million people, which was approximately half of all instant messaging communications in the world at that time. Using this data, they constructed a "communication graph" of 180 million nodes and 1.3 billion edges. They showed that the average path length among the users is 6.6 (Microsoft Research 2006). Duncan Watts and his colleagues achieved similar results when they replicated Milgram's experiment with more than 60,000 e-mail users (Sheridan et al. 2003, 827ff.).

Not only is the average path length interesting, but also how messages are transmitted. In Milgram's experiment, the very first letter was returned after just four days. A wheat farmer had passed it on to a minister in his home town, who forwarded it to a minister in Cambridge who finally delivered it to the target person (Milgram 1967, 64). As the example of the short path shows, it can be beneficial if people have some similarities. This again coincides with the Microsoft study. Also, Eric Horvitz and Jure Leskovec came to the conclusion that people communicate more with each other when they have a similar language, profession or interest (Microsoft Research 2006).

As a result, both the experiments of Milgram and Horvitz and Leskovec illustrate not only how "small" the world is, but that certain similarities can make the world even smaller. In particular, organized networks such as business associations and online communities can do so, because they bring people together who come from different regions and industries, but who have a similar profession or similar interests. In the past, such well-connected people were often called a "Jack of all trades", because their main characteristic was knowing many other people. Today,

they are rather called "super-spreaders", because they play decisive roles in transmitting information (Dambeck 2008).[20]

2.5 Brokers Between Cultural Dimensions

Another central reason to join an organized network is to act as a broker between the other members of the network and one's company. As demonstrated, the "Strength of Weak Ties" enables individuals to receive novel information. At the same time, the "Structural Holes" provide the opportunity to decide how to deal with the information. As a result, one can intermediate between the different groups and persons. Organized networks with an intercultural focus even enable individuals to act as broker between cultural dimensions. In particular between Germany and China, there are tremendous differences, as authors such as Geert Hofstede have shown.[21]

The concept of brokerage has gained considerable attention in the past few years. In particular, Peter Marsden and later Roger Gould and Roberto Fernandez contributed to a better understanding of it. First, Marsden defined brokerage as a process "by which intermediary actors facilitate transactions between other actors lacking access to or trust in one another" (Marsden 1982).[22] Later, Gould and Fernandez developed five distinct types of brokers: the coordinator, the itinerant broker, the gatekeeper, the representative and the liaison officer (Fig. 2.7).[23]

A member of an organized business network is most likely to act as a representative, a gatekeeper or a liaison officer. Obviously, the task of the first one is to represent the company within the business network and on important occasions such as conferences or workshops. The gatekeeper not only pre-selects information, but also

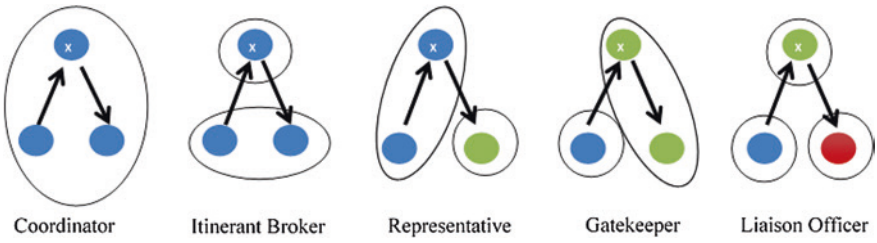


Fig. 2.7 Five brokerage roles of actor X

[20]The term is also often used by medical scientists when describing the spread of diseases.

[21]Geert Hofstede (1928–) is a Dutch culture scientist.

[22]Quoted from Gould and Fernandez (1998, 91).

[23]Peter Marsden is Professor of Sociology at Harvard University. Roger Gould (1962–2002) was a researcher at Yale University. Roberto Fernandez is Management Professor of Organization Studies at the MIT Sloan School of Management. Figure 2.7 is based on a model by Nooy (2005, 136).

decides to whom he distributes the information. And the liaison officer can match network members with company officials (Gould and Fernandez 1998, 93).

An important question for companies is how to deal with so many different tasks. Many large corporations such as Siemens already have managers taking care of this issue. Obviously, it makes a huge difference whether they belong to the marketing or the research department. Generally, the author would recommend installing it as a functional position directly subordinated to the General Manager's position.

However, the deeper and wider the "Structural Holes", the more "distance" a broker need to overcome. Distance can be present in a number of different dimensions: cognitive distance, communicative distance, social difference, geographical distance, cultural distance, and so on (Parjanen et al. 2011, 4ff.). In particular, the geographical and cultural distances between Germany and China are immense.

A popular but also very controversial way to differentiate between cultures has been developed by Geert Hofstede with his "Cultural Dimensions Theory".[24] Originally, Hofstede focused on the four dimensions Power Distance (PDI), Individualism (IDV), Uncertainty Avoidance (UAI), and Masculinity (MAS) only. Recently, Long-term Orientation (LTO) and Indulgence versus Restraint have been added.[25] Since the Hofstede Center provides an online tool for it, national cultures can be easily compared based on an analysis by Michael Bond (Fig. 2.8).[26]

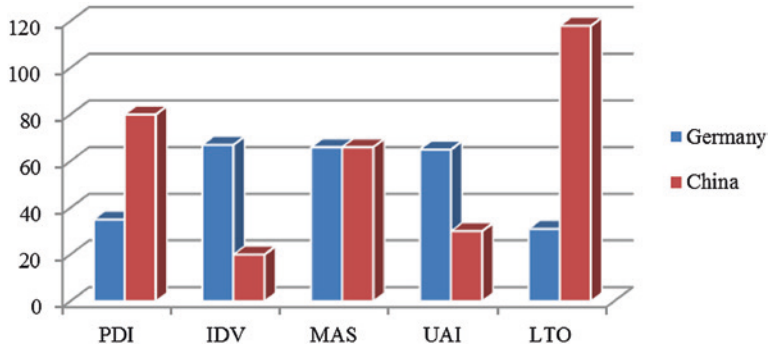


Fig. 2.8 Cultural dimensions of Germany and China

[24]Hofstede's "Cultural Dimensions Theory" is criticized by many scholars for simplifying cultures and their characteristics. In particular, the author of this text opposes Hofstede's approach and method, because it neglects any cultural contacts and all transcultural exchange processes. There is no doubt, however, that the "Cultural Dimensions Theory" is helpful for illustrating differences between cultures, when there is not much space for discussing topics such as cultural identity and affiliation. For this reason alone, Hofstede's method has been applied here.

[25]Indulgence versus Restraint is not yet considered by The Hofstede Center in the comparison of the countries, thus, this book does not deal with it either.

[26]Figure 2.8 is based on a chart from The Hofstede Center (2012, Germany, China).

According to the Hofstede Center, Germany has a power distance of 35 compared to 80 in China.[27] This means that Germany is said to be highly decentralized, supported by a strong middle class and participation communication and meeting style is common. In contrast, in China inequalities amongst people are acceptable and individuals are influenced by formal authority and sanctions.

Not surprisingly, Germany differs from China also very much regarding individualism.[28] While Germany has a score of 67, China reaches 20 points only. While in individualist countries such as Germany, people are supposed to look after themselves and their direct family members only, in collective societies such as China people belong to "in-groups" that care for them in exchange for loyalty. Indeed, there is a strong belief in the ideal of self-actualization in Germany, whereas the people in China rather act in the interest of the group. Very similar are the scores regarding uncertainty avoidance, meaning the extent to which people feel threatened by ambiguous or unknown situations.

Most obvious are the tremendous differences in long-term orientation.[29] Scoring 31 only, Germany is a short-term oriented country. This means that people are impatient to achieve quick results and there is a strong concern for establishing the truth. In contrast, China is a long term oriented society in which persistence and perseverance are normal, relationships are ordered by status and traditions can be adapted to suit new conditions. China has a long-term orientation score of 118 (The Hofstede Center 2012, Germany, China).

2.6 Access to Buying Centers

Most relevant for many companies and professionals is that organized networks can help members to obtain information and sometimes even to influence organizational buying behavior. A well-known model to understand organizational buying behavior is the Buying Center. Originally, the model developed by Frederick Webster and Yoram Wind was relatively complex.[30] Over time, it has been improved by various scholars and is now presented in a useful way by authors such as Philipp Kotler, Christian Hornburg and Waldemar Pfoertsch.

Organizational buying behavior is not a single, instantaneous act, but a complex process involving many persons, multiple goals and potentially conflicting decision criteria. Often it takes place over an extended period of time, requires all

[27]Power Distance is defined by Hofstede as the extent to which less powerful member of organizations or institutions within a country accept that power is distributed unequally.

[28]Individualism addresses the degree of interdependence a society maintains among its members.

[29]Long-term Orientation measures the extent to which a society shows a pragmatic future-oriented perspective rather than a conventional historical short-term point of view.

[30]For example, Webster did not consider the role of the initiator, although he explains how buying process are started (Webster and Wind 1972, 14, 17).

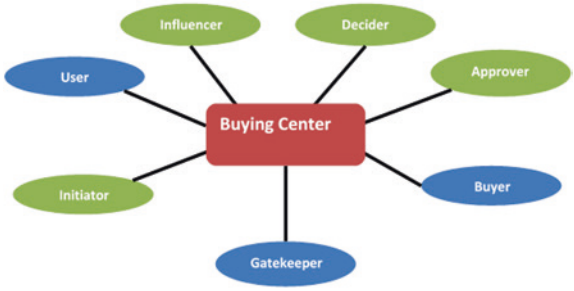


Fig. 2.9 Roles in the buying center

kinds of information and encompasses many inter-organizational relationships. In fact, the organizational buying process can be seen as a form of problem-solving.

Usually, the process is initiated when someone within a company perceives a problem, meaning a discrepancy between a desired outcome and the present situation, which can potentially be solved through a buying action (Webster and Wind 1972, 13–14). Subsequently, further people and departments might get involved in the process. The number of people and departments depend very much on the kind of purchase. Kotler and Pfoertsch differentiate between the "straight re-buy", which is the most common buying situation and usually involves the least risk, the "modified re-buy", in which certain modifications are required, and a "new task", which is the most difficult and risky, because due to the lack of experience the specific requirements are uncertain. Figure 2.9 shows the typical roles in "Buying Centers" (Kotler and Bliemel 2006, 379, 380; Kotler and Pfoertsch 2006, 25, 28; Homburg et al. 2013, 332).

The roles are distributed among the actors depending on the task and function: Initiators detect that there is a need and request a purchase. Influencers advise on the specifications, process or decision. Deciders make the buying decision. Approvers authorize or forbid the purchase. Gatekeepers control the flow of information. Buyers select the supplier and negotiate the conditions. And finally, users apply the product or service (Webster and Wind 1972, 17; Kotler and Pfoertsch 2006, 26, 27; Homburg et al. 2013, 332).

Organized networks offer access to various members of the Buying Center. Naturally, high-level networks attract high-level professionals. Often, these professionals are deciders, approvers or influencers in their respective company. But also lower-level networks can be very helpful, as basically every professional can be an initiator. In any case, organized networks allow circumventing the gatekeeper and getting in touch with different members of the Buying Center directly.

This is a huge advantage, because a Buying Center is neither a formal nor structural center, as the name suggests. Instead, it is made up of individuals who initiate, influence, decide, approve, conduct and assist a purchase. In fact, every individual has a different motivation, objective, preferences and beliefs. For this reason, Webster, Kotler, Hornburg and Pfoertsch all emphasize the influence of the individual in the buying process. Webster, for instance, states that "it is the specific individual who is the target

for marketing effort, not the abstract organization" (Webster and Wind 1972, 18). Also, Homburg concludes that "personal contacts play a key role in the success of the business relationship" (Homburg et al. 2013, 333).

Of course, not every member of an organized network is a member of a Buying Center at every point in time or desires to become one. But since every network member is affiliated with a company, organization or industry, he or she can provide valuable information about the Buying Center, maybe even others help get in touch with members of it, or at least provide information about the market situation and/or macro-environment (Kotler and Bliemel 2006, 279–378).

2.7 The Network Effect

Last but not least, let us consider the Network Effect and discuss some unique characteristics mainly attributed to online networks. In previous chapters, it has been argued that organized networks make the world smaller, because they connect people from different areas. At the same time, organized networks can grow and in particular online networks can grow very fast. This does not necessarily limit the Small World Phenomenon. Instead, the network might become even more valuable.

The Network Effect became a topic for the first time in the early 20th century, when the Bell Telephone Company was facing increasing criticism for being a monopoly. For several years, the company dominated the market due to the patent of Alexander Graham Bell.[31] Even after it expired in 1894, the parent company AT&T expanded its business by buying up many smaller telegraphy companies such as Western Union. Using the slogan "One Policy, One System, Universal Service", the company praised the advantages of one phone system only (Galambos 1992, 95ff, 106).

One of the earliest scientific papers on the topic was published by Jeffrey Rohlfs in 1974. The consultant explained that "the utility that a subscriber derives from a communications service increases as others join the system" (Rohlfs 1974, 16). Later, authors such as Michael Katz, Carl Shapiro and John Gallaugher contributed significantly to the understanding of the Network Effect (Shapiro and Varian 1999; Parker and Van Alstyne 2005, 1495).

The theory behind it is very simple: The more people have a telephone, the more valuable the telephone is to each user—presuming they can connect with each other by using the same or a compatible system. Another example is the auction platform Ebay. The more sellers offer goods for auction, the more attractive the platform becomes for potential purchasers. Many social media platforms such as Facebook, LinkedIn and Twitter also work in this way (Fig. 2.10).[32]

[31] Alexander Graham Bell (1847–1922) was an American engineer who is credited with inventing the telephone.

[32] Figure 2.10 is based on an illustration by Fernando (2006).

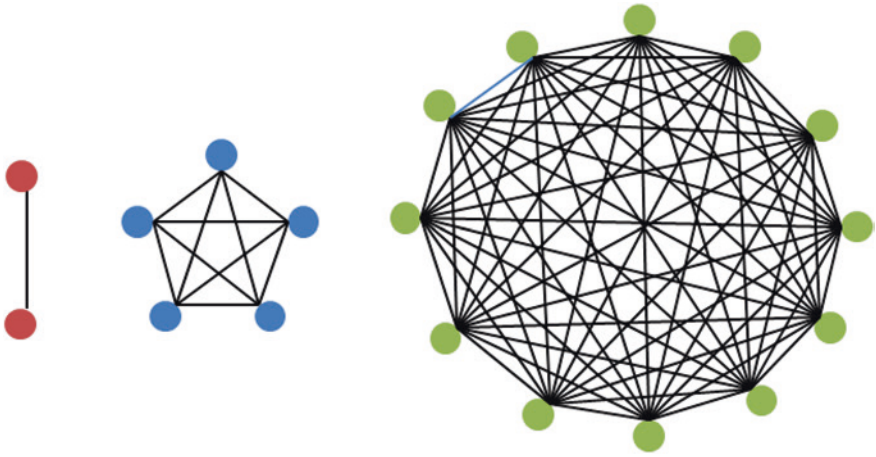


Fig. 2.10 The emergence and benefit of the network effect

The Network Effect should not be mistaken for Economies of Scale, meaning the cost advantage when producing goods in higher volume for lower fixed costs per unit. The Network Effect does not happen on the production side, but rather on the consumer side. It does not even make a difference whether or not a user intends to create value for others; it happens in any case.

The Network Effect can occur in various forms. The simplest form is the direct effect, as illustrated in the example of people connecting to the same phone system. But Network Effects can also be indirect. It is obvious: The user benefits from it, the more telephone shops are available. The Network Effect can even occur on more than one side. For example, every user can benefit from it, the more complementary services are available, and vice versa (Sundararajan 2003–2006; Gallaugher 1997–2008, 4).

Of course, the Network Effect only becomes significant, when a "critical mass" has been reached. In particular, organized networks which have just been established might find it difficult to attract members. The reason is the so-called Penguin Effect: "Penguins who must enter the water to find food often delay doing so because they fear the presence of predators. Each would prefer some other penguin to test the waters first" (Farrell and Saloner 1987).[33] In fact, early members do not really benefit from organized networks in the beginning, simply because there are too few other users available for interaction.

Similarly, networks lose their attractiveness when they grow much beyond the "critical mass". An example is the telephone directory. The world's first telephone directory was published in 1878 and listed 50 businesses with a telephone in New Haven, Connecticut. Between the 1950s and 1970s, many people in Western

[33]Quoted from Choi (1994, 19).

countries enjoyed looking up who was already connected to the telephone network. Today, telephone directories have so many listings that it is difficult to find people with family names such as "Smith" in the USA, "Meier" in Germany or "Li" in China. In fact, printed telephone directories are increasingly criticized as wasteful. Many online networks find themselves in a comparable situation today.[34]

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[34]The maximum member capacity of online networks is mainly a matter of the expectations of the network.

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