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**HOMOPHILY AND INTERPERSONAL TIES AS  
FACILITATORS OF KNOWLEDGE SHARING**

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**ABSTRACT**

Interpersonal relationships depend a lot on interpersonal similarities. Common characteristics between individuals, such as language, culture, religion, geographic area, proximity or shared experiences tend to compose a fertile soil for relationships to develop. People, by nature, have a tendency to register themselves in small groups that they share something in common with. The phenomenon of similar people sticking together is coined as homophily. According to research, interpersonal similarity drives effective knowledge sharing, while interpersonal differences create difficulties in knowledge sharing.

The aim of this thesis is to explore the role of homophily in the creation of interpersonal network ties and the impact of homophily, on knowledge sharing processes within a cross-cultural environment. The study is based on 9 semi-structured interviews. The respondents were chosen so that they shared some characteristics such as all being foreigners working in Finland, in international companies, where English is used as the corporate language. However, their population was diverse, in context of country of origin, sex and occupation, in order to provide an otherwise random sample.

The study shows that interpersonal homophily is responsible for the creation of ties. More homophily creates stronger ties, while less homophily weaker ones. Strong ties are facilitators of effective knowledge sharing while weak ties slow down knowledge sharing. Moreover, the study confirmed the paradox of homophily, as it can also become a barrier to effective knowledge sharing, when strongly homophily-oriented individuals are not exposed to external stimuli and new experiences.

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**KEYWORDS: Homophily, Interpersonal Ties, Knowledge Sharing**



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All men naturally desire knowledge. -- Aristotle, *Metaphysics*



## **1. INTRODUCTION**

Walking down the history lane, terms such as society, homophily - the likeness for the similar - ties, relationships, and knowledge have been widely discussed through the years. Described by Greek philosophers such as Aristotle (Rackman, 1934) and Plato (Bury, 1968), some of their definitions seemed to be of great importance even back then. Later, these terms were integrated with newer meanings, and as a result of evolution were led to today's research scene.

Bringing those almost ancient terms to recent contexts one would probably talk about social interaction, social networks, homophily, relationships, strong and weak ties, knowledge sharing and a great number of similar words combined to express today's philosophical questions and queries. Even though the above phrases were mostly linked to sociology (e.g., Bott 1928, Hubbard 1929, Wellman 1929), anthropology, psychology (e.g., Almack 1922, Richardson 1940) and behavioral sciences, they have gradually become very related to the business field as well.

Those concepts, which were later expanded into whole fields of research, have been explored in certain extent and mostly through sociology lenses (e.g., Bott 1928, Hubbard 1929, Wellman 1929), but not to the degree that they might affect each other. However, there is relatively limited research regarding interpersonal knowledge sharing (Kildurff & Tsai, 2003) and how the strength of ties can affect it.

### **1.1 Problem Area**

Interpersonal relationships depend a lot on interpersonal similarities. Common characteristics between individuals, such as language, culture, religion, geographic area,

proximity or shared experiences tend to compose a fertile soil for relationships to develop. People, by nature, have a tendency to register themselves in small groups that they share something in common with. Today, individuals form groups of different kinds, in social networks, virtual teams and on-line community forums (McPherson et al., 2001).

These small groups or clusters are formed because individuals need to belong into familiar context. That way they also become part of other individuals' social networks. A familiar or comfort environment is the one, where one feels himself. If this idea is now transferred into a business context, one can think of the employees of multicultural companies. Individuals working in the same environment, form small groups and social networks based on their similarities, common interests and differences.

People prefer to be around those that remind them of themselves or behave in convergent patterns, that way they do not have to explain themselves since their communication is based on agreement of opinions. In an international meeting most probably people with the same ethnic background sit together, intrinsically, and young people sit with other young people. When individuals from different groups mix it is usually because they share something else in common (McPherson et al., 2001).

All of the above observations apply also to the cross-cultural environment of international companies. The common phenomenon of similar people sticking together is coined as homophily. Homophily is a Greek word deriving from the words 'homo' which means 'similar' and the word 'philia' which means 'friendship', therefore the definition of the word is the feeling of friendship for the similar. A simple example is the supporters of the same football team, who feel closer to each other because of this common characteristic. Further described homophily can be described as the likeness for the similar.

The likeness for the similar, in other words homophily, facilitates effective knowledge sharing processes. Similarity enables a smooth flow of knowledge among the members of a homophilic cluster or group. However, homophily can also take the form of a

barrier. According to research interpersonal similarity drives towards effective knowledge sharing, while the interpersonal differences emphasize the difficulties of knowledge sharing (e.g. Mäkelä et al, 20007).

Today's multinational corporation (MNC) has transformed to an international gathering of employees who come from several parts of the world. Heterophily increasingly becomes a consideration in everyday business routines. Diversity is often a separate subject of discussion, but the heterophily it brings in the multinational MNC is an important issue that is likely to increase in the future. Interpersonal level knowledge sharing has been recognized as a fundamentally important aspect of intra-company knowledge flows within the MNC. However, knowledge sharing on the interpersonal level has received little attention, and the focus until now was mostly on the organizational level knowledge transfer.

The heterophily introduced by the modern multinational often becomes an impediment to effective knowledge sharing. Introducing interpersonal homophily, as a possible solution to manage effective knowledge sharing, is only partly solving the problem. The reasons that make knowledge sharing difficult, between homophilic social networks, can be considered as an area of the problem. Additionally, the methods to overcome these difficulties, becomes a topic of research, in order to make knowledge sharing among heterophilic social networks effective.

## **1.2 Purpose and Contribution**

The aim of this thesis is to explore the role of homophily in the creation of ties and the impact this has, on knowledge sharing processes within a cross-cultural environment. Homophily provides a fertile environment for facilitating knowledge sharing within social networks. However, the exact mechanism from homophily to actual knowledge sharing involves intermediate factors that need to be analyzed. The objective of the

thesis is to study the role of homophily in the formation of ties, and how their strength consequently affects knowledge sharing.

The research questions that this study is willing to answer are:

1. *How does homophily influence the creation of stronger or weaker ties within cross-cultural interpersonal networks?*

This question will be answered by looking at the different characteristics of homophily, and how these correlate in the formation of ties, on an interpersonal level. Is less homophily creating weaker ties and more homophily stronger ties?

2. *To what extent do these ties, either weak or strong, have an impact on knowledge sharing within an interpersonal social network?*

Depending on the strength of the ties formed, homophily becomes a catalyst or a barrier in different contexts such as knowledge sharing. Therefore, this research question is willing to answer what is the impact of interpersonal ties, on knowledge sharing.

Overall, the scope of this study is to contribute to the research on interpersonal knowledge sharing, based on the degree of homophily that appears in their social networks. In general there is relatively limited search regarding interpersonal knowledge sharing (Kildurff & Tsai, 2003), and how the strength of ties can affect it. However, homophily and social networks theory have been extensively researched on a sociological level (e.g., Bott 1928, Hubbard 1929, Wellman 1929) but not deeply in relation to knowledge sharing.

### **1.3 Scope of the Study**

The present study is relevant to many different branches of the research field. However, the development of this research study will only focus on answering the research questions, without expanding to other fields of research. The literature review of the study has been mainly structured by relevant to the study theory. Also the literature review will include some extended literature that is not part of the research itself but rather enable the explanation of some of the findings.

The social capital theory and the theory of clustering are not main elements of this thesis. However, descendents of these theories such as the cognitive social capital will enable the better understanding and interpretation of the findings.

The relationship of homophily and ties will be studied in respect of how homophily builds stronger or weaker ties. In that part some of the homophily characteristics were chosen to be included in the study as a point of reference, but those characteristics are not a subject of exploration themselves. Rather, this thesis is willing to answer how homophily leads to stronger and weaker ties by using those characteristics in order to develop further findings. Also some of those characteristics might be strengthened or weakened by the findings of this study.

Ties, on the other hand, will be studied in relationship to knowledge sharing by relating the strength of certain homophily characteristics in the formation of ties. Therefore do homophilic-based ties, strengthened or weakened by certain characteristics, lead to effective knowledge sharing? The characteristics of knowledge shared will also not be part of this research. This study will not be concerned about the kind of knowledge that is being shared, but about the channels of communication that are being created after the formation of ties between two individuals. Mostly what this thesis is interested in is to explore knowledge sharing interaction by focusing on the means of this interaction rather than on its content. In this study the researcher is not concerned about the type of knowledge to be shared. However, tacit knowledge enables the exploration of the

specific subject since it is the type of knowledge that involves human interaction and interpersonal communication.

As in every research study it is very easy for the author to follow the relevant paths of literature in order to present acquired knowledge. However, that has been proven to lead to irrelevant theory that most probably mislead rather than guide the reader through the study.

## **1.4 Overview**

The thesis is structured in five main sections. Section 1 introduced the research area, by providing a brief background of the existing scientific studies, presented the problem area, as well as the research questions that this thesis is trying to answer, and finally the outline of the thesis.

In section 2, the main theories used as a basis for the study are provided, along with the important concepts, which are analyzed and referenced. In addition to the above, the latest status of the research field is also part of the literature review. The theoretical framework, where all the theories discussed merge to support and explain the research study, is analyzed.

After the literature review is completed, section 3 explains the decisions of the researcher. In that section the researcher presents the methods to be used for the study execution. Additionally, the research approach and the research tools that are used for the data collection are also part of that section.

The analysis of the results of the study is presented in section 4. The main research questions are answered based on the analyzed and processed data followed by the main findings of the research.



Finally, section 5 discusses the main results based on the findings and emphasizes the scientific contribution of this work. Furthermore, the implications for managers and organizations are briefly stated. The limitations of the research are mentioned, followed by suggestions for potential further studies in the field.

## **2. LITERATURE REVIEW**

### **2.1 Homophily**

Individuals with similar characteristics, such as gender, race, ethnicity, age, class background, educational history, language and culture appear to share also similar values (McPherson et al., 2001). The phenomenon that breeds contact between people of similar characteristics, and appears at a higher rate than among people of different characteristics, is called homophily (McPherson et al., 2001). The theory of homophily was first coined by Lazarsfeld and Merton (1954) and it explains that human communication finds much more fertile soil to occur when the source and the receiver share similar characteristics. By homophily, one can measure the degree to which individuals in dyads are convergent or similar in certain features such as demographic variables, beliefs and values (Touchev, 1974). Heterophily on the other hand is the degree of distance that separates pairs of individuals, due to their dissimilar characteristics. Therefore the term heterophily will be used as the opposite of homophily for the purpose of this study.

Communication between the source and the receiver, when they are homophilous, appears to be more effective according to Rogers and Bhowmik (1971). For example, in a context where two individuals share common language, it is also most likely for their communication to be effective. That can be explained, because most probably these individuals most probably share common meanings, beliefs and mutual understandings as well. People are being comforted in interacting with similar others. The attempt for communication, between individuals that are separated by a plethora of different characteristics, requires more effort from both sides to result in effective interaction. Heterophilic individuals might find discomfort because of being exposed to unknown environment, due to inconsistent existing beliefs, values or even cultural background.

Similarity breeds connection (McPherson et al., 2001), but homophily and effective communication breed one another. The more homophily there is, between two individuals, the higher the tendency between them to communicate effectively. The more effective the communication between two members of a pair, the more likely they are to be homophilous. Ineffective communication, is many times, the outcome of failed attempts of individuals to communicate with dissimilar others. The various differences that they might face due to social status, beliefs, or language will probably cause frustration and therefore misunderstandings.

The most common citation in the sociological literature seems to be Lazarsfeld's and Merton's (1954). The term "homophily" helped to merge the observations of the early network researchers, and linked it to classic anthropological studies of homogamy (homophily in marriage formation). Since then the proverbial expression of homophily, "birds of a feather flock together," is used to summarize the empirical pattern.

Similar people tend to contact each other at a higher rate than dissimilar people. The widespread fact of homophily, explains that cultural, behavioral, genetic or material information that flows through networks will tend to be localized. Homophily can be translated into network distance, in terms of social characteristics. In other words, that is the number of relationships through which a piece of information must travel to connect two individuals (McPherson et al., 2001).

Aristotle, in Aristotle's Rhetoric and Nichomachean Ethics, noted that people "love those who are like themselves" (Rackman 1934:1371). Also, Plato in Phaedrus, observed that "similarity begets friendship" (Bury 1968:837). One of the first patterns noticed by early structural analysts was a convergent relationship between the similarity of two nodes in a network and the probability of a tie between (Desehields and Kara, 2000, p. 316).

Earlier studies of homophily were mostly concentrated on small social groups through which ethnographic observers were able to identify all of the ties between the members.

For instance, if those ties were behavioral, like sitting together at a cafeteria table, or reported as in the case of an individual describing the event to his or her close social network (Desehields & Kara 2000). The initial network studies showed substantial homophily by demographic characteristics like age, sex, race/ethnicity and education (e.g., Bott 1929, Loomis 1946), as well as by psychological characteristics like intelligence, attitudes, and aspirations (e.g., Almack 1922, Richardson 1940).

By the middle of the 20<sup>th</sup> century, many researchers focused on the extent of informal segregation in newly desegregated schools, buses and other public places (Desehields & Kara, 2000, p 318). While the observation of relationships eventually lagged behind the study of prejudice and other attitudinal measures, researchers discovered strong homophilous association patterns by race and ethnicity, even though these behavioral patterns were sometimes appearing weaker than the attitudinal prejudice. A second tradition began with the strong assumption that peer groups were an important source of influence on people's behavior. Whether the focus was positive or negative influence, cross-sectional association between some individual characteristic and the corresponding characteristics of that individual's friends were used as evidence for the potency of peer context (e.g., Berelson et al., 1954).

Lazarsfeld and Merton (1954) were the first who defined homophily. At the same time they introduced two types of homophily that contain different characteristics of categorization. That way it is easier to distinguish the homophily coming from external environment and the homophily that comes from internal characteristics. The demographic and social dimensions like age, race, ethnicity, or gender fall under status homophily. Status homophily also includes the characteristics acquired in a course of time and are influenced by the social environment, such as religion, education, and behavior patterns. On the other hand the value homophily, includes the internal behavior reactions and attitudes that are formed through one's personal values (Lazarfelds & Merton, 1954).

In order to make the understanding of homophily easier some researchers introduced categories in which they organized some of the characteristics that measure the different types of ‘differences’ or ‘similarities’. Some of the characteristics are:

### **2.1.1 Demographic Characteristics**

Gender, age, race and ethnicity are some of the characteristics of homophily that can cause people to converge or diverge. Even though the different characteristics provide different formation of groups they still play an important role in the formation of groups (Makela et al., 2007). For instance, race and ethnic, is affected by structural effects of category size on many social features, like education, income, and residence. On the other hand men and women are linked together and that brings similarities in residence and social class. Finally, age homophily takes several roles in different contexts. Homophily on age seems to be very strong in friendships.

### **2.1.2 Social Characteristics**

Religion, education, and social class are some of the social characteristics that one carries with him. However these characteristics one acquires partly from his culture but also intrinsically, by decision. The way people receive and understand information might vary from person to person due to personal traits but also due to educational level differences (Makela et al., 2007). The way people understand one’s humor might be different and can either lead to understanding or confusion.

### **2.1.3 Culture**

Culture can be considered as a social characteristic itself, but is also covers a wider range of one’s background. Considering that one’s point of view, ideas of learning,

religion, communication patterns and way of thinking are all formed in a great percentage through culture, then it is possible to understand how easy or difficult communication can really prove between dissimilar others. Cultural characteristics lay in every single individual and it is even responsible for most of a person's attitudes, communication willingness and stereotypes (Hofstede, 1991). Communication preferences, for instance, are part of the culture. Some individuals prefer less human interaction and more manuals and databases, whereas others are used only to peoples' communication through interpersonal relationships. Getting more into culture's specific characteristics, one can find other smaller details to which Hofstede (1991) refers to as cultural dimensions and those are:

***Power distance:*** More bureaucratic and administrative organizations show formal procedures, which prevent the transfer of knowledge and new ideas. Strong hierarchical level, in other words strong power distance, prevents cross-functional cooperation. The above characteristics might define mostly a culture but in the final analysis are also elements by which people are built with. The hierarchy in different cultures might have different shapes and even different meanings. If in an interaction context, power distance is relatively high, the sender and the receiver are both influenced from their own sides. An individual originating from a country with high power distance would be much more authoritative. Power distance difference in different combinations might work as a catalyst or a barrier in a communication session.

***Masculinity versus Femininity:*** two characteristics that could be considered respectively as holding versus sharing. An individual coming from a masculine background prefers to withhold acquired experience to himself, in order to benefit from that as an individual. An individual coming from a feminine background is willing to share more for the common good and development of the whole (Hofstede, 1991).

***Language:*** Apart from being an essential communication tool, language is a fundamental characteristic of one's background. One's language includes also other specific features such as metaphors and expressions that are hidden in each language and need to be communicated but also understood. Language homophily is very

common since it brings understanding. Individuals who speak the same language tend to stick together because they are able to communicate. These specific features are also part of the tacit knowledge that a sender transfers through a knowledge sharing process by using viewpoints and examples. On the other hand, the receiver has to identify and decode the message sent. If those expressions and metaphors are not common then the receiver will not be able to understand and receive knowledge. In a working environment one of the fundamental tools of communication is the language used through everyday operations.

#### **2.1.4 The paradox of Homophily**

Mäkelä et al., (2007) refer to the homophily paradox, which explains that homophily driven connections can be both positive and negative. These effects have an impact on both the organizational and the interpersonal levels. On the one hand, interpersonal homophily facilitates knowledge sharing between individuals. For instance, sharing a national or cultural background and language increases interaction and therefore leads to more effective knowledge sharing. In this sense, interpersonal homophily can function as a catalyst. On the other hand homophily-driven clustering because of common nationality and language can become impediments of how knowledge flows within the organization. The negative aspect of homophily is possible to block the acquisition of new knowledge, and impede individuals, who do not share similar characteristics, from entering an already created homophilic. Finally the clustering effect can also reflect false familiarity, in different cases.

#### **2.1.5 Interpersonal Homophily**

Language or organizational status increase interaction and results in higher levels of knowledge sharing. In this case interpersonal homophily can function as a virtual bridge

across geographical and functional boundaries, on the other hand clustering based on homophily can also function as a barrier to knowledge sharing between individuals and clusters. Nationality, language and organizational status can become strong boundaries blocking knowledge flow, barriers between senders and receivers that do not share similar characteristics (Mäkelä et al, 2007). Individuals are more likely to be friends if they are geographically close (Feld & Carter 1998).

Age differences, generation gaps, different experiences, common history as well as gender differences, knowledge approach and learning methods can be common among some people but they never stop being barriers between two people trying to communicate. Differences in educational background, but also in the educational level as part of one's personality, will always be part of the difficulties that people have to overcome in a communication session.

## **2.2 Social Networks**

Social network research refers to a variety of studies that focus on relationships and patterns of connections between individuals or social structures, and that typically uses quantitative and graphical analysis methods (Brass et al., 2004; Kildruff & Tsai, 2003). The research focus is on relationships' ties and structures rather than on individual actors and their attributes. Actors – which may be individuals, groups or organizations – are seen to operate in a web of inter-relationships with other actors, while their position and connections within this network structure are seen to both enable and constraint behavior (Brass et al., 2004). Indeed, as Borgatti & Foster (2003) point out, the focus of social networks' studies has been either structuralist (i.e. focusing only on network structures) or connectionist (i.e. focusing on tie connections).

The roots of social network research are found in social psychology and sociometry, combining ideas and concepts from graph theory in mathematics (Granovetter, 1973;



White, 1961; White et al., 1976). Social network theory is one of the few among social sciences, which is not reductionist. That means that the theory can be applied to a plethora of levels of analysis, from small groups to entire global systems. A social network is a set of relationships, which contains a set of objects and a mapping or description of relations between the objects or nodes (Kadushin, 2004).

In general, the concept of network distance involves looking at networks with three or more members or nodes. As the number of nodes in a network grows, so does the complexity of the network. The distance between two nodes in a network is determined by four parameters: (1) the size of the first order zone of nodes in the network; (2) the extent to which nodes in the network have overlapping members in their first order zones; (3) barriers between nodes; (4) agency exercised by the nodes. The region of nodes directly linked to a focal node is called the first order zone (Mitchell 1969; Barnes 1972). The nodes that are two steps removed from a focal node are called the second order and so on. When the first order zone is about an individual person, the term 'interpersonal environment' is often used (Wallace, 1966). This study will mostly focus on the first, and to a small extent to the second order zone. The simplest network is a relationship between two nodes, which is called a 'dyad' or a 'pair'.

### **2.2.1 Social Capital Theory**

Sociologists and network theorists have recently explored the concept of social capital, which is the notion that people derive economic and other benefits from social relations (Adler & Kwon (2002); Coleman (1990)). According to Nahapiet and Ghoshal (1998) there are three dimensions of social capital that are important to consider in relation to the intellectual capital of organizations (i.e., knowledge).

Structural characteristics of relationships, such as who is tied to whom in a social network, compose a form of social capital (Baker, 1990; Burt, 1992). Nahapiet and Ghoshal (1998: 246) refer to a cognitive dimension of social capital defined as

resources providing shared representations, interpretations and systems of meaning among parties. Finally, they include a relational dimension of social capital, such as trust. Tsai and Ghoshal's (1998) found, that the structural and cognitive dimensions of social capital are predictors of trust, although in extension to their findings include at the interpersonal level both dimensions of trust and multiple aspects of social capital's cognitive dimension.

In the structural dimension of social capital, interpersonal trust will be higher when the two parties have a strong tie, e.g., a close working relationship involving frequent interaction (Granovetter, 1973; Hansen, 1999). Tie strength and trust may be correlated, but they are hardly synonymous. In fact, Tsai and Ghoshal (1998: 465) point out that other structural dimension of social capital includes social interaction. For example people can use their personal contacts to get jobs, to acquire information, or to access specific resources. The relational dimension of social capital, in contrast, refers to assets that are rooted in these relationships, such as trust and trustworthiness. The structural dimension of social capital may stimulate trust and perceived trustworthiness, which represent the relational dimension of social capital. So even though tie strength and trust are conceptually distinct, it is still often the case that having a close working relationship with someone means that you also trust that person (Currall & Judge, 1995; Glaeser, Laibson, Scheinkman & Soutter, 2000). Research in social psychology has shown that the mere exposure to a stimulus, including another person, typically leads people to have increased feelings of liking for that stimulus (Saegert, Swap, & Zajonc, 1973). As an expected result then, greater interaction and communication with a knowledge source would make one appear more benevolent to a knowledge seeker (Butler, 1991).

The opposite effect, however, may occur with competence-based trust. Someone who is busy and therefore unavailable is more likely to be seen as a highly competent worker, particularly in knowledge-intensive environments where worker discretion is high. In contrast, someone who seems to have a lot of free time may cause others to wonder why this person is not working. As a result, while available knowledge sources may seem more benevolent, they may also be perceived as less competent.

McPherson et al, (2001) argued that one reason homophilous ties predominate is because demographically similar people tend to have tastes, ideas, and knowledge in common. In part, such people associate with each other because they find it is easier to communicate and work together. Given this, one would expect that demographic categories may be just indicators of more important cognitive and social processes, such as shared experiences, shared language, and strong ties. In other words, the substance of a relationship, e.g., how much people interact or how often they meet face-to-face, is likely to be more important in predicting benevolence-based, and even competence-based, trust than will less distinct variables, like demographic similarity.

Farh, Tsui, Xin, and Cheng (1998) found that age similarity and gender similarity had no effect on the trust placed by Chinese executives in their important work ties once the researchers controlled for the history of the relationship.

### **2.2.2 Cognitive Social Capital**

Uphoff (1999) refers to two different types of capital, the structural and the cognitive social capital. Structural social capital involves various forms of social organization, including roles, rules, precedents and procedures as well as a variety of networks that contribute to co-operation. Cognitive social capital includes norms, values, attitudes and beliefs. Structural and cognitive social capital, are complimentary: structures help translate norms and beliefs into well coordinated goal-oriented behavior.

### **2.2.3 Interpersonal Networking**

Networking is a complex phenomenon, which can be approached meaningfully only in relation to a particular economic, political, social, historical, or cultural context. The actions of the members of a particular network are embedded in the wider structure of

relations in which network activities are both a medium and an outcome. Due to Western dominance in business research, there has been more focus on organizational networks rather than on personal networks. Most of the work published typically relates either to firms (Johanson and Mattson, 1991; Granovetter, 1992) or markets (Gerlach and Lincoln, 1992).

Personal networks, on the other hand, are predominant in most emerging markets. Although every society is built around patterned relationships among individuals, groups, and organizations, they express themselves differently in different cultural settings. Michailova & Worm (2003), argue that ‘personal’ in former social societies, differs from the West in terms of how extensively it is rooted and activated in social and business life and how business success is influenced by the quality and cultivation of personal relationships. This implies that people from different countries and environments have different perception on personal networking.

#### **2.2.4 Interpersonal Interaction in Social Networks**

Preceding research on social networks has focused mainly on structural patterns rather than interpersonal relationships (Borgatti & Cross, 2003). Not much is known about the ways in which kinds of relationships (in contrast to structural properties) enable information flow and learning in networks. Furthermore, interpersonal level social network research has investigated issues such as the impact of individuals’ similarity on network formation (Carley, 1991; McPherson & Smith-Lovin, 1987; McPherson et al., 2001), or power and influence (Brass, 1995; Krackhardt, 1992).

### 2.2.5 Clustering

The term ‘clustering’ has been defined as the formation of sub-groupings within networks, following a definition commonly used in the social networks tradition (Watts, 1999). Human society takes many forms, including social exchange (Emerson, 1981), partnership (Stevenson and Greenberg, 2000; Kurzban et al., 2001), friendship (Lazarsfeld and Merton, 1954; Kadushin, 1995), kin relationships (Daly et al., 1997) and mating relationships (Buss, 1994). Each of these social domains can be interpreted as having produced a set of adaptive problems associated with them, such as joining cooperative groups (Kurzban & Leary, 2001), directing investment in others (Trivers, 1971), attracting a good mate (Miller, 2000) and so on.

Social networks have a clustering structure. Clustering can be considered the most important unsupervised learning problem; so as every other problem of this kind, it deals with finding a structure in a collection of unlabeled data. A more loose definition of clustering could be ‘the process of organizing objects into groups whose members are similar in some way’. A cluster therefore is a collection of objects, which are similar between them and dissimilar to objects that belong to other clusters. Clustering is present in organizational as well as in individual networks and has important influences on the individuals involved (Kadushin, 1995).

In a way the goal of clustering is to determine the intrinsic grouping in a set of unlabeled groups. Clustering can be applied on many fields of research such as marketing, biology, and library organization but in this study it is discussed in the context of social networks and how groups of people with similar characteristics stick to each other.

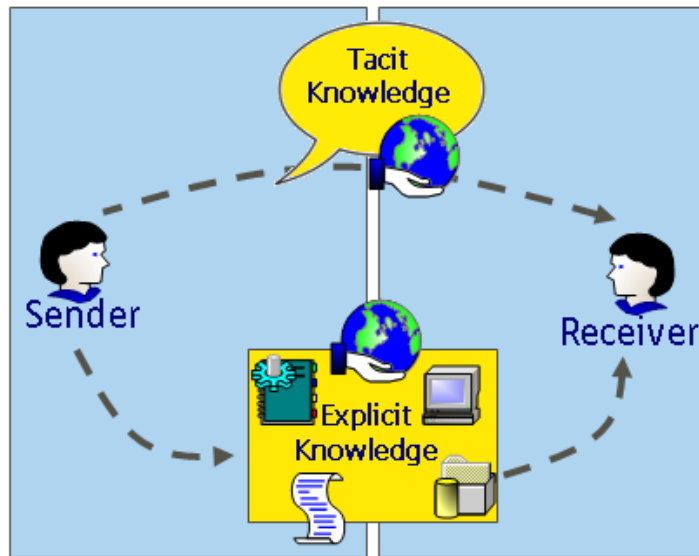
### **2.3 The Concept of Knowledge**

In an attempt to define knowledge one could say that it is the combination of facts, information and skills acquired by a person through education, experience and their extensions in a theoretical and practical understanding of a subject. Or even better, knowledge is the body of truths or facts accumulated in the course of time (Random House Webster's 2000).

Most commonly the knowledge literature is focusing on the type of knowledge being transferred (Cohen and Sproull 1996, Szulanski 1996, Uzzi and Lancaster 2003, Zander and Kogut 1995). For instance knowledge is very often divided in tacit, the one that is difficult to articulate and explicit or codifiable knowledge (Nonaka 1994, Polanyi 1966).

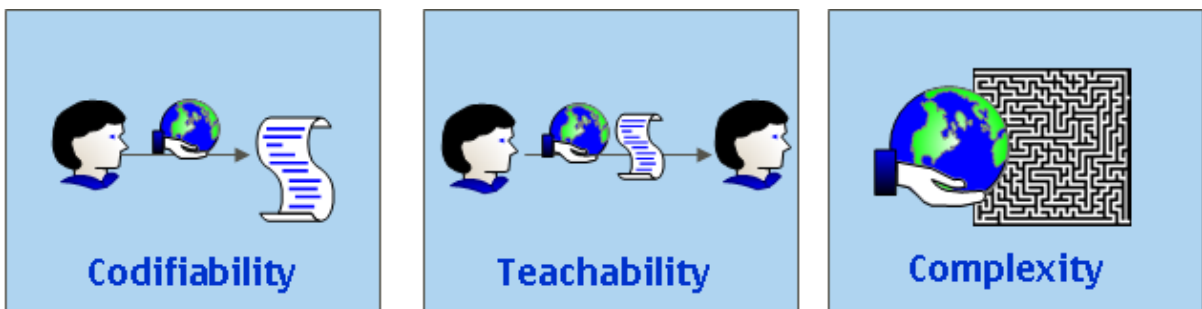
Even though the meaning of knowledge itself is difficult to capture, there are a few characteristics of it that can be measured. Knowledge can be very complex and that makes its transfer difficult. However, there are certain aspects of knowledge that have to be taken into consideration, since they can facilitate difficulties in knowledge transfer. Those factors are related to a) the knowledge that is being transferred, b) the environment in which the process is taking place c) the sender and the d) the receiver. The sender and the receiver are often referred to as the relationship context related factors (Riusala & Suutari, 2004).

One common characteristic, in terms of knowledge transferability are the two types of knowledge that exist. The kind of knowledge that cannot be transferred through formal procedures such as documents, formulas and manuals is called tacit. Tacit knowledge can be transferred by interactivity, interpersonal communication, interaction and sometimes even without statements. It is sometimes called knowledge of experience. On the other hand, the type of knowledge that is being transferred through documents, blueprints and technology is called explicit knowledge, where personal interaction and physical presence are not required. Figure 1 illustrates the two types of knowledge.



**Figure 1. Tacit and explicit knowledge**

The three elements that are usually used to measure knowledge are codifiability, teachability, and complexity, as shown in Figure 2.



**Figure 2. Elements that measure knowledge**

Each one of them, respectively, measures the ability of knowledge to be spoken through documents, the ease by which knowledge can be taught and finally the crucial elements that take part in a knowledge transfer session (Kogut and Zander, 1993).

This study will mainly be concerned about tacit knowledge. Not by definition, but since explicit knowledge does not involve human interaction, the transferability of explicit

knowledge cannot be that relevant to the present thesis. Tacit knowledge on the other hand is the type of knowledge that needs human interaction, therefore is corresponding to the needs of this study.

Tsoukas and Vladimirou (2001, 983) define knowledge as an individual capability to draw distinctions, within domain of action, based on an appreciation of context or theory, or both. That definition will also be followed by the present research because it approaches the concept of knowledge as a continuously developing notion that relies on the interpretation of the individual and simultaneously it is implanted in the individuals working environment (Tsoukas, 2000)

## **2.4 Knowledge Sharing**

Knowledge management generally refers to how organizations create, retain, and share knowledge (Argote, 1999). The study of knowledge sharing, which is the means by which an organization gains access to its own and other organizations' knowledge, has emerged as a key research area from a broad and deep field of study on technology transfer and innovation, and more recently from the field of strategic management. Increasingly, knowledge-sharing research has moved to an organizational learning perspective. Indeed, experience and research suggest that successful knowledge sharing involves extended learning processes rather than simple communication processes. Ideas related to development and innovation, need to be made locally applicable, with the adaptation being done by the 'incumbent firms' (Nelson & Rosenberg, 1993), or 'the local doers of development' (Stiglitz, 1999), for the ideas to be successfully implemented.

The literature identifies five primary contexts that can affect such successful knowledge-sharing implementations, those being: the relationship between the source and the recipient, the form and location of the knowledge, the recipient's learning



predisposition, the source's knowledge-sharing capability, and the broader environment in which the sharing occurs. A synthesis of this research suggests three types of knowledge-sharing activities to be evaluated.

First, analyses of the form and the location of the knowledge are important because each can affect the types of sharing processes that will be necessary as well as how challenging these processes might be. Secondly, the types of agreements, rules of engagement and managerial practices adopted by the parties are important to evaluate, in that they can shape both the flows of resources and knowledge between the parties and the actions taken to overcome and accommodate significant relational differences between the parties. Thirdly, the specific knowledge-sharing activities used are important since they are the means through which the parties seek to facilitate knowledge sharing.

People prefer to turn to other people, rather than documents for information according to Mintzberg (1973), and Allen (1977). The last found that scientists and engineers were five times more likely to turn to another person for information rather than to an impersonal source of data. In general researchers have been found to consider relationships much more important sources for acquiring information (Burt 1992), learning how to do one's work (Lave and Wegner 1991), and solving complex problems (Hutchins 1991).

Knowledge sharing is possible to occur at many levels such as the inter-national level which covers the cross-national boundaries, the inter-unit level which covers the national boundaries among the different units of the organization, the interpersonal level which covers the knowledge sharing among individuals that share the same kind of vision and maintain relationships through interaction and finally the individual level which covers the single individuals that are motivated to share knowledge. This thesis is going to focus on the interpersonal level knowledge sharing, so that its main concern is to explore how these networking threads are being impacted by the strong and weak ties that link their nodes.

### **2.4.1 Interpersonal level knowledge sharing**

As discussed earlier, knowledge sharing is a process that can take part in many different levels in the organizations. Previous research is mostly concentrated on the knowledge transfers occurring between subsidiaries and different inter-organizational units (Foss & Pedersen, 2002; Szulanski 2000). King (2006) refers to knowledge sharing among individuals, within teams and among organizations. The focal lens of this thesis is mainly going to be on the interpersonal level knowledge sharing. More specifically, how homophilic ties, of different strength, affect knowledge sharing in an interpersonal network.

As Mäkelä (2007) deepens in her study, interpersonal knowledge sharing can become very beneficial to a firm. Also Brass et al., (2004) notes that the interaction of two individuals, not only represents an interpersonal tie, but also the groups of which they are members.

Interpersonal level knowledge sharing is a process that can be very complex. Depending on the different elements that get involved, this process can be difficult or easy. These characteristics can either take the role of catalysts or impediments. Knowledge sharing is not just a simple transfer of knowledge from one person to another it has to be a mutual investment for both sender and receiver in order to be effective. The various elements that take part in the process not only they have to do with the sender and the receiver but with the knowledge that is being shared as well. As discussed earlier the context in which knowledge sharing takes place in, can highly affect the process. Certain environments can be beneficial or harming to knowledge sharing.

The literature identifies five primary contexts that can affect such successful knowledge-sharing implementations, those being: the relationship between the source and the recipient, the form and location of the knowledge, the recipient's learning predisposition, the source's knowledge-sharing capability, and the broader environment

in which the sharing occurs. A synthesis of this research suggests three types of knowledge-sharing activities to be evaluated.

***Relationship of sender and receiver:*** One of the possible reasons that may lead to failure is the relationship between the people involved in this process. The sender's and the receiver's relation is of great importance in a knowledge sharing episode. In the case that the knowledge type is tacit, a number of individual exchanges is required by default, therefore the success is partly dependent on the ease of communication between the two parties. Sometimes the lack of relationship itself is considered as one of the most important factors of stickiness (Riusala & Suutari, 2004). In order to share, people, first need to trust. Since knowledge sharing is a transaction, both the sender and the receiver need to have the common feeling that they are accepted, trusted but also that the information that they are going to share is going to be safe in each others' hands. In a knowledge sharing interaction however, there is always the fear that the asset of knowledge is going to be misused by the receiver, or even that the receiver is going to take credit for it, in an unjust event. On the other hand, if the receiver does not trust the sender there might be a doubt about the credibility of the disseminated knowledge.

***Form and type of knowledge:*** The form and location of knowledge are two very important variants that concern knowledge sharing. Knowledge can be either tacit or explicit and can be respectively found in other individuals or blueprints, manuals and databases. However, this thesis is only interested in tacit knowledge, since this is the type that involves human interaction and human communication in order to be shared.

***Absorptive capacity*** measures the ability of the receiver to absorb knowledge. Absorptive capacity is strongly related to the cognitive basis of the individual that also includes previous related knowledge and diversity of background (Cohen & Levinthal, 1990). The more prior knowledge the receiver has, the easier it will be for the new

knowledge to be absorbed since previous knowledge will be used as a “bridge” for accumulating new knowledge.

***Ability of the sender to share:*** The equivalent of absorptive capacity on the sender’s side is the ability of the sender to share knowledge. Interpersonal skills and the will to communicate can only work as catalysts, in addition to the natural talent of personal networking. Social impediments are also a very important part of the picture, since they might affect many individuals in total but still since individuals are crucially affected by their social culture these barriers cannot be overseen. Sometimes the ability of the sender to share is interconnected with the sender’s motivation as well. Apart from being capable of sharing acquired knowledge, a sender faces also some demotivators. Some of those are:

***1. The threat of losing power:*** Knowledge can be used to take action and to enforce influence. To pass knowledge to colleagues might promise some of these potentials. Those who do not own any valued knowledge have the disadvantage of not being able to act or to influence respectively. From a business point of view, this applies to knowledge about customers, competitors, suppliers, procedures, etc. In a case like that, a sender who passes on knowledge, to a receiver, loses the exclusiveness of his or her influence, which might have suggested some job security and respect. Knowledge can be considered as a form of power, and experts with rare knowledge have high reputation and monopolies of it causes hoarding instead of knowledge transfer. Especially when job security is low, knowledge might be seen as a kind of insurance against losing the job. In special industries, like professional service firms, the employees are competing directly with each other through their special knowledge, competencies and talents. It might be part of the individual’s culture that the high performing employees compete for limited positions on the career path. But the drawback of the competition is obvious: workers would be very careful to share openly their knowledge with colleagues, because they possibly give up an individual lead. In this case companies often offer incentives and rewards in order to build a unique expertise in a certain area (Disterer, 2001).

**2. *Exposure:*** Passing on knowledge or sharing work that one has achieved and then make the related results available on a database is many times perceived as exposure by a sender, since it reveals knowledge of a certain value and personal investment. If this effort and work is not recognized, accepted and passed on by others the sender might even feel disappointment. It is very common that people try to correct someone with the attitude of improving one's knowledge in order to show their own expertise, and experience on the given subject. The not-invented-here syndrome can very easily be linked to exposure since the attribute of not using foreign knowledge is being shared (Disterer, 2001).

**3. *Lack of awareness:*** Not being able to identify and realize the actual value and benefit that is going to be accumulated when transferring knowledge to others, is one obstacle that can be seen on the sender's side; sometimes people do not know or do not have full understanding of the usefulness of their knowledge. Therefore they do not consider that by sharing their acquired knowledge would help to the development of the sharing process. Also, in the same category we should consider those that they do not know that their possessed knowledge should be further disseminated and the methods of transferring their acquired knowledge (Disterer, 2001).

**4. *Lack of feedback for the sender:*** Transferring knowledge may be seen as extra work, because of the time for documentation, communication, etc. Apart from the lack of time, that frequently occurs, some employees do not feel that they get something in return from transferring their knowledge. Moreover, even if people do not expect feedback for their contributions, the somehow natural question 'what is the benefit for the individual', is often not answered for those that suffer from lack of motivation. There is an internal need for employees in order to feel self motivated and an answer to the question why to care about it. In many cases though, the ones that are benefited from shared knowledge are colleagues in the long term. A balance then in the

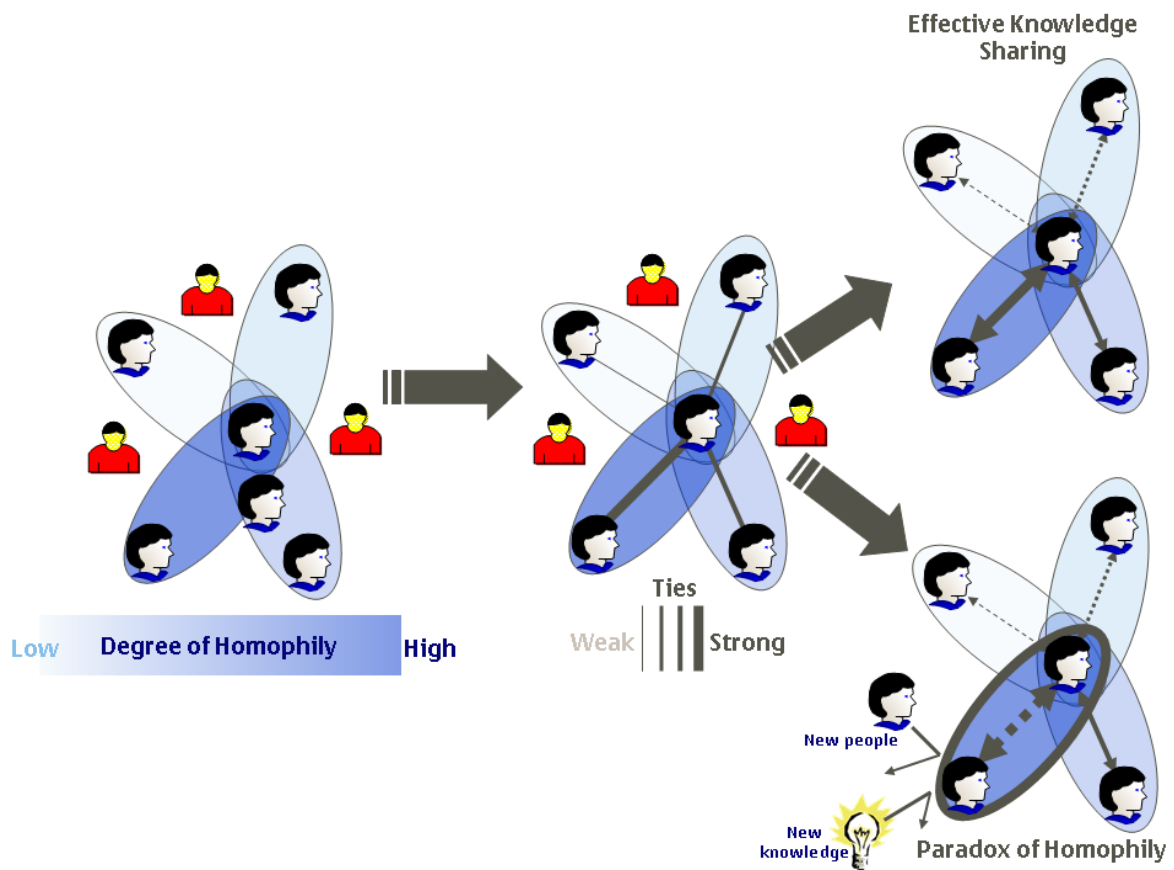
relationship of the sender and receiver has to be established in order for the results to be fertile. The unconditional selfish-less knowledge sharing is easier in theory than putting it in practice. Therefore often the commitment to knowledge transferring fails (Disterer, 2001).

## **2.5 Theoretical Framework**

The theoretical framework is the part of the thesis, where literature review finds its place, the framework in which definitions will be combined is defined, and the context in which the research is taking place will be outlined. The given thesis study is aiming to knit together the notion of homophily as a facilitator of ties and the power of ties as facilitators of knowledge sharing. The research is willing to break down the composition and explore whether, homophily and knowledge sharing can be linked directly or if there is an extra link that holds the chain together.

The research study is basically consisted of two parts the first part is willing to answer how homophily or in other words the likeness for the similar can affect the strength of ties between relationships, and the second part is aiming to answer how these ties that can be either weak or strong can affect knowledge sharing on an interpersonal level social network. Apart from that, the theoretical framework will be considering the various other factors that maybe involved but not participate in the study.

So far, the peripheral literature terms and explanations that are required, to support the research as a helping hand to guide the reader, have been presented and the research questions have been established. In order to have a more visual idea of the theoretical framework there has been developed a figure that demonstrates it more clearly.



**Figure 3. Link between homophily, interpersonal ties and knowledge sharing**

As shown in Figure 3, homophily or similar characteristics tend to breed connections. These connections, depending on the degree of homophily between individuals, become strong or weak ties. These ties, either weak or strong, are part of an individual's personal social network, and by that is meant that the social network of an individual is composed of ties stronger or weaker. The second aim of the research is to answer how these ties affect knowledge sharing within these networks. Finally, the thesis is willing to explore the role of the homophily paradox in knowledge sharing.

As discussed in the literature review section, homophily is the activity of people with similarities, which draw them together. The level of homophily can vary on a scale of strength and weakness due to the amount of common characteristics that bonds the individuals of the relationship. The connections that are being formed between these

individuals might be affected by the amount of homophily that there is present between them. Based on the literature above, these ties have different strength, within different relationships, therefore they can be weak or strong.

The first research question is willing to explore, understand and explain whether homophily, depending on its strength, is capable of being responsible for the creation of strong or weak ties. When there is more homophily, does it necessarily mean that the tie being created will be stronger or not. Less similarity leads to weaker ties? Then, after answering the first research question, the study continues to answer the second research question whether homophily, along with the strong and weak ties that it forms, is affecting knowledge sharing on an interpersonal level social network. The interpersonal level social network as defined in the literature review is the first order zone, which means that it is the social network formed by one step links. Even though the subject has been contributed by Mäkelä (2007), these studies have provided basic foundations for the literature on the topic of research along with the classically established contributions of Nahapiet & Ghoshal (1998); Nanoka (1994) on the field of tacit knowledge sharing. Summing up the second research question is targeting to find patterns on if individuals share knowledge in their social networks depending on the strengths of relationships they hold with the other party of the 'dyad' or pair.

Evidence shows that there is a greater tendency for interaction that can influence knowledge sharing in many ways (Mäkelä et al., 2007). Homophily limits people's social interaction in a way that the information they receive is not as broad as it could. The same happens with the attitudes they form, the interactions they experience but also the choice of the interaction partners. In a way this can be explained if one considers that the information is only coming from a limited number of stimuli. On the one hand homophily on an interpersonal level facilitates knowledge sharing between individuals and clusters (Mäkelä et al., 2007). However homophily-driven clustering can also take the form of a barrier to knowledge sharing. In that case the similarities that people might share can become impediments in knowledge sharing processes. Homophily can restrict new knowledge acquisition, may instigate entry barriers to those who do not share similar characteristics and finally the clustering effect caused by homophily can



also show false similarity.

Furthermore language or organizational status increases interaction and results in higher levels of knowledge sharing. In this case interpersonal homophily can function as bridge across geographical and functional boundaries. On the other hand, clustering based on homophily can also function as a barrier to knowledge sharing between individuals and clusters. Nationality, language and organizational status can become powerful boundaries of how knowledge flows, barriers between senders and receivers that do not share similar characteristics (Mäkelä et al., 2007).

More recent research focused on the individual level knowledge sharing within organizations. Borgatti & Cross (2003) stated that the relational characteristics had a strong predictive power on the information-seeking patterns of individual managers, and Cross & Cummings (2004) proved that individual performance in knowledge intensive work was associated with an individual's network characteristics, such as engaging in relationships crossing organizational boundaries. Finally, Uzzi (1997) and Uzzi & Lancaster (2003) concluded that different forms or relational ties promoted different forms of knowledge transfer and learning, suggesting that information exchange in embedded ties is more tacit and holistic than in arms-length ties, which are characterized by the exchange of factual data.

### **3. RESEARCH METHODOLOGY**

In this chapter the researcher demonstrates the research approach that is going to be used throughout the study and describes in further detail the methods used for data collection. Additionally, there is a methodological discussion that contributes to the credibility of the thesis. Finally, the purpose of the chapter is to analyze the research methods and present the research approach in order for the readers to position the view point of the researcher.

#### **3.1 Research Approach**

The research approach used during a study not only defines the perspective of the researcher and the way the research will be conducted, but also indicates some basic steps that are essential during the study. In order to develop a research, the author has to decide what kind of approach to use in order to execute his study. There are two kinds of research approaches and those are the deductive and the inductive approach.

The deductive logic develops from the more general to the more specific. This approach is often, informally, called a "top-down" approach. Starting by thinking up a theory related to a topic of interest, then narrow that down into more specific hypotheses that can be tested and finally narrow it down even further and assemble observations to apply the hypotheses. This ultimately leads to the opportunity to test the hypotheses with specific data -- a *confirmation* (or not) of the original theories. (Trochim & Donnelly, 2007)

On the other hand the inductive approach develops from specific observations to broader generalizations and theories. Inductive reasoning, begins with specific

observations and measures, detects patterns and regularities, formulates some tentative hypotheses that can be explored, and finally ends up by developing some general conclusions or theories (Trochim & Donnelly, 2007).

When comparing the two approaches one can say that the deductive theory performs more as a confirmation of given hypotheses, while the nature of inductive theory is much more exploratory and open-ended. Given the characteristics of this study one would say that the present thesis stands between the two. Even though the inductive approach is more appropriate to address the research questions of this study, however there are some deductive elements included in this research, such as the hypothetical connection of homophily, ties and knowledge sharing. Furthermore the study might support part of itself on theory coming from deductive approach, however the empirical testing will have the form of inductive logic and put more emphasis on exploring how homophily and ties affect knowledge sharing.

### **3.2 Data Collection**

Data collection is the tool that the researcher used to collect the data needed to develop the study. In the context of this study, interviews were conveyed face to face, which were all recorded and fully transcribed. The interview guide as well as the interview themes discussed can be found in the Appendix. The interviews were conducted in English since, firstly, it is the language used in the working environment of all interviewees, and secondly, the language that the interviewees and interviewer share in common. Finally, the researcher was also the interviewer in all interviews, so that the responses would be filtered and decoded through the same lenses, a fact that can also add value to the consistency of the findings.

In order for the inductive approach to flourish, there is a certain number of tools need to be present throughout the study, since the target of the inductive method is to acquire as

much data as possible in order to be able to detect possible patterns that might appear among the results. Later, those results will lead to the conclusions, therefore the nature of the tools have to be capable in order to provide the research with open ended as much as unbiased and unlimited answers.

A way to be able to come to results of that nature is to conduct semi-structured interviews. In this study the results have been gathered by semi-structured interviews that meet the requirements for this study's expectations in terms of data collection. In that way, the large quantity of information that is needed can be acquired in relatively short period of time (Marshall & Rossman, 1999). Semi-structured interviews allow the questions to be flexible and somehow be led by the interview itself, and also highlight the answers. Furthermore new questions can be brought during the interview as a result to what the interviewee says. In addition to that, interviews give the opportunity of face to face communication, which provides with the valuable feedback of body language, which can prove very helpful not only in the decoding process of the data but also in understanding the consistency of the actual responses in relation to the hidden ones. Face to face interviews are beneficial because questioning can be adapted to the answers of the person you are interviewing. Even though the order of the questions can be more flexible and does not have to appear in a specific order, the researcher decided for the interviews to start with more of the open ended questions and later involve in the interview some more specific queries. In that way the interviewee would be able to confirm the previous answers or in away be reminded of issues that might be important but overlooked due to the flow of conversation. Also, an interview conducted like this will double check if the interviewees are actually saying what they think.

The researcher conducted interviews with 9 individuals, a relatively small sample size, but enough for the purpose of this study. The number of the interviewees was not predefined but rather decided later within the data collection process. During the data collection period there was an increasing saturation in the newly acquired data, and more interviews were not leading to additional information. The first two interviews were used as pilot, so that the researcher had the flexibility to change the questions and

adjust them in real time. Additionally, the researcher needed to make sure that the time considered is enough, if the questions asked are communicated the correct way and if the answers really lead to the correct way of the conversation. Finally, based on the two pilots, the interview outline and questions were updated and fine-tuned, for the upcoming interview sessions.

The data collection for the qualitative analysis took part through a period of two weeks during November and December of 2008. The pilot interviews took place in the beginning of the two weeks, and then, with an interval of four days for the researcher to reflect and adjust the upcoming interviews to the emerging needs or final corrections, the rest of the interviews were conveyed. The respondents were selected based on their following characteristics. In order to test homophily by selecting the sample interviewed the respondents should have a certain level of difference but also possible similarities. The interviewees' sample used was combined by foreigners working in international environments for many years, where the common language of the working environment is English and their occupations were varying as well as the companies they work for. The total number of people interviews was 9 and the countries of origin were: Greece, Romania, Turkey, Portugal, Thailand, Latvia, and Philippines, as shown in Table 1.

**Table 1. Distribution of interviewees, based on country of origin**

<b>Country of origin</b>	<b>Amount of interviewed people</b>
Latvia	1
Greece	2
Philippines	1
Portugal	1
Romania	2
Thailand	1
Turkey	1
	Total: 9

Moreover, the sex and the marital status of the interviewed people are shown in Table 2.

**Table 2. Distribution of interviewees, based on sex & marital status**

<b>Sex</b>	<b>Amount of interviewed people</b>
Male	5
Female	4
<b>Marital status</b>	<b>Amount of interviewed people</b>
Finnish spouse	5
Non-Finnish spouse	3
Single	1

The interviews were voice-recorded for two major reasons. The first one was the convenience of the interviewer, so that the discussion would be really depending on mutual interest and interaction rather than an impersonal note-keeping process. Secondly, the data should be available for further analysis, which cannot be the case if the interviewer does not have the data on demand. The researcher also decided to have a small conversation in the beginning of every interview of about ten to fifteen minutes. During that time the interviewer was presenting herself, making a small introduction to the research subject and the purpose of this session. The meaning of some basic notions and ideas about the study were defined, making sure that the interviewee understands the upcoming process. This part of the interviews was not recorded on purpose so that the interviewees gradually feel comfortable through initial casual discussion rather than stressed and also be able to take their time to ask any questions or request clarifications. Also in this part of the interviews the respondents are being informed that their data will be disclosed and only used by the interviewer for the development of the research study and the support of the findings. The actual part of the interview was an average of 35-50 minutes, depending on the interview flow.

### 3.3 Data Analysis

Data analysis is the part of the thesis that copes with the data organizing, decoding and breaking down, but also with the data assembling, utilizing and composing. The researcher at this point has to search for possible patterns that appear through the data, be able to divide the data into usable smaller pieces, be able to put these pieces together and decide about which part of the data can answer the pre defined research questions.

Bogdan and Biklen (1998) describe the process of qualitative data analysis like a funnel: Things are open at the beginning (or top) and more directed and specific at the end (bottom). The qualitative researcher plans to use part of the study to learn what the important questions are. He or she does not assume that enough is known to recognize important concerns before undertaking the research.

Re-reading data and taking preliminary notes on a separate sheet, helped a lot in organizing themes. Later the use of these notes helped to develop an outline or system of classifications into which data is sorted initially (Marshall and Rossman, 1999).

It is very common that the further the researcher is getting involved with the data collection new patterns emerge later in the data review, then the researcher has to review earlier data to ensure that nothing was missed (Marshall and Rossman, 1999).

Keeping personal notes is a very important process throughout the research because while thinking about the study both formally and informally notes about thoughts and feelings associated with the research, provide very helpful in the end when the researcher has to take a step back and remember the viewpoint through which the study is performed. This serves as a way to separate biases from analysis (Marshall & Rossman, 1999).

Krueger (1994, p. 149-151) suggests that researchers consider the following factors when coding and analyzing data: Considering the words is not a sole process in an interview but also the meaning of the words used by participants. A variety of words

have the same meaning. That has to be in the reception of the interviewee to be able to identify the different meanings and also put together the ones that are used for the same meaning. Moreover, a very important part of the feedback is considering the comment or question that triggered a particular response and the tone used by the participant. Making notes of any changes in tones that are noteworthy as they give the chance to go back and listen to the tape if you think the tone is important. These responses may be of special importance. According to Krueger (1994), responses that are more specific may be more important than vague comments. Analyzing each individual comment might cause missing the big idea.

A very important part of the present study was the note keeping throughout the research. The interviews were performed at real time and that means that a number of stimuli are present simultaneously. The tone of voice, the body language the responses as well as the hidden responses, the things that people prefer to answer and those that they are trying to make sound good are very important through the decoding of the responses. While analyzing the recorded material though, there was new data added and the researcher had to combine the notes with the actual sayings to be able to decode the responses.

In order for the researcher to manage the data there had to be some coding steps. Starting by going through the data that seem to answer the research questions was the first step. An important decision at that stage was not to take into consideration yet, the theories that might be familiar with the data collected. Also at that point going through the data and keeping notes with the data that answers the research questions. That way all the irrelevant findings are left aside and the main points of the data are highlighted.

Later the researcher decided what could be notable to quote but also observed through the findings and not through the related literature review. One very challenging thing when analyzing the data is that all the related literature that the researcher has reviewed is coming up. It was important to stay concentrated only at the data at this point and see what the data has to say instead of remembering all the related literature.



Later these notes were to be combined in the discussion, where the researcher tries to merge the findings with the related literature. In this part the theory and literature have to support the findings.

### **3.4 Reliability and Validity**

Examining the reliability and validity of the research of the data collected is a way to assess the quality of the empirical findings used for the research.

However, validity and reliability have their roots in quantitative research, therefore using them as traditional evaluators can prove to be irrelevant in qualitative studies. Nevertheless, the related terms have to be part of the research evaluation process, despite their closer relation to other types of research. A way to strengthen the roles of validity and reliability in qualitative research is by describing in greater extent how the research was processed. Validity and reliability are tools used in order to measure specific values through a research.

#### **3.4.1 Reliability**

Reliability evaluates the consistency of the measuring procedure, whether the results of the study can be reproduced. That can be further explained by saying that a reliable research would bring compatible results if it would be conducted again using the same means. According to Yin (1994), in a reliable study the procedure used for measuring can generate the same results despite the when and how it may be carried out. In other words checking if the results of the study can be repeated but also have a hint of stability and internal consistency of the measures (Bryman et al., 2003).

In the present study the empirical data was collected through semi-structured interviews, which are mostly guided by the interviewee and led by the interviewer.

Even though the responses would be different in a natural extend, if the interviews were conducted again, the core values would be expected to be relatively similar. This study was strengthened by focusing on foreigners employed in the same country and having to adjust in the same culture but in all cases different than their own. Nevertheless, all of these foreigners were working in Finnish companies where English was considered as the common language of communication. In addition to that, the researcher was presenting and exemplifying the interview questions so that they could be perceived the same way by all interviewees, achieving consistant understanding. All the interviews were conducted by the same interviewer, a fact that enhances the reliability, since it confirms that the results analyzed, were seen through the same lenses. Moreover, a contribution to the reliability of the research was done by the face-to-face interviews. The interview guide was taken into consideration in order to fortify consistent understanding of the questions that would also result in relatively consistent responses. In that way the body language of the interviewee was exposed for analysis before the absorptive capacity of the interviewer. Finally, the interviewer utilized some verifying question in order, to indirectly, confirm the responses of the interviewees.

### **3.4.2 Validity**

Validity, which is then composed by construct, internal and external nature, it is a tool that measures whether the study itself is capable of recording what it was designed to. For instance it can measure whether the study's design was able to measure the study's research questions. Validity evaluates the measuring procedure itself, i.e., if the measuring procedure was capable of capturing the aimed results. Valid is a study that measures what it is designed to. Although the definitions of reliability and validity apply more to quantitative research, they also appeal for qualitative observations (Ghauri & Grønhaug, 2002). Bryman et al (2003:33), define construct validity as the answer to the question of whether a measure that is devised of a concept really does reflect the concept that it is supposed to be denoting, and refers to the establishment of correct operational measures of the concepts under study (Yin, 2003).

Although some qualitative researchers have argued that the term validity is of quantitative nature, at the same time they realized the need for an equivalent term, qualified to measure their research. Creswell & Miller (2000) suggest that validity in qualitative research is affected by the researcher's perception and choice of paradigm assumption. Qualitative research assumes that each researcher brings a unique perspective to the study. For instance, Lincoln & Guba (1985) proposed four criteria for judging qualitative research and presented these as an alternative to quantitatively oriented criteria. Their four criteria better reflected the assumptions involved in qualitative research. These criteria are:

**Credibility:** The credibility criteria involve establishing that the results of qualitative research are credible or believable from the perspective of the participant in the research.

**Transferability:** Transferability refers to the degree to which the results of qualitative research can be generalized or transferred to other contexts. From a qualitative point of view the researcher can enhance transferability by doing a thorough work of describing the research context and the assumptions that were central to the research.

**Dependability:** The traditional quantitative view of reliability is translated as dependability in qualitative research and it is concerned with whether one would obtain the same results if he could observe the same thing twice. The idea of dependability emphasizes the need for the researcher to account the context within which the research occurs.

**Confirmability:** Qualitative research tends to assume that each researcher brings a unique perspective to the study. Confirmability refers to the degree to which the results could be confirmed or corroborated by others. There are a number of strategies for enhancing confirmability.

In order to increase this study's validity the researcher tried to document the procedures for checking and rechecking the data throughout the study. To actively search for and describe the negative instances that contradict prior observations, helps to challenge the

results. In order to increase this study's validity, the researcher tried to document the processes in order to check and recheck the data through the duration of the study. Finally, the researcher also tried to contradict prior observations in order to acquire higher confirmability.

### **3.5 Generalization & Objectivity**

Generalization describes the ability of the findings of the study to be able to be applied to the extended cases of the whole population (Lundhal & Skärvad 1999). When research is of quantitative nature then the degree of generalization is more crucial to be analyzed. In qualitative research though, generalization is not so important. Objectivity of a research refers to the orthodox views of the study, without the influence of the subjective views of the researcher (Lundahl & Skärvad 1999).

#### **3.5.1 Generalization**

According to Lundahl and Skärvad (1999), generalization exists when the findings of the study can be applied to other cases or the whole population. However, qualitative researchers do not usually claim generalization of the findings because they produce only a slice of situation rather than whole, especially the concept of generalization is irrelevant when a single case or phenomena is examined (Holloway, 1997). In qualitative research it is more important to analyze the degree of generalization, as demands on reliability vary with the problems investigated. As opposed to statistical generalization, which analyses frequencies, and mainly applies to quantitative research, Yin (1994) refers to analytical or theoretical generalization. Qualitative research cannot be generalized to population and cannot represent a sample. In qualitative studies the researcher is aiming to the generalization of theories, which is called analytical generalization.

As this study was qualitative, and applied on a small sample of people, the researcher does not claim statistical generalization potential. However, this study claims analytical generalization, which is ‘generalization to a theory’. By this is meant that research results are generalized by means of a suitable theory to its scope. Statistical generalization applies from the sample to population characteristics, while analytical generalization applies from experimental findings to theory. As in the case of the present study theoretical generalization is applied by using the findings and conclusions to support similar questions in other contexts.

### **3.5.2 Objectivity**

Lundahl and Skärvad (1999) point out that objectivity of any study implies that no subjective views of the researcher influenced the study and all data was presented correctly. Conclusions drawn from the empirical study should be based on the facts and not subjective ideas. To reach a high level of objectivity in the present thesis, the researcher investigated the conclusions a number of times and compared them to the answers from the interviews, to make certain that they are derived from the valid result of the conducted empirical study, and not through subjective views. While presenting the interview results in the empirical part, personal interpretation was avoided and focus on the presentation of data gained from the respondents was given more attention.

In order to avoid the interviewer’s and the respondents’ bias, the researcher tried to ask verification questions in the end of the interviews. That was a way to double check if the responses were authentic, if the interviewees were actually saying what they were thinking and finally to verify some major points of each interview. Also from the side of the interviewer, the researcher tried to make as general questions as possible in order to not determine the discussion but just guide it. Finally after the data was collected, going through the data many times with time intervals in between and keeping different notes every time lead some times to similar results but also to new insights.

## **4. RESULTS & ANALYSIS**

In this chapter the findings will be explicated and analyzed with regard to the theoretical framework of the research study. The discussion is being unfolded on the blueprint of the theoretical framework, in order to reveal the possible patterns resulting from the exploration of the research questions. The main purpose of this section is to analyze the findings having as a guide the research questions developed in the beginning of the research study. How do the characteristics of homophily influence the creation of stronger or weaker ties, within inter-personal networks. The second question is further expanding to the extent, where the strength of ties plays a role into knowledge sharing

Throughout the research, a tendency of people having a common interest or some characteristics that could bring them together was clearly visible. One very common approach was that homophily or otherwise likeness for the similar is really important when conducting relationships but mainly in the earlier stage. After the first connection is established people are not so much interested in similarity anymore. They just use it as a first step in a process to get more tied. Similarity then brings people together but it is not enough for people to build relationships of a deeper level. However, it facilitates peoples' instinct to get to know each other better, and afterwards, ties start to form on that but not only based on the commonalities individuals share.

In general people feel more relaxed towards those who are similar to them, because they find the comfort of acceptance and then the feeling that they are understood without really having to explain themselves. Especially in the case of people who are foreigners in a country they find it very natural to bond more with other foreigners since they believe that they share common problems, issues, situations and discomforts.

All of the respondents found the topic very interesting and had a lot of real life examples to bring into the discussion. Even though they had been dealing with

knowledge transfer and sharing in multiple layers, most of them had never thought of it as an actual procedure, rather they unconsciously performed it, as a routine of their every work.

The section of results and analysis will be divided in two subsections that respond respectively to the research questions addressed in this study.

## **4.1 Homophily Based Characteristics**

### *Common experiences*

The impression of respondents about common interests, same viewpoints and similarity was more or less very close for all. Respondents feel that having something in common with another individual is a first step of approaching. Similarity does not necessarily mean culture, language or background but also in terms of proximity and same experiences. Even riding on the same bus with someone everyday can be considered as a common experience. That way, people find a point of intersection or a starting point, for a connection that might continue or not. In other words, they have something to communicate about. This can take several forms. For instance, a change in the bus schedule, an idiom about a language, that two people have in common and so on. All these commons make it easier since explanation is not needed. One of the respondents explained it with the following quotes:

*‘There is guy I work with but I would never have the chance to talk to him if we didn’t take the same bus every morning. After that we took the bus together on purpose and we talked about work’*

*‘Things in common give you comfort.’*

Another point of the study was that since all of the respondents were foreigners they referred to this characteristic of theirs as a first reason to approach another foreigner here in Finland. They mostly used it as an example. When they first moved to Finland they tried to make connections mostly with foreigners, even in the work environment, in an unconscious way, because they thought that with these individuals are sharing the same problems, issues, difficulties and circumstances and as a result these people will probably understand them more. This was a common response by most of the interviewees. Some of the exact phrases they used were:

*'Very important even though I do not realize it, is probably finding other foreigners because you think you have the same problems, being an outsider, and loneliness.'*

*'It is important to have common interests and a good example is foreigners and is much easier since you share the same problems and background. It is not more important by choice. It is much easier to work with similar people because you don't have to work on it.'*

### ***Demographic homophily***

Coming from the same country or having the same mother language with someone is by default a connection point with another person. Demographic homophily is based mostly on characteristics that one acquires the moment of his existence. Therefore those characteristics are of great importance for most individuals. Demographic homophily comes most probably in the most natural way of all the other types of homophily. One of the respondents put it in words like this:

*'Probably I would go to someone that shares the same background, nationality or area, it is something you don't have in mind, it happens naturally. It makes acceptance easier. Even if you are in a foreign culture you know that there is a person that will probably experience things the same way. I do not think it is something that you think, it is very mechanical.'*



### ***Social homophily***

An individual's personal attitude and behavioral traits belong to his social characteristics. One of the things that people mentioned quite often above all was the similar type of humor with the people around them. Even though respondents refer to their likeness of the different as a reason to learn new things, later in the discussion they realize and confirm with their feedback that a common reference point always brings more comfort and that even though consciously you might choose the different, unconsciously you go for the familiar. At that point people start realizing to whom they unconsciously refer to in the working environment. The person who they are sitting next to is most probably the first person they talk to about simple things. People turn to the person closer to them, in the working environment, due to proximity. With that person then, they will most likely develop a connection that gives them the comfort to share their routine everyday information.

*'The same sense of humor is very important between two people, because it involves a lot of sending and receiving through the same channel'*

### ***Culture***

Even though culture can be considered part of one's social characteristic, still it covers a wider range of elements that compose an individual's background. The respondents coming from Asian countries, in the work environment, most likely ask the people around them first. People coming from ex-soviet union countries only refer to the ones who are superior to them. One of the respondents said that she does not consider anyone inferior, compared to her, but she would only take an advice from a superior, who she considers more experienced. Also people coming from countries where there is power distance usually refer to people hierarchy wise. Some of the responses respectively were:

*'The first person I will ask is the own sitting next to me, then the people around, if they don't know then I will go to someone else.'*

*'I will go for advice to someone who is superior to me. Not that I think someone is inferior, but I will go to the more experienced one.'*

### ***Language homophily***

Language was, sometimes, overseen by the respondents. But when they were reminded they were giving value to its power. Most of the respondents did not consider a mother language important. Their response was that just a common language gives you also some homophily and possibility to communicate with others. However all of the respondents agreed that when you share a common mother language with an individual it's much easier to be understood and also easier to communicate a message as you have it in your mind:

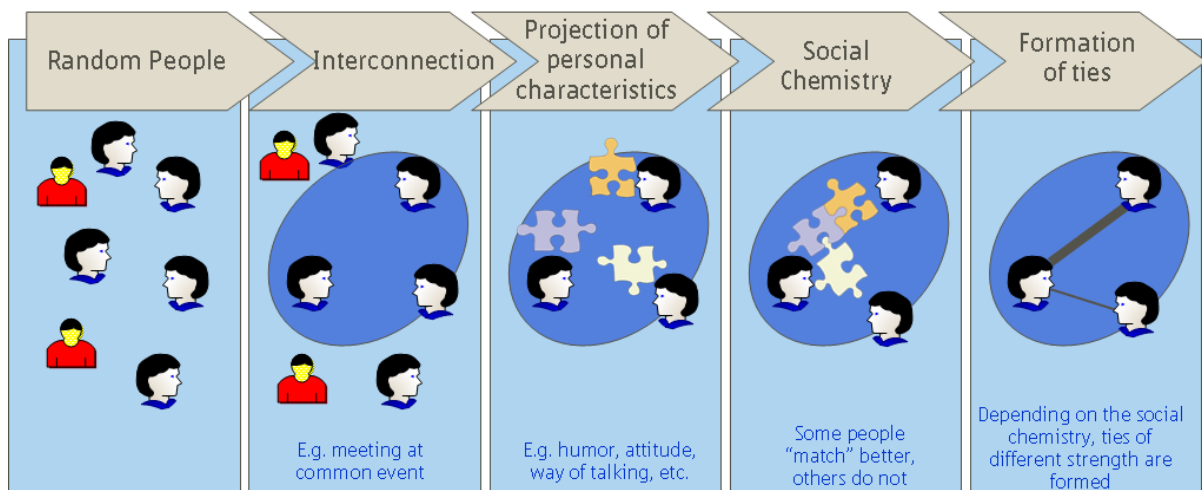
*'Since you are a foreigner it is much easier to go and approach a person that most probably speaks the same language with you.'*

## **4.2 Homophily Facilitating Ties**

Very often, the respondents refer to the people they know better or trust. In that case many of them point out their spouses as their first response, and as a second alternative to friends as well. Only a few of them prefer to turn friends who they know from work, because they believe that their spouses will not understand. Some of the respondents, who happen to work with their spouses, mentioned them as the first person they contact to discuss a work related issue. The above pattern appears among all the respondents that have been working with their spouses in the same environment.

*'The first person I contact is my husband since we work together, it makes it easier to contact him first.'*

Throughout the study one of the patterns that appeared was that homophily or similarity is probably the reason why people create connections. So, in order to create a connection with another person there must be a point where the two individuals interconnect. That can be a common interest, sharing the same apartment, having a same experience, speaking the same language. Later in the equation comes something that would determine if the initial contact would convert into a longer or deeper relationship. This is what the researcher calls *social chemistry*, which encompasses unique personality characteristics, such as humor, way of talking, attitude and self-projection to external world. Social chemistry is what develops further and leads to stronger ties. If not, the point of connection is done but the ties remain weak, as shown in Figure 4.



**Figure 4. The role of social chemistry**

*'Homophily is important to discover friends, common interests are only there to bring people together.'*

Ties in general can exist but do not always have the same strength. People create different ties with different individuals. But for all of them there has been a point of connection when they have first met. The case is common enough in the workplace. People somehow differentiate the way they perform in the work environment from the way they perform in their personal life.

While in their personal life they trust more the people that they are close to them, in their work environment they trust more their experts or more people that they have been working for years with.

*'I only take advice from people I have checked already, so not just to anyone. I never trust another's opinion as mine.'*

### **4.3 Ties Facilitating Knowledge Sharing**

In general, people are motivated to share their knowledge, based on different criteria. Some other content wise, others people wise, and others distance wise. There is no pattern that appears here but there is one common point of reference. Even if people share without any concerns, they always turn to the ones they trust more in all of the above cases.

*'When I want to share new ideas I go to the appropriate people. Where I feel I am understood and not criticized.'*

*'I will provide help myself, but the other person has to be motivated'*

It is important to feel that the knowledge we share is important:

*'I share an idea when I think it is going to be accepted, not just as brainstorming'*

A representative example is the one of someone who has a few people around him, and he is going to share just because of proximity, among those he will choose the one he trusts more.

Some people consider homophily very important not only in terms of ties but also in terms of understanding.

*'It would be easier to talk about some stuff with someone that you are from the same country because this person when he answers to you will also consider the cultural point of view. And that will be more close to your expectations.'*

In that case homophily is important itself in terms of how people understand each other. When the respondents were first put into their foreign work environment their initial action was to try to blend themselves in. In order to blend in you have to search for similar others. One of the respondents put it that way:

*'The first people you relate to are the ones from your country but later the ones you relate to are definitely not the ones from your country. In the beginning, people that share the same culture with you are like a quick pill that takes your pain away from being alone and then when you can stand yourself then you can see others around you.'*

When people need to share something of importance they go to people they trust. However, in order to get different viewpoints they might go to other people as well. This response is much affected not just by the connections people have but also by the culture they are originating from. Some of the responses were as such:

*'With people we know more we share more of our knowledge that way we feel more comfortable and also appreciated and then also trust so that what you are saying is going to be safe.'*

*'I talk to people I trust but also to people I don't. Trust counts on whether you use the advice or not.'*

Sharing, on the other hand, seems to be more complicated since it involves more interaction. Individuals want to be trusted by others, before they trust someone themselves. But once they trust the flow of communication and information is much easier. People you trust are more likely to understand you but also give you more suitable answers to your questions. Interviewees' responses are quoted below for better explaining what that means:

*'In order to share the other person has to share first. The need has to arise from something. Time is very important in order to offer time for sharing their knowledge. The flow of information through these bonds is easier because you can understand more that person and then be able to know how to handle the process. And also you go to people that know you better because they can understand you better and will give you a more suitable answer.'*

Even though sharing knowledge might many times be a natural thing, respondents also noted the importance of motivation when an individual is required to share knowledge. These responses were related to the research because the feedback explains that individuals are more motivated to share knowledge with people they know rather than with those they do not. People put more effort in a knowledge sharing session when the person they are interacting is connected to them. This can be an obvious outcome from the responses below:

*'One thing is that you should expose your knowledge so the others know what you know. And of course when I am asked. I give it out anyway, through pages on the intranet. Motivation is a matter of the situation. It comes down to how the team is, and somehow they are obliged by work to do it train the others and report your feedback. I share with everybody that wants to listen. Interaction itself matters because if you know the person then you know how to deliver the knowledge and that smoothens down the*

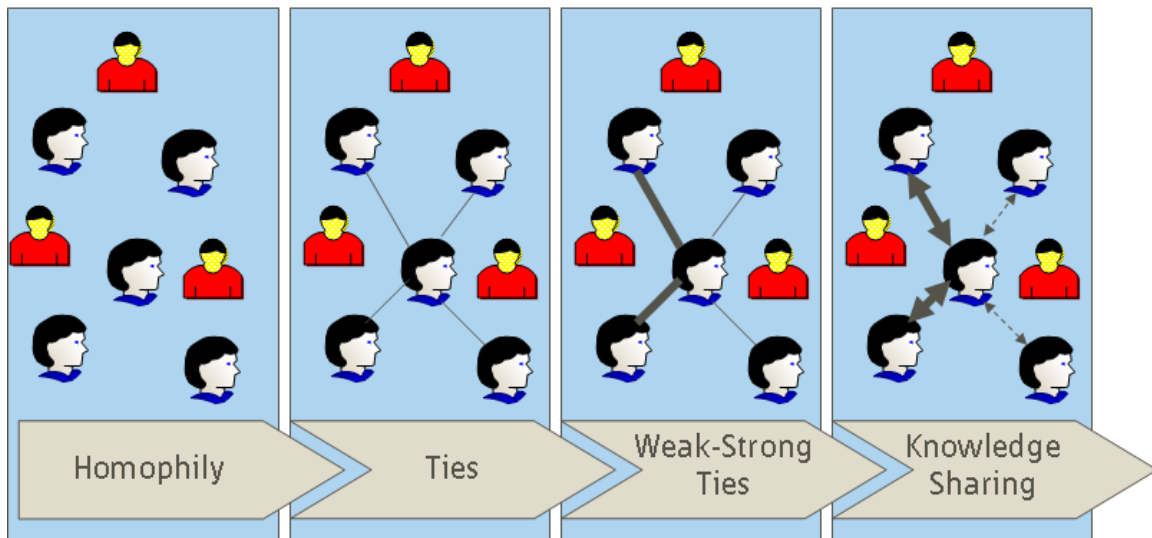
*procedure. And when the person is closer I put more effort into it. If there is resistance, and I know that someone more, I will put more effort into that.'*

On the other hand, a common response was that when feeling threatened people withhold their knowledge. The same applies when they believe that sharing their knowledge can be used against them. Again, though in that case it is obvious that people will share with those they have a tie with or are related through friendship. However the outcome is again the same, individuals prefer to share knowledge with people they are bonded with. A notable quote explains the above in a few lines:

*'There are some people to share with and others that they don't motivate me to. Most of the time it is competitiveness. If a colleague is trying to compete with him he is not going to share but if it is a friend of his he will share and help. He prefers to share people wise and not content wise. With the people he knows better he will share much more he feels more comfortable and safe. He tries to go more to people that are from the same country because he likes them and also feels more comfortable talking to them.'*

*'If I believe that the experience I have will help someone, then I am going to mention it. If I have an idea I am not fond of, I won't share even if he is asked. We talk to people that we trust because they will listen to us and we already have a relationship with them. I am more receptive to people that seem lost. I go to the people that I think will understand me.'*

In general after analyzing all the results there is another pattern that starts to appear. If one can put on a line the terms homophily, ties, and knowledge sharing there would probably appear a process, as illustrated in Figure 5. So in the beginning homophily is all around and that brings people together. From then on people start creating relationships and ties. Weak ties just stay as points of intersection and stronger ties go beyond the point of intersection, after which homophily is no more of importance.



**Figure 5. Knowledge sharing process**

Asian cultures on the other hand are considered more collectivistic. People from more collectivistic countries do things altogether, create connections with each other. Often, they help each other a lot, eat together, and share ideas during lunch time. Even if there are new Asians coming at work they typically invite them to eat lunch together. In that case language is not really a barrier since culture plays a very determinable role.

*'In an international environment, people keep more the characteristics where they are coming from, and the language. For instance people from similar countries are closer and are having same eating habits, they eat together.'*

In general language was overseen a lot by the interviewees, in terms that they did not consider it as a reason to connect to another person. At the same time they admitted that sharing a common language indeed makes communication easier and more fluent. Some of them stated that only a common language is important, which does not have to be the mother language itself. At a later stage, they agreed that some metaphors, meanings and experiences can only be understood by people sharing the same language, in a course of knowledge sharing.



Another interviewee though quotes that it would be easier to go to a person that speaks the same mother language because some things can only be said in one's mother tongue.

*'Language is not a barrier to me. If I like the person and we have same interests then it is ok. I do not have a problem with other cultures but maybe other cultures have a problem with me. The first attempt is to go to people with the same language as me, because I can easily say hi and start a conversation. It is important only in the beginning though, and then it is not so important anymore'*

After making the connection, same habits might offer additional value in relationships.

*'Lunch break together also bonds the team. But those that cannot attend they miss a lot of the team building. So everyday routines is more important for team building.'*

All the above data collected was aggregated and converted into some higher level findings, which are discussed in the following section.

#### **4.4 The Paradox of Homophily**

Many respondents said that they prefer people who are different from them, because that way they can learn something new.

*'I like people that are different from me, that way you learn new things'*

Other individuals identified that they might fall in 'false familiarity', just because they share the same language with others. The same finding though might not be visible when one is in his own home country.

*'Artificially I tried not to meet people that speak the same language at work, because language would be the only reason we hang out.'*

*'Indeed a common language is important to communicate with. I don't like to use my mother language, I try to avoid it and people don't know what my mother tongue is. I do not like mixing with the same.'*

## 5. DISCUSSION & CONCLUSIONS

This chapter presents the summary of the findings and highlights the suggestions for managers and organizations. Furthermore, this chapter demonstrates the limitations of the study, as well as it illustrates some concluding remarks and recommendations for further research.

### 5.1 Summary of Findings

The first chapter started, by introducing the problem and the scope of the study. The problem area was then looked through the lenses of both theory and practice, questioning whether the level of homophily involved in ties, affects knowledge sharing in an individual's social network. In order to be able to answer these questions the researcher set the following two research questions:

1. *How does homophily influence the creation of stronger or weaker ties, within cross-cultural interpersonal networks?*
2. *To what extent do these ties, either weak or strong, have an impact on knowledge sharing, within an interpersonal social network?*

Homophily, or in other words the likeness for the similar is a characteristic appearing not only in theory reviewed earlier, but also in practice. Individuals, most of the times unconsciously, tend to look for the ones that make them feel more comfortable. People coming from the same country, sharing the same culture or language have greater chances of meeting but also connecting to each other. Similarity does not always have to be connected to culture. Sometimes it is a matter of chance or even coincidence.

Common experiences, shared interests and proximity can also be considered as homophilic characteristics. In other words, those are reasons for people to stick together.

When two individuals now have had a first point of connection due to a homophilic event (e.g. having lunch together), there is greater possibility for them to know each other better, and therefore a bigger chance for a tie to be formed. Ties are formed between two individuals when there is something that connects them. A representative example can be the one of people that work together, on a specific project for a fixed period of time, these individuals will probably share the same room, they will interact to solve problems together, have small coffee breaks together, or lunch and even leave the office together. That way, these people create 'time together' or they experience a common situation. Simultaneously fertile soil for ties to flourish is being created.

Those ties, later in time, take different forms in an individual's social network. For instance an individual holds different types of ties with different people in his social network. These ties can be either weak or strong but their strength depends on the level of homophily involved in that tie. The scope of this thesis was not to answer which characteristics of homophily lead to strong or weak ties. Instead it was aiming to answer if those characteristics have different weight. Some characteristics are stronger than other and that plays an important role not in the formation, but in the development of ties. Indeed through the data collected, it was clear that different characteristics had different strength.

In addition to the characteristics of homophily and the ties, social chemistry is a catalyst that does not go unnoticed in the development of ties. The role of social chemistry was not a question to be answered by the present study. However, it practically plays an important role in the development of ties.

After the ties are formed, homophily is not powerful anymore. The strength of the ties formed become important and give way to effective knowledge sharing. Stronger ties compose stronger bridges for knowledge to be shared between individuals. Weaker ties

fail to support the demanding process of knowledge sharing, as also supported by the data collected. The stronger the ties between individuals are, the more effective a session of knowledge sharing can be. The canal of communication is wider, and therefore interacting, rather than just sending or receiving, has more potential to flourish.

## 5.2 Discussion

The section of discussion analyzes the findings under the light of the existing literature review. In order for the discussion to respond fairly to the results analysis the same titles will be used to represent the respective findings.

Starting with the *homophily based characteristics*, as also discussed by McPherson et al., (2001), people who share similarities such as culture, language, demographics and social characteristics also share similar values and that brings them together. The study itself also revealed that indeed individuals' connections depend a lot on the similarities they share with others.

*Common experiences* seem to be of great importance since it gives the comfort of being together with someone else in a situation. Things in common give the comfort of understanding. People feel understood when one has been through the same situation as them. Also in the case of being a foreigner the respondents referred a lot into their tendency to look for other foreigners just because they would share the same problems and issues of adjusting in a new environment.

*Demographic homophily*, was often mentioned, however it was not as powerful. People consider same country of origin important when they meet new individuals at the work environment, but not fundamental. However, they agree on the fact that sharing the same language makes communication, between them, easier. Demographic homophily, as also stated by Mäkelä et al. (2007), is the kind that seems to happen more naturally

than any other kind of homophily. However, according to the results it does not seem to be the most powerful as well.

*Social homophily*, on the other hand, appears to bring higher level of commitment between two individuals. Individuals refer a lot to another's behavioral patterns. Demographics might be important in terms of understanding but when two individuals fit in personal attitudes and behavior they create a tie. Throughout the study, the respondents referred to something that the researcher calls social chemistry, as an intermediate step between homophily and tie formation. Social chemistry can trace back in two things. One is the cognitive social capital and the other one is value homophily. Lazarsfeld and Merton (1954) refer to status homophily, which is the similarity based on informal and formal status and the value homophily which is based on values attitudes and beliefs. Through the present study, this theory is validated and the researcher believes that those, previously considered separate, types of homophily can be both expressed between individuals, however at different phases. For example two individuals can be related based on status homophily in the beginning of their relationship. However, status homophily transforms to value homophily when these two individuals develop their relationship further.

*Culture* includes many distinguished characteristics for an individual and it might connect two individuals in terms of the same rituals, holidays or even eating habits. Some of the cultural dimensions discussed by Hofstede (1991) were also identified through the responses of the interviews. There is a widespread belief among Russians and Chinese that to succeed in business in their countries, personal networking and social connections with the appropriate authorities or individuals are often more important than the price and quality of the product or service itself (Michailova 2000; Tung and Worm 2001). However, that is being reflected in different ways throughout the present study. Even though both Russians and Chinese consider personal networking very important it is expressed in different ways by the two groups. Russians are also kin to hoard knowledge sharing according to Michailova & Worm (2003), since the structural system is very authoritative, while Chinese are mostly kin to share knowledge, due to their collectivistic culture, for the common benefit.

Another homophilic characteristic related to culture is language and interviewees did not consider it important. However, in the part of the confirmation questions, where the interviewer asked specifically on language, the interviewees realized the importance of sharing a common language in terms of understanding. People find ease in approaching the ones who they share a common language with.

The study also revealed that indeed homophily or similarity is a reason why people create connections. The researcher used the term social chemistry to describe the projection of the unique personality characteristics, such as humor, way of talking, attitude and self-projection to the external world. Social chemistry is what develops further and leads to stronger ties. Tracing it back to the literature review, social chemistry can be linked to value homophily, which includes the internal behavior reactions and attitudes that are formed through one's personal values (Lazarfelds & Merton, 1954). On the other hand social chemistry can also trace back to cognitive social capital, which includes norms, values, attitudes and beliefs. Structural and cognitive social capital, are complimentary: structures help translate norms and beliefs into well coordinated goal-oriented behavior (Uphoff, 1999). So, as it appears, in order to create a connection with another person there must be a point where the two individuals interconnect. A common interest, sharing the same apartment, having a same experience, speaking the same language are all important when meeting another individual.

Later in the equation comes something that would determine if the initial contact would convert into a longer or deeper relationship. Homophily seems to be not divided into two types, but that it is developed in two stages. First status homophily creates the connection between two individuals, but in order for a relationship between two individuals to develop there must be value homophily. Some authors suggest that interpersonal trust has fundamentally two forms – a cognitive form and an emotional form (McAllister, 1995). The cognitive form results from a reliance on a deliberate choice by the trustee regarding whom to trust, to what extent, and under what conditions. This choice is based on what we perceive as good reasons or proof of reliability. In other words, the decision to trust a person very much originates from the

decision maker's knowledge about the person considered trusting. Emotional trust on the other hand is based on emotional ties between individuals, for instance friendships (McAllister, 1995).

Knowledge sharing effectiveness is very dependent on the relationship that two individuals hold. People prefer to turn to other people, rather than documents for information according to Mintzberg (1973), and Allen (1977). That is also revealed through the data collected. In general researchers consider relationships much more important sources for acquiring information (Burt 1992), learning how to do one's work (Lave and Wegner 1991), and solving complex problems (Hutchins 1991). The study showed that individuals indeed prefer to turn to other individuals rather than documents. In order to share knowledge or acquire knowledge people depend their choice a lot on the relationship they have with the other individuals. Knowledge sharing seems to find friendlier environment when two people hold stronger business relationships. The closer the two parts of the pair are, the most effective the share of knowledge between them will be. This becomes more obvious on the interpersonal level knowledge sharing when the relationship is clearer. The process of sharing knowledge between two individuals depends a lot on the type of the relationship these two individuals have. Through the study it becomes clear that knowledge sharing has to be an interaction and not just a sending process. However, the interviewees admitted that when the interaction concerns individuals that have a homophilic relationship, therefore deeper, they are willing to put more effort into the process. It is also identified by the literature that sometimes the lack of relationship itself is considered as one of the most important factors of stickiness (Riusala & Suutari, 2004).

Knowledge sharing process also involves other contexts that might have an impact on its effectiveness. Certain aspects of knowledge that have to be taken into consideration, since they can facilitate difficulties in knowledge transfer. Those factors are related to a) the knowledge that is being transferred, b) the environment in which the process is taking place c) the sender and d) the receiver. The sender and the receiver are often referred to as the relationship context related factors (Riusala & Suutari, 2004). The type of knowledge shared, the absorptive capacity of the receiver and the ability of the



sender to share, are less discussed by the interviewees. The type of knowledge plays an important role sometimes in a knowledge-sharing event. The absorptive capacity of the receiver and the ability of the sender to share, are less important in comparison to the relationship between the sender and the receiver. The study shows that even if the last two mentioned are not in a good balance, the relationship of the sender and the receiver might work as a catalyst. For instance, in a context where the sender and receiver have a good relationship, and the receiver has not a developed absorptive capacity, the sender will put more effort willingly just because of the tie that bonds them. Also the homophily involved, such as a common language, will reinforce the sender's motivation to share and the receiver's will to absorb the knowledge offered. Through the literature review these factors seem to have the same strength, while the study shows that the relationship between the individuals sharing knowledge is more powerful in that context.

Finally, some of the results match *the paradox of homophily*. As also discussed by Mäkelä et al. (2007), homophily can sometimes reflect false familiarity. This is something that was also noticed by the interviewees, who stated that they try to avoid sticking around people speaking the same language, because it would just be the for the common language and not for the similarity itself. In the research this finding was somehow hidden. In order to reveal further data the researcher had to deepen in the interviews. Since the paradox of homophily is not something obvious, it is many times difficult to identify. The process becomes even more difficult in the case of the interviewees, who have to think of its existence. The interesting part of the homophily paradox in the present study, revealed that when interpersonal ties become too strong, knowledge sharing becomes difficult. Too strong homophilic ties between two individuals create a strong 'wall' around them and as a result, new knowledge from third party cannot enter the circle, that leads to same knowledge circulation and as a result knowledge sharing is affected in a negative way. The data collected reveals that a certain amount of homophily can indeed prove helpful in creating ties and therefore make knowledge sharing smoother.

However, strong homophily ties may become barriers to effective knowledge sharing.

This part of the study agrees with research on the fact that interpersonal similarity drives towards effective knowledge sharing, while the interpersonal differences emphasize the difficulties of knowledge sharing (e.g. Mäkelä et al., 2007) but also on the homophily paradox. Homophily driven connections can be both positive and negative. For instance, sharing a national or cultural background and language increases interaction and therefore leads to more effective knowledge sharing. In this sense, interpersonal homophily can function as a catalyst. On the other hand homophily-driven clustering because of common nationality and language can become impediments of how knowledge flows within the organization. The negative aspect of homophily is possible to block the acquisition of new knowledge, and impede individuals, who do not share similar characteristics, from entering an already created homophilic cluster (Mäkelä et al., 2007).

Summarizing the above discussion it seems that homophily indeed plays an important role in the formation of ties. Some homophilic characteristics are stronger than others in terms of the strength of the ties they help develop. Ties depending then on their strength lead to effective knowledge sharing. However, ties that are too strong might become blinders for the individuals that are homophilic and that results to their isolation from the social networks they belong. That way, they only share with the other individual of the pair and fence off others that do not share the same homophilic characteristics. Consequently, all the external knowledge that would be offered by those individuals is blocked.

### **5.3 Implications for Managers and Organizations**

The whole research is basically concerned about the problem, looking at it at an interpersonal level. In that case it might concern either individual managers but also team managers that are concerned about their teams' interpersonal learning.

Interpersonal level knowledge sharing is more of an ad-hoc event, of course it can be planned, such as in the cases of intended one to one trainings, but most of the times occurs while it is not prearranged. The difference between, the process with more homophily, and the process with less homophily, can only be explained with two different examples. In the first example, people feel much more comfortable to share their ideas and their previously acquired knowledge without being afraid of being misunderstood or exposed. Most probably they are even self-motivated to share it and more willing to put effort and spend their personal time. In the second case, individuals will probably share their knowledge because they were asked to or even forced to. The motivators in that case have to be external, since the person is now feeling more exposed and also anxious of the possibility of being misinterpreted.

Organizations should be flexible to organize events that bring their employees together and give them chances to socialize in the work environment through social and development events. That way people create connections and that becomes an asset to the organization. Employees, interconnected in a work related social web, will naturally create ties that will lead to more frequent communication and mutual exchange of knowledge within the various networks that will be formed. Especially in international organizations introducing events that familiarize employees with cross-cultural others, will stimulate the interest of individuals to learn new things. This is a way to develop an international working environment where employees become aware of their differences and respect the differences of others.

Another useful application of the study would be for the individual managers to create different training teams that are linked through common events, brainstorming session, or role playing. That can breed connection points from team to team that will further compose a passage of knowledge from one team to another. One of the most helpful tools of a manager can be the observation of different homophilic characteristic interacting in ties' formation. Those observations can then be used as tools to transfer knowledge from individual to individual and from team to team, depending on the interconnected social networks.

It is also important to keep in mind that homophily based clustering, can also function as a barrier for knowledge sharing between clusters due to the paradox of homophily. Relationships that are built based on very strong homophily, operate as independent pairs, which are very difficult to merge with other teams or absorb new members that do not share the same homophilic characteristics.

#### **5.4 Limitations of the Study**

In many cases the limitations of the study are being discussed in an earlier stage through the writing process. They can also be discussed in the methodology part of the thesis. This part is usually, where the researcher has gathered the weakening points throughout the research and provides them to the reader in accordance to the decisions that were made. For that reason, the limitations of the research explain the decisions taken by the researcher, but also identify the weaknesses of the conducted study. In addition to that, the limitations of the study are a very important part in the research process since it is an indicator of the suggestions for further study.

Even though the researcher managed to answer the research questions up to a certain extent, the study still holds its limitations.

The three basic theoretical frameworks on which the present thesis is developed are: homophily, ties and knowledge sharing. In each of these subjects respectively there are unanalyzed aspects that compose the limitations of the study.

Starting with homophily, one would say that the literature available on this subject is limited in the research field, however the corresponding characteristics accompanying the term are limitless. The present study did not analyze into great extent all the homophilic characteristics possible, but rather used some basic categories to file them in, to enable the development of the literature review. The research acknowledges the

great variety and numerous amounts of characteristics of homophily. Nevertheless the researcher decided to refer to a certain number of homophilic characteristics in order to be able to handle the results in respect to the literature review.

Secondly the definition of ties and relationships can be discussed under the umbrella of several research fields. However the content of ties in this research paper is mostly business-oriented and refers to the kind of networks that individuals form in the working environment. Therefore the view on ties formation is somehow limited by looking at it only in the working environment. In relation to ties, interpersonal relationships can be used for the transfer of several kinds of knowledge, which do not follow the scope of the present study.

Another limitation might be that the concept of knowledge has been widely discussed through different lenses and point of views. Even though the definition that this study is following has been discussed earlier, however it still limits the notion into business-related field. On the one hand knowledge in business environment is related to several contents and might be interpreted in different ways by different firms and on the other hand though, the content of knowledge is not extensively discussed in this study.

Finally the decision of the researcher to focus on the individual level knowledge sharing might limit the study in terms of point of view. The knowledge sharing process can take part in several levels of the organization, however the inter-organizational and inter-unit relationships are not extensively if not at all discussed in the present thesis.

Even though every research study has a part of its limitations, these limitations can many times inspire new ideas for further studies. If the present study created any new base for research it will be discussed in a later point, where the suggestions for further studies will be outlined.

## **5.5 Suggestions for Further Study**

The present study answered that the amount of homophily enables weaker or stronger ties to form and if that is of any importance to effective knowledge sharing.

This study can be a base for further exploration into, what are the specific characteristics of homophily that can create stronger or weaker ties. Another aspect of that can be, if there are certain characteristics that create weaker versus stronger ties. Is for instance common language more powerful than a common experience? These elements can vary from culture to culture but still there is possibility for further research.

Another field that can be further studied should focus on what patterns can be used in order to take advantage of the stronger ties formed in order to share knowledge by using individuals' social networks like a chain reaction. That way, the existing knowledge will efficiently be used and at the same time effectively shared among individuals' social networks and therefore from network to network. If, for instance, an individual is sharing his knowledge through his own personal network, where he is accepted, understood, and feels comfortable, another individual who is a receptor in this social network can become a sender in his personal social network, which is different. Valuable knowledge, then, will be shared among individuals under more fertile conditions.

Finally, the above topics could also be discussed at other levels, such as the interpersonal or the inter-unit level, as an extension to the present study.

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## **APPENDIX**

### **Interview Template**

Interview Date and Time:

Place:

Name:

Job Title (context):

Function:

Description Path:

Years away from home Country:

## Interview Guide

Dear Respondent,

I am a Master's degree student at the University of Vaasa. This interview is intended to be part of an in-depth study, which will contribute to the empirical part of my study. I am interested to know how much you surroundings and the people you communicate are in close similarities among them and you.. The duration of the interview will be approximately 45 minutes. It is assured that your personal data responses will be kept confidential. In addition to that, special precautions will be taken for not disclosing your personal identity while using the interview feedback. For my personal further data analysis I will be audio-recording our session if it agreed with you.

Please consider also using practical example in the response providing

1. What are the most common ways you communicate with your friends?  
Who do you reach as a first response for something? Why? How?  
Can you provide with examples?
2. Is it important for you when you have same interests with someone for your kind of relationship?
3. Are there some characteristics more important over others?  
If yes, which ones? Why?
4. When you need information or advice on a work related problem who do you turn to?  
Who do you talk to? In what sort of situations?

5. When you need to get advice from someone, how do you decide?
  - Who do you go to?
  - Who do you talk to?
  - Why that particular person?
  - Can you describe the level of bonding with that person?
  - What do you have in common?
  - Are the things you have in common reason for approaching that person over another?
  
6. In different circumstances do you approach different people?
  - What are the criteria for choosing someone over the other?
  
7. Based on what characteristics do you create a relationship?
  - What attracts your interest?
  
8. What are the things that motivate you to share experiences, newly acquired knowledge or stories with other people?
  - Does it have to do with the content? Why?
  - Does it have to do with the people? Why?
  
9. What connects you to these people?
10. What motivates you to share your ideas with people you know?