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THE IMPACT OF READILY DETECTED- AND UNDERLYING ATTRIBUTES ON SOCIAL INTEGRATION IN CROSS-CULTURAL SETTINGS

A MULTI-METHOD EXAMINATION

Helsingfors 2003

The Impact of Readily Detected- and Underlying Attributes on Social Integration in Cross-Cultural Settings: A Multi-Method Examination

Key words: communication, diversity, readily detected- and underlying attributes, socio-cultural context, Japan, social integration

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1. Introduction

The nature of the workplace is changing due to increasing work-force diversity and the movement into group-based work practices. It can be witnessed that contemporary work-force population includes more women, minorities, varieties of ethnic backgrounds, aging workers, and people with different life styles than ever before. While collaborative work practices are widely considered to have the potential to enhance motivation, performance, and satisfaction (e.g., McGrath, 1984), little systematic research has been conducted on how various forms of diversity influence the social interaction processes and the performance in cross-cultural groups and organizations. This is partly because most research has focused on domestic diversity (i.e., diversity within a domestic workforce, excluding national differences). As a consequence, many multinational organizations have little guidance on how to cope with the effects of ethnic and racial heterogeneity.

Multinational corporations are naturally influenced by various forms of diversity as a result of demographic changes, diverse marketplace, the need to improve productivity and remain competitive, globalization, top management focused on diversity as a business strategy, legal concerns, and diverse work groups. In many of these companies, diversity is valued and considered as a need for survival and success in a global marketplace. For example, a Finnish telecommunication company – Nokia – announced that diverse groups are important in order to be sensitive to the changing markets as well as enabling to increase increasing creativity. It could be assumed that the other reason for praising diversity has to do with legal compliance. That is because law mandates workforce diversity in some countries. The company's current workforce consists of more than 120 different nationalities, and claims to benefit from these differences.

The potential benefits utilizing diverse individuals in groups and organizations rests largely on the 'value-in-diversity' hypothesis (Maier, 1967). This line of reasoning is based on the assumption that more diverse groups have a greater number of expertise, perspectives, and knowledge to use, which consequently leads to an increased creativity and innovation. As alternative courses of action and solutions are considered, diverse perspectives potentially increase the group's ability to foresee all possible costs, benefits, and side-effects. The cognitive variety can be introduced, for example, by cultural-, gender-, and functional diversity. This beneficial impact is also echoed in recent cognitive research, which indicates that 'the cognitive orientation and skills of East Asians and people of European cultures are sufficiently different that it seems

highly likely that they would complement and enrich one another in any given setting' (Nisbett, 2003: 217). Task-related conflicts, that arise from the apparent cognitive dissimilarity are further claimed to highlight task alternatives, stimulate cognitive reevaluations, and thus, help to augment the group performance (e.g., Jehn, 1995). In short, various forms of diversity provide benefits because individuals and collectives suffer from bounded rationality.

Does diversity really provide benefits? Unfortunately, without few exceptions (e.g., Watson, Kumar & Michaelsen, 1993), research has provided only weak empirical support for the 'value-in-diversity' hypothesis because various mechanisms, such as the context of interaction and the multiple impact of diversity, makes it devilishly hard to provide consistent results that diversity really pays off. In fact, empirical research show more consistent evidence that diversity come with liabilities because one of the most fundamental psychological process for any person is to categorize other people based on their visible characteristics, and that association with similar people increases self-esteem and feeling of equality (e.g., Tajfel & Turner, 1986). Based on this view, the result of diversity is a reduced interaction with dissimilar people, which initiates subgroup formation and has negative performance implications.

The benefits and detriments of diversity in groups and organizations are analyzed in four streams of research. First, in the management science, the dominant line of research is called organizational demography in which external, observable traits are surrogates for internal mediating psychological states. Second, the cultural diversity research (e.g., Watson, Kumar & Michalsen, 1993) highlights demographic variables related directly to cultural attributes, values, and perceptions. This stream of research relies heavily on trait and work value research (e.g., Hofstede, 1980; Triandis, 1998). Third, the work value research investigates the similarities/differences of work processes to individual and collective psychological outcomes (e.g., Dose & Klimoski, 1999). Finally, groups-research addresses the composition effects from a social psychological perspective and tends to concentrate on individual- and group psychological processes (e.g., Tajfel & Turner, 1986). Each of these streams of research are limited, but together, they offer many insights on how diversity has an impact on social interaction processes and performance.

A comprehensive understanding of various forms of diversity can be created by integrating the four complementary streams of literature. Indeed, while the organizational demography- and groups research concentrates mainly on examining the impact of visible differences (i.e., readily detected attributes) on social interaction processes and performance, little research has attempted to gauge the relative

importance of non-visible dimensions (i.e., underlying attributes) such as values, knowledge, and so on. In contrast, the cultural diversity and work value research concentrates solely on the work value/cultural differences, often forgetting the impact of readily detected attributes. Further confusion, especially in the organizational demography literature, is the assumed direct linkage between demographic attributes and performance, which leaves the social processes as a 'black box' (Lawrence, 1997). Therefore, whereas some studies show that diversity has a positive impact on performance, they fail to identify the processes that cause the positive linkage. Finally, little research has examined the impact of socio-cultural context on demographics and interaction processes. It can be further claimed that the socio-cultural context has not been the primary focus in a large bulk of studies that have been conducted in the United States.

This thesis does not attempt to solve all the identified problems because it would require several conceptual and empirical investigations. Instead, the overall objective of this research is to deepen our understanding of the combined impact of the readily detected- and underlying attributes on social integration in cross-cultural settings. More specifically, the focus in the present study is: (a) on the relationship between the attributes; (b) their influence on group/organizational processes; (c) and their mediated impact on social cognition (group potency, group outcome expectations, and transactive memory directories). Social cognition refers to the mental presentations and processes that underlie the social perception, social judgment, and social influence. It is further asserted that socio-cultural context plays an integral role in determining the impact of the readily detected- and underlying attributes on social integration in cross-cultural environments. That is, diversity is partly a socially constructed phenomenon. The impact of readily detected- and underlying attributes is portrayed in four independent studies conducted both in controlled situations in Finland and authentic settings in Japan.

This thesis is divided into five sections. I first present the research and guiding theories relevant to this research project. In order to define the boundaries for the current research, I briefly go through the concepts of readily detected- and underlying attributes, relevant research on demographic units, theoretical frameworks, measures and mechanisms, and levels of theory, measurement, and statistical analysis. This is important because the broadness and lack of integration of research has created some inconsistencies across empirical studies. I will further seek to link the readily detected- and underlying attributes with the concepts of group potency and outcome expectations, and transactive memory. Several theoretical frameworks will be presented as no single

theory is likely to explain the full set of empirical relationships between aspects of heterogeneity and its consequences (Jackson, 1996). I continue the discussion in the following section with the purpose and contributions of this research. In the third section, I discuss the research methods and outline the empirical bases for the four independent studies. In the fourth section, I summarize the logic behind the independent studies and their main findings. The last section deals with the limitations and suggestions for future studies, and managerial implications. The independent studies are presented in the last part of this thesis.

2. Research and guiding theories on heterogeneity and social integration in groups and organizations

The impact of diversity permeates virtually to every dimension of social phenomena in groups and organizations. The focus of the present study is on the behavioral dimension of social integration, which reflects the extent to which an individual group member experiences cooperative social interaction with the other group members. The recent extension of social integration into behavioral and affective dimensions (Van der Vegt, 2002) extends the term's original conceptualization as 'the degree to which people are psychologically linked or attracted towards interacting with one and another in pursuit of a common objective' (O'Reilly, Caldwell & Barnett, 1989: 22). The conceptual extension is possible because research indicates that both of these dimensions are heavily influenced by the group composition (cf. Milliken & Martins, 1996), but tend to have a slightly differentiated impact on the group performance.

The behavioral dimension of social integration consists of cooperative behavior and interpersonal communication (Van der Vegt, 2002), which are frequently linked positively in empirical research with group effectiveness and performance (e.g., Edmonson, 1999; Jewell & Reitz, 1981). In contrast, the affective dimension, which includes cohesion and attraction, is asserted to initiate poor decision-making as people in highly cohesive groups seek conformity and unity, and tend to sacrifice everything in order to maintain peace within the group (Janis, 1972). The focus of the present work is placed mainly on interpersonal communication, and, to a lesser extent, on psychological safety (the extent to which people are able to take interpersonal risks and value each others contributions) (Edmonson, 1999), for two reasons. First, since the concept of diversity and its impact in groups and organizations is a socially constructed phenomenon (e.g., Berger & Luckmann, 1967; Burr, 1995), it can be assumed that interpersonal communication plays a super-ordinate role in social integration. People

simply communicate their feelings and expectations through verbal and nonverbal behaviors, and if the feelings/expectations are negative, behavior towards different individuals as well as social integration is likely to be negative. Second, interpersonal communication links values and diversity, which are the main interest in the present research. The behavioral dimension of social integration is hereof called social integration.

Interpersonal communication refers to the acquisition and/or offering of information through interpersonal channels (Jackson, Stone & Alvarez, 1993: 59). Scholars describe interpersonal communication as the heart of group behavior (Shaw, 1981), the essence of social systems (Katz & Kahn, 1978), the form of social exchange (Blau, 1974), and the medium on which people construct their social reality (Burr, 1995). As a consequence, it is the key to understand how groups function, how group members influence each other in decision-making, and how groups achieve outcomes (Larkey, 1996). In cross-cultural literature, culture is acting as a set of rules mediating the patterns of communication (Gudykunst, 1988; Hall, 1959). Communication is the primary social process through which people create and recreate their realities, cultures, and identities (Pearce, 1989). As a consequence, communication is not merely a tool for expressing innate thought but a process that shapes what can be thought within a given culture. Due to its strong linkage with the socially constructed reality, interpersonal communication is used frequently in various theoretical frameworks as an antecedent for various collective cognitive outcomes, such as group potency (Guzzo, Yost, Cambell & Shea, 1993), shared mental models (Klimoski & Mohammed, 1994), and transactive memory (Wegner, 1987). As social cognition refers to how people select, interpret, remember, and use social information to make judgments and decisions, it can be expected that homogeneity and social integration are potential antecedents for social cognition.

The following discussion starts with classifying the readily detected- and underlying attributes, moving to a review of relevant research on demographic units (groups and organizations), theoretical frameworks, measures and mechanisms, and levels of analysis. Diversity in the present study is defined as ‘the presence of differences in a social unit’ (Jackson, May & Whitney, 1995: 217). These differences can be observable or internal. It should be noted that conceptual separation is sometimes difficult because past studies have equated readily detected- and underlying attributes and used them interchangeably in empirical examinations.

2.1. Readily detected- and underlying attributes

Demographic attributes, in general, are individual characteristics that fit into attributes describing immutable characteristics (e.g., age, gender, and race), attributes describing individuals' relationships with groups/organizations (e.g., tenure), and attributes that identify individuals' positions within the society (e.g., marital status) (Jackson, May & Whitney, 1995). In contrast to the classification based mainly on demographic information, attitudes, beliefs, and values- classified as underlying attributes- have a significant influence on the interaction patterns in any given social entity. In most studies, the observable attributes are classified as readily detected attributes and less visible as underlying attributes (cf. Milliken & Martins, 1996; Jackson, 1996). For conceptual clarity, it is important to make a basic distinction between the concepts of race and ethnicity. Race refers to 'a group of people who have biological features that come to signify group membership and the social meaning such a membership has for the society at large' (Jones, 1991: 9). In slight contrast, ethnicity is defined as 'the ethnic quality or affiliation of a group, which is normally characterized in terms of culture' (Betancourt & Lopez, 1993: 631). In some occasions the immutable character of race is connected with the underlying attribute of ethnicity under a term of racio-ethnicity (e.g., Cox, 1993). The term highlights the traditional concept of culture, which was correlated with either national boundaries or visible characteristics.

Readily detected attributes can be determined quickly due to their visibility (e.g., age, gender, and race). Most of these categories are generally unchanging (with an exception of age) and subject to social consensus. That is, one's age (within some range), sex, and race are generally apparent to and agreed upon by observers (Harrison, Price & Bell, 1998). Jackson (1996) divides the readily detected attributes further into readily detected task-related attributes (department/unit membership, tenure, formal credential and titles, education, and memberships in professional associations) and relationship-oriented attributes (age, gender, nationality, ethnicity, religion, political memberships, and physical appearance). A similar distinction is made between underlying attributes of task related- (knowledge and expertise, skills, physical abilities, and task expertise) and relations-oriented attributes (socio-economic status, attitudes, values, and personality). Along the same lines, Pelled (1996) places demographic attributes along two continua. First, job-relatedness is the extent to which a demographic attribute shapes the job skills and captures the experiences relative to cognitive tasks in the work place. Second, visibility is the extent to which demographic attributes can be easily observed.

Diversity in the relations-oriented attributes can shape social integration even when there is no association between it and the team's task-related attributes, because it triggers stereotypes that influence the way people judge themselves and others (Jackson, 1996). Although this suggests that the nature of task and/or context has on impact on the fact whether the task related- and relations-oriented attributes are interdependent or not, organizational demography researchers assume that readily detected attributes are associated with task-related underlying attributes (e.g., Bantel & Jackson, 1989; Wiersema & Bantel, 1992). As a consequence, the division of the job/task related and visibility/relationship-related categories, is confusing because they consist of both visible- and cognitive dimensions. For conceptual clarity, readily detected attributes are categorized in the present study based on their visibility (e.g., age, gender, and race). The terms of demographic- and readily detected attributes are used interchangeable and refer to the above categorization.

The underlying attributes are often not visible and subject to more interpretation and construal than the readily detected attributes. Shaw and Barrett-Power (1998) make a differentiation between two types of underlying attributes. The first type of underlying attributes, such as cultural values and perspectives, attitudes, values and believes, and conflict resolution styles, are closely related to readily detected attributes. The close relation is explained by an assumable close relation with nationality/ethnicity and cultural values (Shaw & Barrett-Power, 1998). A second group of attributes, which includes socioeconomic and personal status, education, functional specification, human capital assets, past work experiences, and personal expectations, are less strongly connected to the nationality/ethnic origin, age, or gender. Although this separation is logical in many respects deepening the understanding of various forms of diversity that influences groups and organizations, it can be challenged by empirical research of national cultures and work values, which provide contrasting results (e.g., Hofstede, 1980). That is, cultural values are not always closely related to readily detected attributes. The primary focus of the present study is on the cultural and work-related values because they tend to have a significant and long-term impact on social integration in cross-cultural context.

Attitudes can be described as a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner (Rokeach, 1973), and values as standards or criteria for choosing goals or guiding actions (Kluckhohn, 1951). Alternatively, Hofstede (1980:18) defines values as 'a broad tendency to prefer certain states of affairs over others.' In most conceptual definitions, values are considered as normative standards to judge and choose among alternative

modes of behavior. In other words, values define what people believe to be fundamentally right or wrong. Most theorists propose, implicitly or explicitly, that values are developed through the influences of culture, society, and personality. Hence, values are partly based on genetics and partly socially constructed. Values can be further categorized into work-related values (e.g., Dose, 1997; Meglino & Ravlin, 1998), cultural values (e.g., Hofstede, 1980; Triandis, 1998), terminal values, and instrumental values (Rokeach, 1973). Terminal values are defined as idealized end-states of existence and instrumental values as idealized modes of behavior used to attain the end-states. In several studies, terminal values are considered as a part of work values because there are beliefs about desired end-states (e.g., Dose, 1997).

Whereas some researchers have used attitudes and values interchangeably (e.g., Van der Vegt, 2002), others have conceptually separated these constructs and provided empirical evidence that attitudes are clearly distinct from values (Hofstede, 1998). It is possible to make four conceptual differences between attitudes and values based on literature in the focal field. First, attitudes can be considered as taking in a lower place in the person's hierarchy of beliefs. That is, attitudes are shaped by values, which are arranged hierarchically in the human mind. As a consequence, attitudes may not necessarily be related to values (Hofstede, 1998). Second, attitudes are less general and more specific than values (Dose, 1997). Third, people hold more attitudes than values at any time (Rokeach, 1973). Fourth, while attitudes can be held strongly, they are less central to individual's identity than values. Hence, attitudes change faster than values. This conceptual distinction implies that the moderate impact of time and social interaction are faster on attitudes than values, and attitudes are more subject to individual variation than values.

In slight contrast to values in general, work values are defined as evaluative standards relating to work or the work environment, which individuals use to discern what is 'right' or to assess the importance of preferences for actions or outcomes (Dose, 1997). This definition suggests that work values can create preferences for different work outcomes and the means by which they are achieved. Dose (1997) classifies work values by a two-by-two matrix. One distinction is a continuum between personal- (e.g., security and creativity) and social consensus (e.g., honesty and fairness) values. Social consensus values are those, which members of a certain culture agree are relatively important, not only for themselves but for others as well. Basically, greater social consensus may lead to greater attempts to influence individuals towards the view of the majority. In contrast, personal values are formed through direct experience, and thus are stronger, more stable over time, and less susceptible to social influence than social

consensus values. It should be noted here that the personal and social consensus approaches are difficult to distinguish because personal perspective is often used to explore differences across cultures and organizations (Hofstede, 1980). Usually, the difference between the two is related to the level of aggregation. The other distinction is between moral (e.g., Protestant work ethic) and preference values (e.g., individualism and prestige). Work values are moral to the extent that they follow standards of right and wrong in work interaction. Autonomy or security in a job setting represents preference values. In this line of research (work value literature), values have a particular cognitive structure that produces a structural similarity between general values (e.g., Elizur & Sagie, 1999).

The contrasting view in the work value literature is that general values produce work values (e.g., Hofstede, 1980; Schwartz, 1994). This line of thought is based on national cultural differences between general values (e.g., Hofstede, 1980; Triandis, 1998). Hence, culture is a group level construct and is neither genetic nor about individual behavior. An often-used definition of culture can be described as 'as the collective programming of the mind which distinguishes the members of one category of people from those of another' (Hofstede, 1980: 389). Baligh (1994) defines culture in terms of a set of components and parts. The functional segments or parts of culture are family, language and communication, religion, government and politics, education, transformations and technology, society, and economic structures and activities. The components are the concepts of truth, the basic beliefs, the basic values, the logic, and the decision rules. The hierarchically arranged components and parts are interconnected. That is, cultural values, which are developed on the concepts of truth and basic beliefs, influence logic and decision rules. Cross-cultural researchers commonly argue that most cultural differences are due to variations in cultural values. Hence, cultural values indicate desires and reflect differences in mental programming and national character (Hofstede, 1983: 77-78). For instance, direct confrontation or disagreement with one's superior is avoided in Japan, even though such an action is quite acceptable in the United States (Adler, 1986). Similarly, another stream of research has demonstrated that teams, high in collectivism, behave more cooperatively than individualistic teams (Cox, Lobel,& McLeod, 1991).

Although many studies have provided important information about value differences among nations, I refrain from listing all the dimensions used in past research, and make an exception for the much-cited research by Hofstede (1980). He found the following four value dimensions – power distance, uncertainty avoidance, individualism-collectivism, and masculinity-femininity – to differentiate within a very large sample of

people employed for IBM in 40 nations (these scales are defined further in essay three). Subsequently, Hofstede's typology was extended to include a fifth dimension. Labeled Confusion Dynamism, this dimension captures differences in the value attached to thrift, persistence, and long-term time perspective (Hofstede & Bond, 1988). These scales, used by Hofstede, have been confirmed in several large-scale surveys (e.g., Trompernaars & Hampden-Turner, 1998; Schwartz, 1994; Smith, Dugan & Trompenaars, 1996). These studies indicate that cultural- and work values are in many cases interconnected and further provide evidence that race is not necessarily a clear sign of value differences because race refers to biological features and values to a socially constructed phenomena. Overall, the linkage of race and ethnicity has initiated considerable debate, and recent studies indicate that there is no statistical support for the predicted association between race and behavior (Peregrine, Ember & Ember, 2003). However, the impact of racial diversity on social integration is shown to be subject to cultural variation (e.g., Hoffman, 1985).

In summary, readily detected- and underlying attributes contribute to the total heterogeneity that influences various psychological processes and outcomes in a given social entity. Hence, researchers, quite understandably, claim that both types of attributes should be utilized in research to fully understand the social interaction processes in a heterogeneous environment (Tsui & O'Reilly, 1989). The primary focus in diversity research is paid on the readily detected attributes, which are visible and can be determined quickly. Cultural- and work value research tends to further imply that people might identify themselves based on underlying attributes, such as attitudes and values, because they have an impact on cognitive schemata. This suggests, for example, that work roles are subject to considerable variation across cultures. Even though most researchers in the focal area would agree that cognitive structures in forms of values influence social integration and performance, little research integrate both types of attributes possibly due to the difficulty to measure values. Part of the problem is created by the difficulty to categorize cultural values and different conceptualizations of cultural- and work values. First, cultural values can sometimes be linked to readily detected attributes in a specific context under the term of racio-ethnicity. For instance, cultural values are likely to be linked to a readily detected attribute of race in Nordic subsidiaries in Japan. Further, in general, work value literature tends to neglect Hofstede's (1980) as well as Schwartz's (1994) cross-cultural dimensions. The controversy about work values stems partly from the lack of clarity about the concept itself, which is shown in different levels of aggregation. Cross-cultural researchers are basically interested in variance between nations, whereas work-value researchers are

interested in variance among individuals and groups. This lack of agreement in work values has created problems in interpreting the results of various studies, and has prompted calls for greater unanimity on how values are conceptualized, defined, and measured in organizational research (e.g., Connor & Becker, 1994).

2.2. Research on the effects of the readily detected- and underlying attributes in demographic units

The impact of diversity in demographic units, ranging from dyads to organizations, have aroused interest among various scholars in the fields on I/O psychology, management science, and social psychology. The present study incorporates relevant literature from the organizational demography, cultural diversity, and groups-research at the group and organizational levels for four reasons. First, the findings of readily detected- and underlying attributes in most cases are similar at the group and organizational levels of analysis (cf. Milliken & Martins, 1996; Williams & O'Reilly, 1998). Second, processes related to social integration characterize both the groups and organizations. Hence, parallel to Hogg (2000), I consider organizations, units or divisions within organizations, professions or socio-demographic categories that are distributed across organizations to be groups – all with different social identities and group prototypes. Third, integration of these streams of research helps to draw a more complete picture of how the readily detected- and underlying attributes affect social processes and performance. The integration enables further to point out some inconsistencies created by a different conceptualization of how the attributes are related. Fourth, theoretical frameworks for analysis of most studies are identical. Most of these studies draw from the similarity attraction- (Byrne, 1971), social identity- (Tajfel & Turner, 1986), and social categorization theories (Hogg & Abrams, 1988).

Comprehensive literature reviews, that integrate findings of the management- and I/O psychology research, (Milliken & Martins, 1996; Williams & O'Reilly, 1998) indicate that diversity in readily detected attributes, in most cases, has a detrimental impact on social integration. As an indication, Williams and O'Reilly (1998: 117) concluded that 'increased diversity typically has negative effects on the ability of the group to comply with its members' needs and to function effectively over time.' In contrast, increased demographic similarity has positive effects on liking, satisfaction, commitment, tenure and performance, and decreases the turnover (e.g., Harrison, Prince & Bell, 1998). According to Milliken and Martins (1996), research findings in underlying attributes tend to be more inconsistent and subject to more interpretations.

According to the scholars, 'there is *some* evidence that groups, that are diverse with respect to background and skills, may have integration problems similar to those of other diverse groups' (412, *italics* in original). In both reviews, research on work- and cultural values on social integration and performance were virtually non-existent.

Research tends to indicate that diversity in the readily detected attributes has a negative impact on interpersonal communication in groups and organizations (e.g., Brass, 1984; Ancona & Caldwell, 1992; Hoffman, 1985; Ibarra, 1992; Kantler, 1977; Lincoln & Miller, 1979; Zenger & Lawrence, 1989). Lincoln and Miller (1979) found that gender and race diversity had a greater influence on primary ties (friendship communication) than instrumental ties (work-related communication). Authority and education diversity was positively linked with instrumental and primary ties. Hoffman (1985) shows evidence that formal and informal meetings among peers and within immediate subordinates are lower in racially diverse groups. Further, Zenger and Lawrence (1989) argued that diversity in the organizational tenure was negatively related to the frequency of communication with the outside. In the same study, age homogeneity was associated with increased communication within the studied project groups. Ibarra (1992), examining communication networks in an advertising company, asserted that women and racial minorities have a limited access to, or are excluded from, informal communication networks. According to the study, both men and women preferred to establish homophilous networks for friendship and support. Importantly, however, Ibarra found that, while men evidenced a great degree of sex-based homophily for all types of networks studied, women preferred a greater proportion of men for advice and influence ties. Empirical evidence further indicates that group members are likely to offer less assistance to women and people of color than to dominant group members (Pettigrew & Martin, 1987). Moreover, work-related communication between men and women are less frequent in units that are more diverse with respect to gender (South, Bonjean, Markham & Corder, 1982). In top management teams, heterogeneity in experiences was found to have a positive impact on informal communication and the frequency communication (Smith**,** Smith, Olian, Sims, O'Bannon, Scully, 1994). Finally, Ancona and Caldwell (1992) stated that variation in tenure was positively related to task-related group processes, but was not related to communication outside of the group. Functional diversity increased the frequency of communication with those outside the project group.

The above studies can be supplemented with research related to transactive memory, which is asserted to be an immediate consequence of interpersonal communication (Wegner, 1987). Transactive memory can be explained as the collective of individuals

(e.g., dyads and groups), their memory systems, and the communication that occurs between them (Wegner, 1987). The study by Rau (2001) examines the influence of the diversity of functional and industry experiences on the performance in top management teams. The study uses a transactive memory concept to analyze the interactions that need to be present among group members for diverse groups to show superior performance. The results show that diversity has an influence on the amount of task- and relationship conflict. However, the underlying attributes were not statistically related with the transactive memory. Myaskovski (2001), who examined the impact of gender diversity in small group training, found that none of the predicted performance measures or transactive memory was significant. Training group members together, rather than apart, strengthened positive feelings among same-gender groups, but weakened positive feelings among mixed-gender groups. The results indicate that readily detected- and underlying attributes do not have a direct impact on the transactive memory, which may be explained by the mediating impact of interpersonal communication.

An integration of the above findings, linking the readily detected- and underlying attributes to interpersonal communication and further to transactive memory, indicate that readily detected attributes tend to decrease, and underlying attributes, in some cases, stimulate communicative behavior. These inconsistent results are against the dominant thinking among the researchers in the field of organizational demography. These researchers assert that readily detected attributes are interrelated with underlying attributes, and thus have the same influence on group processes and performance (e.g., Chatman, Polzer, Barsade & Neale, 1998; Tsui, Egan & O'Reilly, 1992; Wiersema & Bantel, 1992). The interdependence among the attributes is explained based on the similarity between the demographic attributes and experiences. That is, since demographically homogeneous people are treated similarly in the past, they expect one and another to understand and react to situations similarly (e.g., Pfeffer, 1983). Incorporating this line of thought would imply, for example, that Finnish and American middle-aged male engineers have similar work-related values. Hence, the engineers would share a similar view of task processes and goal priorities.

Although the readily detected- and underlying attributes might be linked in some instances and have a similar impact on the group processes and effectiveness, cultural and work value researchers have showed evidence that this is not always the case (cf. Dose & Klimoski, 1999; Hofstede, 1980). For example, some researchers showed that age and gender do not always equate to differences in work values (e.g., Beutell & Brenner, 1986; Rowe & Snizek, 1995). Indeed, whether women also form a separate

culture is still a matter of considerable debate. Unfortunately though, due to the relative lack of attention to the basic structures of the work values domain and the difficulty to identify the casual factors between societal and work values (Elizur, 1994), other researchers have found that age, education, and seniority are correlated with several work values including moral importance of work, pride in one's craftsmanship, and the importance of money (e.g., Cherrington, Conde & England, 1979). The results in cross-cultural research tend to be more consistent (e.g., Hofstede, 1980; Trompernaars & Hampden-Turner, 1998; Schwartz, 1994; Smith, Dugan & Trompernaars, 1996), indicating that culture is a primary status-determining trait in multicultural groups, and that demographic traits are secondary determinants (Earley & Mosakowski, 2000; Hopkins & Hopkins, 2002; Triandis, 1996). These researchers assert that values have an impact on social processes that cannot be explained solely by the demographic attributes.

Parallel to the cross-cultural research, it can be assumed that shared world-views, norms, values, goal priorities, and socio-cultural heritage have a strong impact on social integration in cross-cultural settings. Indeed, cross-cultural research has established that national culture explains between 25 and 50 percent of variation in attitudes (Gannon and associates, 1994) and is also related to social behaviors such as aggression, conflict resolution, social distance, helping, dominance, conformity, and obedience (Triandis, 1994). Moreover, cultural markers are asserted to have an impact on the communication processes and to decrease interaction among dissimilar individuals (Larkey, 1996). While many scholars have identified cultural differences in behavior and work values at the group- (e.g., Cox, Lobel & McLeod, 1991; Farh, Tsui, Xin & Cheng, 1998) and organizational level (e.g., Hofstede, 1980), few have shown *how* these differences have an impact on social integration. I acknowledge the attitudinal research conducted in culturally homogeneous groups (e.g., Wagner, 1995), but argue that these results cannot be applied as such to cross-cultural context. This is because several additional factors, such as role expectations, racial diversity and so on, could influence the level of social integration. As an indication, individual-collectivism may explain part of the cooperation behavior in racially homogeneous teams (see Wagner, 1995), but may fail to do it in cross-cultural teams. A similar lack of attention can be identified in the work value literature because values are often used as dependent variables and/or used solely to determine the social interaction processes (cf. Meglino & Ravlin, 1998). Conceptually, value congruence is asserted to clarify interpersonal communication, because individuals tend to perceive external stimuli in similar ways (Meglino & Ravlin, 1998). Further, individuals with similar values are asserted to experience greater

satisfaction in their interpersonal relationships due to the predictability in interpersonal interaction (Fisher & Gitelson, 1983).

A limited amount of empirical research indicates that value diversity tend to decrease social integration in cross-cultural environment. For example, Kirchmeyer and Cohen (1992) constructed gender controlled four-person student discussion groups, where each group contained one ethnic minority member. The results indicate that the minority members' contributions were rated lower in comparison to the majority members. In a more communication-oriented study, Fielder (1966) found that people reported a less pleasant atmosphere and experienced more communication problems in heterogeneous teams with Belgian and Dutch members than the members of homogeneous groups. Thomas (1999) found that culturally homogeneous groups had higher performance than culturally heterogeneous groups, and explained the differences based on communication-, perceptional-, and value differences. Albeit not explicitly stated, it can be assumed that part of the initial integration problems in these studies were created by the level of acculturation, cultural distance, and the degree of familiarity among the group members.

Watson, Kumar & Michaelsen (1993) examined the impact of ethnic/cultural diversity on students for over 17 weeks and found that homogeneous groups scored initially higher on all the ratings made by the independent judges. However, the performance of the heterogeneous teams improved over time, and at the end of the period they were judged superior on the range of perspectives and the generated alternative solutions. The group process variable indicated that homogeneous groups reported significantly higher averages than the heterogeneous ones during the first three task periods. The results suggest that in newly formed heterogeneous groups some effects of diversity on group interaction processes dissipate with time. Unfortunately, little is still known whether the differences in cross-cultural context were initiated by readily detected- (ethnicity, gender, etc.) or underlying (culture) attributes because ethnic minorities are reported to adopt similar behavioral patterns to accommodate with majorities in multicultural societies (e.g., Bond & Yang, 1982; Okamura, 1981).

A different but related stream of empirical research provides some, albeit limited, evidence that people tend to begin with demographic characteristics to describe the self and others and after examining these, proceed to underlying attributes, such as attitudes and values. This is simply because it requires more extensive information processing to come to know the unique constellation of other people's underlying attributes. For example, Polzen, Milton, and Swann (2002) found that the negative effect of the demographic attributes were attenuated when individuals were interpersonally

congruent, suggesting that similarity in perspectives can moderate the effects of differences in readily detected attributes. In contrast, Van der Vegt (2002) found a clear negative link between attitudinal diversity and social integration in work groups. This suggests that when individuals share some common attitudes and values, diversity may lead to beneficial outcomes. These values could be, for example, a similarity in task execution. Alternatively, since values are difficult to change, they might have a more detrimental impact on social integration than readily detected attributes, especially in the long run.

In summary, research on the readily detected- and underlying attributes provides the following results. First, the readily detected- and underlying attributes have a different impact on the social interaction processes and group/organizational effectiveness. Whereas the readily detected attributes are subject to automatic categorization and stereotyping, underlying attributes tend to influence social integration through social interaction processes, such as interpersonal communication. That is, the underlying attributes are found out/validated through social interaction processes (i.e., social interaction => detection/validation of underlying attributes => level of social integration). In contrast, interpersonal communication can be used to confirm/revalidate stereotypical information of the readily detected attributes (i.e., categorization process based on visual cues => level of social integration => social interaction processes => validation/re-categorization process => level of social integration). Despite the differences, researchers seldom consider the consequences of different combination of diversity attributes. Second, the underlying attributes tend to command a more significant role in social integration over time than is largely expected in the organizational demography research. That is, the impact of readily detected attributes attenuates over time. Third, the underlying attributes (especially values) shape the content and overall structure of a person's trait hierarchy (Triandis, 1996), and thus have an impact on how demographic differences are perceived. This makes diversity a socially constructed phenomena and the salience of diversity categories is partly culturally bounded. Overall, the picture that emerges is that diversity is a complex phenomenon, which effects penetrate beyond group composition and may vary substantially depending on a variety of contextual and personal characteristics.

2.3. Theoretical frameworks

Researchers examining the impact of readily detected- and underlying attributes tend to rely on similar theoretical frameworks to explain why diversity sows dissension in

demographic units. Most utilized frameworks in diversity research are the similarity-attraction- (Byrne, 1971), social identity- (Tajfel, 1982; Tajfel & Turner, 1986), and self-categorization theories (Hogg & Abrams, 1988; Turner, 1985, 1987). These social psychology theories rely heavily on visual cues. Alternatively, several communication theories investigate the impact of diversity on interpersonal communication (e.g., Ardener, 1975; Hall, 1976; Gudykunst, 1988). The social psychology theories make similar predictions about the effects of being different in groups/organizations and can help to explain why diversity can have deleterious effects on social integration. However, due to the predominant emphasis on perceptual properties and collectives over individuals, these theories have problems in explaining how values and the context influences the salience of social categories and how the impact of readily detected attributes may attenuate over time. Moreover, little emphasis is paid on the individual ability to influence the context of interaction.

The similarity-attraction paradigm (Byrne, 1971) is a common theoretical basis used in diversity research. The paradigm maintains that the greater the difference between an individual and the members of his/her group, the less attracted the individual is to the members of the group. When an individual is different from the members of his/her group along demographic dimensions, he/she is likely to withdraw physically and/or psychologically. Hence, increased diversity decreases interpersonal communication between dissimilar people. The effects are predicted to be symmetrical – an individual will respond negatively to demographic differences regardless of whether he/she exceeds or falls short of the unit norm. That is, men and women, old and young, or black and whites will respond symmetrically to being similar to or being different from others. Moreover, little emphasis is paid on the impact of experience on individual psychological processes. Critical in this theory is the amount of demographic difference experienced by an individual, not the direction of the difference (Pfeffer, 1983). In other words, increased diversity will linearly increase physical and psychological withdrawing effect. Although theoretically useful and widespread, the similarity-attraction paradigm is often viewed as too limited to fully capture the dynamics of diversity. In summary, the most often criticized weaknesses are: (a) the assumed linear relationship between all demographic attributes; and (b) the similar withdrawing effect with all forms of demographic diversity (e.g., Pfeffer, 1983). Indeed, research shows that the impact of diversity in terms of gender is asymmetrical (Tsui, Egan & O'Reilly, 1992).

Social identity- and self-categorization theories are based on the concepts of categorization, identification, and comparison (Hogg & Abrams, 1988; Tajfel & Turner,

1986; Turner, 1987). The self-categorization theory can be conceptualized as an extension of the social identity theory, which specifies in detail how the social categories produce prototype-based depersonalization of oneself and others, and thus generates social identity phenomena (Hogg & Terry, 2000). The basic elements of these social psychology-based theories are straightforward. The basic assumption is that people have a psychological desire to maintain a high level of self-esteem. In order to make sense of the surrounding social environment, people categorize objects and situate themselves cognitively through a process of social comparison. In making these comparisons, individuals must first define themselves. They do this through a process of self-categorization in which they classify themselves and others into social categories using salient social or personal characteristics. Tajfel (1982) distinguished between two discrete categories with definite boundaries and correlated attributes that are continuous qualities varying across individuals within a category. For example, an individual may form categories based on gender, age, and so on. Further, people may use subtypes representing various combinations of attributes to categorize themselves and other people-for instance, White male, Black female, and Asian female (Stangor, Lynch, Duan, & Glass, 1992). Despite the possible importance of underlying attributes in the categorization process, most researchers in the field of management science tend to agree that it is the visibility of physical differences that explains self- and other-categorization in diverse environments (Tsui, Egan & O'Reilly, 1992). In the light of the previous research, it can be asserted that most of the researchers have interpreted and used the theory to explain the visual consequences of the categorization process, such as reduced social integration.

The self-categorization theory suggests that new group members de-emphasize their sense of self as distinct from other members of the group and instead define themselves as components of the group. As a consequence, personal identity can be distinguished from social identity. Whereas traits and characterizations cognitively represent personal identity, social identities are self-categories that define the individual in terms of shared similarities with members of certain social categories. This suggests that social identities may be composed of traits and characteristics that are representative of the group members. Thus, cognitive representations of social identities may also include rich structures that contain values and affect related to group membership. In addition to values and emotions, social identities should include a sense of extension of the self beyond the individual. The emphasis is on the need to identify with the group, not its members. As Turner (1987) puts it, identification with groups triggers a 'depersonalization of self-perception, a shift towards the perception of oneself as an

interchangeable exemplar of some social category and away from the perception of self as a unique person' (50-51). This transformation of oneself is the process underlying group phenomena because it brings self-perception and behavior in line with the contextually relevant in-group prototype (Hogg & Terry, 2000). The following social categorization is the process by which social identification to groups manifests itself in the formation of in-groups and out-groups. In-groups are groups of individuals who share membership of a social group/category. In contrast, out-groups are groups of individuals who are classified as belonging to other social groups/categories. For example, out-group categories can be formed based on ethnicity, which is often based on stereotypical information. Following the social categorization, individuals will develop expectations for their roles in the group as other individuals concurrently develop role expectations for a given focal individual (Katz & Kahn, 1978). Role expectations include beliefs about the favorability of the individual's task or social behaviors.

A tendency for individuals to align themselves with the social categories comes at a price. The principle of functional antagonism (Turner, 1987) describes an inverse relationship between the salience of different social categories: as one category becomes more salient, others become less salient. The salience refers to a selective change in self-perception whereby people actually define themselves as unique individuals or as members of groups. This principle implies that when a certain attribute is salient (e.g., gender), a group of people will focus more on the gender differences than on similarities in other attributes (e.g., values). Moreover, salient minority may develop negative expectations regarding their group role and lead them to doubt their task-related competence. Hence, even diverse groups might have a greater number of perspectives to use, as assumed in the 'value-in-diversity' hypothesis, in-group/out-group categorization may leave the cognitive variety unused. It can be assumed, however, that the salience of attributes change over time as people engage into social interaction processes. The shifting influence of attributes can be explained by a recategorization process, which may enable people to conceive similarly despite diversity in the readily detected attributes. That is, readily detected attributes play less significant role over time as people shift their focus on underlying attributes such as values. Indeed, cross-cultural literature suggests that even superficial differences might result in team members choosing national culture as a primary form of identity (Erez & Earley, 1993). Alternatively, the anxiety/uncertainty management theory (Gudykunt, 1988) asserts that the communication interaction among dissimilar individuals initiates anxiety that may

attenuate over time as the individuals get more familiar with each other (i.e., find out that they have similar values).

The impact heterogeneity/homogeneity on the social categorization process has been examined by taking into account the amount of minorities in a given social entity (e.g., Kanter, 1977; Lau & Murnighan, 1998). This line of research asserts that in a highly homogeneous environment, all people perceive themselves as sharing key salient characteristics and consequently, no major categorization process occurs. That is, all individuals perceive themselves as sharing key salient characteristics (Lau & Murnighan, 1988). However, it is reasonable to assume that all groups and organizations are at least moderately diverse, which gives rise to a categorization process on the basis of salient traits or attributes. Since the group identity is a psychological experience of an individual, any subgroup requires at least two members to share salient traits or attributes. For example, Nordic expatriates are likely to form a subgroup in Japan based on racial and/or cultural similarity. In fact, minority status usually leads to an enhanced ingroup identification. The subgroup identities dominate in groups and organizations with moderate heterogeneity (Jackson, May & Whitney, 1995; Lau & Murnighan, 1998).

The most applicable division between the amount of salient minority to majority in the present research are visible and demographically different tokens in groups and organizations (Kanter, 1977). Tokens exist in skewed groups where the typological ration is approximately 85 majority members to 15 tokens. The visibility of tokens initiates the categorization process and explains reduced communication and the consequent isolation from the majority group. For instance, male managers in Kanter's study suggested that communication with women ‘took more time. You never know where you stood.... I never know what to call them, how to treat them’ (1977: 58). A series of studies have demonstrated that a perceiver’s attitudes about tokens or outgroup members can lead a person to interact with members of that group in such a way as to elicit behaviors that confirm the formed stereotypes (e.g., Snyder, 1992). Stereotypes can be defined as a ‘set of beliefs about the personal attributes of a group of people’ (Stroebe & Insko, 1989: 5). For instance, a person can interact with racial minorities in a manner that highlights the assumed stereotypical differences without acquiring personalized information of the person in question. The behavioral confirmation with tokens can thus explain why expatriate employees might be excluded from informal communication networks, and thus to have an incomplete knowledge what is taking place in their organizations. The problem here is that the members of the majority group do not monitor their behavior and thus recognize the exclusion. Expressions of

stereotyping and exclusion remain a common experience for the disadvantaged people. Hence, according to Kanter (1977), the successful integration into the majority is inverse function of the degree of imbalance in the numerical proportion of the majority to the minority members.

The token concept can be applied further to explain the isolation of value diverse individuals, especially in Asian societies that are characterized by a relatively high role obligation. Indeed, according to the tenet of the social role theory, attitudes and expectations in different cultures influence what is expected behavior of a person who occupy a particular social status or position in a social system (e.g., Eagly, 1987). It can be expected that social roles in collective cultures provide more fine-grained boundaries for expected behavior than in individualistic cultures. The differences in values are assessed based on social interaction processes, rather on visual cues (e.g., gender in the original study). For example, expatriates may be isolated in the long run based on value diversity rather than on demographic attributes. This could happen, for example, when the expatriate manager does not fulfill the expected social roles for managers in the surrounding cultural context. Again, it should be noted that the categorization and isolation process depends on the group composition and the context of interaction. Earley and Mosakowski (2000) argue that the salience of traits and characteristics depends on individual's societal, cultural, and personal backgrounds. For example, cultural diversity may play a more important role in the categorization process in culturally homogeneous countries such as Japan rather than multicultural societies such as Australia. An interesting detail is that when majorities are in minority, they are more sensitive to the token status since they have less experience in this role (e.g., Cox, Lobel & Mcleod, 1991; Tsui, Egan & O'Reilly, 1992).

In some contrast to the social psychology theories, communication theories focus on the impact of some certain form of diversity, most often intercultural and gender, on interpersonal communication. The muted group theory begins with the premise that language is cultural bound, and because men have more power, men have more influence over the language, resulting in language with male-bias (Ardener, 1975). The theory is rests on three assumptions. First assumption is that men and women perceive the world differently because they have different perceptions shaping experiences. Those different experiences are a result of men and women performing different tasks in the society. The second assumption is that men enact their power politically, perpetuating their power and suppressing women's ideas and meanings. The final assumption is that women must convert their ideas, experiences, and meanings into male language in order to be heard. As a consequence, males have more difficulty in

understanding what members of the other gender mean. In short, the theory posits that language is about power, and men have it. The muted group theory provides a theoretical rationale, for example, to explain why both men and women prefer homophilous networks and why women often have limited access to informal communication networks (cf. Ibarra, 1992).

Intercultural communication theories start with the assumption that culture influences communication patterns, and thus how people create and recreate their realities, cultures, and identities (Hall, 1959; Gudykunst, 1989). The term intercultural communication was first used by Edward Hall, who is generally acknowledged to be founder of the field. In his path-breaking book called *The Silent Language* (1959), Hall divides communication and/or languages into high- and low context dimensions. The high context communication, which is characteristic of collective cultures (e.g., Korea and Japan), relies heavily on nonverbal and contextual and shared cultural meanings. In contrast, low context communication, which is characteristic of individual cultures (e.g., The United States and Australia), relies on explicit communication. That is, meanings are determined by what is said, rather how it is said. The latest stages of intercultural communication research is the anxiety/uncertainty management theory (Gudykunst, 1989). The theory, which has some similarities with the self-categorization theory, starts with the assumption that people seek to reduce uncertainty by communicating. During the initial interactions with strangers, social identities predominate over personal identities because predictions of others' behavior are based on cultural and/or sociological data. As a consequence, initial communication patterns rely often on inaccurate categorization (stereotyping). As relationships become more intimate, the influence of social identity decreases. At the same time, the influence of personal identities increases because psychological data are used to predict others' behavior.

The above discussion indicates that diversity and its consequent impact on social interaction patterns, such as interpersonal communication, is a socially constructed phenomenon. Based on the epistemological view called social constructionism**,** people produce together in social interaction a human environment, with the totality of its socio-cultural and psychological formations (Berger & Luckmann, 1967). Its formation cannot be solely understood as a product of human biological constitution, which provides only the outer limits for human productive activity. Just as it is impossible for individuals to develop isolation, so it is impossible for man in isolation to produce ideas of stereotypes and prejudice. Where stereotypes and prejudice clearly reside in the heads of individuals, the most important intergroup attitudes are those that are shared widely by members of a society. Indeed, diversity is not solely an individual

characteristic; it is the mixture of the different characteristics of all of the members that share the context of interaction. At the macro-level, the content of stereotypes and the judgements are embedded in the culture of the society. This cultural 'knowledge' becomes institutionalized in the norms and practices of a society, and it is transferred to others through the usual socialization channels (e.g., parents, schools, books, the media, and other social institutions). Hence, stereotypes and prejudice is a part of socially constructed cultural knowledge. For instance, the inequality of women and ethnic minorities in the hierarchical Japanese society is considered 'normal' and thus not questioned at the collective level. In this work, social constructionism refers mainly to socially constructed differences between cultural groups, although it can also be used to describe socially constructed differences within cultural groups. This means that the impact of diversity may vary from one context to another as researchers have found that culture has an impact on how different diversity attributes are perceived and how they consequently influence social interaction patterns.

2.4. Measures and mechanisms

Researchers in the focal area have various ways to construct measures (empirical definition of the attributes) and have displayed the impact of diversity by direct and intervening mechanisms on social integration in demographic units. Organizational demography researchers use compositional measures (i.e., collectives over individuals) to examine the direct consequence of demographic distribution to social processes and performance in a given social unit. Several alternative ways have been offered to measure aggregated diversity (e.g., Blau, 1977; Teachman, 1980). Alternatively; relational demographic researchers believe that group identity is a psychological experience of an individual (i.e., individuals in collectives). Based on the concept, people in organizations or work units compare their own demographic characteristics with those of individual other members or the group as a whole, and that perceived similarity increases social integration (Hogg & Terry, 2000). This individual perception is captured in the Euclidean distance measure proposed by Turner (1987) and later operationalized by Tsui and O'Reilly (1989). The main difference between the measures in organizational- and relative demography is that, whereas the former focuses on attributes as aggregate-level, the latter focuses on the differences between one individual and all others within a given social entity. Despite the different levels of analysis, definitions of demography and operational measures, notable differences cannot be found in empirical studies (cf. Milliken & Martins, 1996; Williams &

O'Reilly, 1998). Recently, though, some scholars have recently started to claim that the findings in the relational demographic studies are more consistent in comparison to organizational demography ones (e.g., Lau & Murnighan, 1998).

The wide usage of demographic measures in diversity research raises an issue of what gives a rise to the concept of diversity in demographic units. The basic attitude in the fields of organizational demography and to a lesser extend relational demography seems to be that the readily detected attributes initiate social categorization. Hence, the demographic indicators can be used to measure the impact of diversity. An alternative approach is to emphasize values and context for interaction, which suggest that the impact of diversity penetrates beyond visible differences and is a socially constructed phenomenon. A perception of an individual, group, or idea that is 'constructed' through cultural and social practice, but appears to be 'natural,' or 'the way things are.' As a sobering example, consider a distinction between the socially constructed perception of gender and biological categorization between two sexes. Whereas organizational demography, concentrates on constructing measures and to examine the impact of sex (biological category) as a determinant for social integration, it may be restricted to capture the socially constructed meaning of gender. Hence, sex is socially constructed as gender, and thus measures that capture the social construction, such as individual values and context for interaction, should be incorporated in diversity research. Support for the socially constructed view can be drawn from a meta-analytic study of gender indicating that 'sex differences exist only in the minds of the perceivers' (Eagly & Wood, 1991: 307).

It can be argued that both organizational- and relational demography ignore the impact of values and attitudes on social integration. It is possible to identify two contributing reasons that may have limited the usage of value- and attribute measures in diversity research. One reason for this might be that value researchers are divided in their views of the appropriate way to measure values. As a consequence, there are literally dozens of conceivable important ways to measure work values, cultural values, terminal values, and work attitudes. Harrison, Price and Bell (1998), for example, suggested that it might be fruitful to examine the effects of diversity in individual values regarding working *per se* and working hard (e.g., Protestant work ethnic). The other value researchers have employed methods that assess preferences between different values (cf. Meglino & Ravlin, 1998). Partly due to these contrasting views, few researchers in I/O psychology and management science have sought to utilize demographic and value measures in their studies. Second, it is more comfortable to tilt towards well-established and accepted ways to measure processes and performances

based on demographic indicators (for a conceptual argument, see Pfeffer, 1983). It can be argued that the current focus on demographic indicators is prompted by the relative easiness to measure them and the employment of discrimination legislation (and consequent funding) that has prompted research in this field on inquiry.

The present study uses perceived value congruence/diversity measure for two reasons. First, values are subject to relatively large individual and contextual variance. Although cross-cultural researchers assert that a large part of values are shaped by the socio-cultural context (e.g., Hofstede, 1980), a recent study indicates that 40 percent of variance of work values are genetic in origin, whereas the other 60 percent are environmentally based (Keller, Bouchard, Arvey, Segal & Davis, 1992). Indeed, an analysis of 20 years of empirical research utilizing Hofstede's framework argues that causal relationships are seldom demonstrated in this domain of research (Kirkman, Lowe & Gibson, 2000). Thus, according to the researchers, 'causal claims should be interpreted with extreme caution' (34). Indeed, the use of generalizations of *etic* (science-driven and generalizable) approach to study *emic* (cultural-insider and culture-specific) approach may produce faulty generalizations. Perhaps the reductionism to 'four' cultural dimensions in the Hofstede structure fails to capture the real differences in the way people in different cultures view their social world. Moreover, Triandis (1994) has warned researchers about committing the 'ecological fallacy.' That is, confusing of country or cultural level (ecological) correlations with individual correlations. The reverse ecological fallacy is the confusing of individual correlations with ecological/cultural correlations. Research on biculturalism and situational ethnicity further indicates that minority groups in some socio-cultural context may respond using norm sets from different cultural backgrounds and that contextual cues indicate which norm set is operative in a given situation (e.g., Bond & Yang, 1982; Okamura, 1981). Ethnographic studies also provide evidence that expatriates do not necessarily reflect the general tendencies of the population (e.g., Brannen & Salk, 2000). In short, cultural values are not uniformly shared among a society's members (Rohner, 1987).

Second, collectives, such as deviant groups within a country or multicultural groups and/or organizations, may possess values that deviate from the ones held in the surrounding social-environmental context. Even though the assumption that work-related values are shaped by socio-cultural context is frequently made (Hofstede, 1980, Schwartz, 1994), it is not easy to certify that general values are actually shared in a given social unit (Dose, 1997). For example, the values in an international project team composed of Nordic and Japanese might have a socially constructed hybrid culture that deviates largely from the Nordic and/or Japanese national cultures. In other words, the

emergent hybrid culture is neither based on the Nordic or Japanese cultural values, but rather some emergent set of rules, norms, expectations, and roles created by combining elements deriving from national cultures (cf. Earley & Mosakowski, 2000). This conceptualization implies that some form of culture may exist or emerge whenever a set of basic assumptions is commonly held by a group of people. It can be finally assumed that the assumption of shared values preclude the possibility of diverge or conflict of values within groups or countries (e.g., Quebec region in Canada). To make complicated things simple, a perceptual value indicator that has been suggested due to its relative accuracy, albeit its limitations, is used in this research (Meglino & Ravlin, 1998). Hence, the mere distinction between national cultures is asserted as being no longer sufficient for understanding today's cross-cultural issues (Bond & Smith, 1996).

The other issue that has been debated at length in diversity research is the usage of direct or intervening process models. These researchers who follow the stream of thought put forward by Pfeffer (1983), claim that because intervening processes cannot be measured directly, demographic variables are superior because they produce more parsimonious models of human behavior by being directly observable (Pfeffer, 1983). These researchers have provided evidence that diversity may enhance or hinder performance, but are unable to explain how the group processes should be managed to get the most benefits embedded in various forms of diversity. According to Pfeffer (1983:350), research using process variables is unnecessary because 'as soon as one says that it is necessary to understand the intervening constructs or processes, one inevitably embarks on an infinite regress or reductionism from which there is no logical escape.' From a methodological point of view, this point is well taken because intervening models may be a subject to measurement error, and thus, violate theoretical parsimony.

Several researchers, especially in the relational demography and I/O psychology, have argued that organizational demography studies overemphasize a direct link between demographic characteristics and outcome without adequately describing intervening psychological and social constructs (e.g., Jackson, May & Whitney, 1995; Lawrence, 1997). Since the organizational demography research has left social processes as a 'black box', there is little information on the psychological processes initiated by diversity in groups/organizations. This stream of thought is based on the assumption that indirect mechanisms perform generally better than the input-output models, and thus, account for more variance in the dependent variable. As a consequence, researchers propose that more moderating and mediating indicators should be utilized in research enabling to identify various individual- and group-level

psychological processes. The good point is that the intervening process models have enabled to deepen the knowledge on various mechanisms that might be statistically relevant. However, on the other hand, this has initiated a stream of statistically advanced research that adds little additional value to our understanding of diversity in demographic units. In this thesis, both direct and intervening mechanisms are used and the underlying logic for different measures is discussed later in this introductory chapter.

2.5. Levels of theory, measurement, and statistical analysis

By its very nature, diversity exists at every level of the social reality and thus can be examined either as an individual- or collective phenomena. As a consequence, levels issues have aroused confusion and controversy among diversity researchers. The level of theory describes the target (e.g., individual, group) that a theorist aims to depict and explain (Klein, Dansereau & Hall, 1994: 198). The previous sections indicate that most theories describe the impact of diversity at the collective level. The level of measurement refers to the unit to which data are directly attached and the level of statistical analysis describes the treatment of the data during the statistical procedures (Klein, Dansereau & Hall, 1994: 198). Whereas diversity is a collective phenomenon, it could be measured either from individual's point of view (e.g., relational demography) or through aggregated measures.

As explained in the theoretical framework section, organizational and social psychologists typically characterize individuals as homogeneous within collectives. Consequently, most diversity researchers do not often refer to group members at all, but only to the group as a whole because single value or characteristic is sufficient to describe the group. Since theorists often specify that the level of theory is a group, they predict that group members are sufficiently similar with respect to the construct in question that they may be characterized as a whole. James suggested that 'the use of aggregates [to describe environments in psychological terms] is predicated on demonstrating perceptual agreement because an agreement implies a shared assignment of psychological meaning' (1982: 228). For instance, Edmonson (1999) claims that for team psychological safety to be a group-level construct, it must characterize the team rather than individual members of the team, and team members must hold similar perceptions of it. With this assertion, the researcher claims that groups should be homogeneous with respect to the theoretical construct. In some cases, theoretical constructs are aggregated from individual- to explain group-level phenomena, and

consequently a clear level of analysis might be hard to establish. For instance, the concepts of group efficacy and have emerged from the concept of self-efficacy (Bandura, 1997). As a consequence, researchers have noted that group potency, which can be viewed as an extension of the self-efficacy, is a belief that can be held by an individual or a group (Lester, Meglino & Korsgaard, 2002: 352).

Researchers wishing to test theories that predict within-group homogeneity are advised to use measures that focus on the unit as a whole, and to use statements that reflect individual opinions of the group as a whole. In order to assess the degree of agreement within the group, the next step is the calculation of intra-member agreement. The final step is to assess the degree to which the groups differ by calculating between-group variance. The final step is a challenge for many researchers, especially when their data suggests that the constructs are not reflecting a group-level phenomenon. In order for the construct to reflect a group-level phenomenon, the construct must differentiate well between groups and must reflect processes that occur within the group. In case of the group potency construct, Guzzo, Yost, Campbell and Shea (1993) suggested that the most important task that lies ahead for research concerning group beliefs is to establish the validity of alternative approaches to measuring such beliefs. For instance, in case of diversity measurements, organizational demography researches use aggregated measures to describe the extent of demographic variability within groups (Klein, Dansereau & Hall, 1994). This line of thinking posits that differences between groups on one construct of the used theory are related to differences between groups on other constructs of the theory.

Alternatively, group functioning can be understood as a psychological experience of a contextually dependent individual. Based on this line of thinking, group members are neither homogeneous nor independent of the group, but heterogeneous with their personal orientations. If the level of theory is the individual within the group, researchers are advised to use deviation scores (or to control for between group differences in some other way) to test the theory (Klein, Dansereau & Hall, 1994). Relational demography is a relative measure that examines differences of people within a given social unit. Hence, the individual with a large score on a relational measure differs more, in terms of a specific attribute, from other individuals in the group from individuals with a small score (Tsui, Egan & O'Reilly, 1992).

2.6. Summary

The above sections indicate that diversity research has loose conceptual boundaries and scholars have used various definitions, theoretical frameworks, and methodologies, in order to explain how diversity in readily detected- and underlying attributes influence the social integration in demographic units. As a consequence, few researchers have sought to integrate the different streams of literature. Despite the differences, all diversity studies can be asserted to utilize partially or fully the six characteristics provided in table one.

Table one. Framework for studies on heterogeneity in groups/organizations

Characteristics	Definition	Examples in research	Utilized in the present study
Demographic/Readily detected attributes	Attributes that can be determined by only a brief exposure to target people.	Age, gender ethnicity, etc.	Age, gender, and Ethnicity/nationality
Personal/Underlying attributes	Attributes that not necessarily visible and subject to interpretation and construal.	Attitudes, values Personality, etc.	Education, tenure, and values
Demographic unit	The entity to which theoretical generalizations will be made. The units size range from an individual to an industry.	Individuals, dyads networks, organizations, etc.	Individuals in groups/ organizations
Explanatory/theoretical frameworks	Systematically related sets of statements, including some lawlike generalizations, that are empirically testable	Similarity-attraction, Self-identity, Social categorization theories	Self-identity, Social categorization- and anxiety/uncertainty theories
Measures	Attributes that depict a demographic unit within a domain. Measures are either simple or compositional.	Tenure of an individual within a group is a simple measure	Simple- and relational demographic measures
Mechanism	The process by which the attributes that depict a demographic unit with a domain predict outcomes	Direct and/or intervening models	Direct and intervening models

The examples given are intended to be illustrative, not exhaustive. Adapted from Jackson (1996) and Lawrence (1997). Theory definition from Hunt (1966: 10).

As mentioned above, the dominant stream of research in this area is called organizational demography (Pfeffer, 1983), which has been claimed to lack precision (Lawrence, 1997), leave social processes as a ‘black box’, and to ignore the importance of underlying attributes such as values (Dose & Klimoski, 1999). Due to the limitation to cover both readily detected- and underlying attributes, the organizational demography

research was combined in the present study the cultural diversity-, group research-, and work values literature to show how multiple attributes influence social integration. Hence, the present study takes into account both the readily detected- and the underlying attributes, investigates the influence of diversity in groups and organizations, and uses both direct and intervening models. It should be lastly noted that although the previous sections contain criticism of organizational demography, the goal is not criticism itself. The purpose of the criticism is to put forward some problems, which could be partly remedied by combining complementary fields of literature.

3. Objectives

The purpose of this research is to describe and examine how the readily detected- and underlying attributes influence social integration and social cognition (group potency, group outcome expectations, and transactive memory directories) in cross-cultural settings. The combination of the previously reviewed literature, theoretical frameworks, and the inconsistency of empirical findings give room for three research questions that bind the four interdependent studies together:

1. What is the relationship between the readily detected- and underlying attributes?

The reviewed literature indicates that organizational demography researchers assume that the attributes are related. This assumption has remained largely unchallenged despite the inconsistent empirical findings. It can be further seen that several researchers in the cultural diversity literature equate cultural diversity with racio-ethnic differences, despite the fact that the work value literature indicates that cultural diversity is not necessarily an indication of ethnic differences (e.g., Hofstede, 1980). Moreover, race and ethnicity in many cases are not related and should be examined separately (cf. Cox, Lobel & McLeod, 1991). In these two streams of literature it is hard to distinguish whether the diversity in readily detected (race)- or underlying (cultural and work-related value) attributes are related and have a similar or differentiated impact on social integration. Finally, the work value literature has provided inconsistent results, indicating that in some instances, demographic attributes and values are related. Some researchers have sought to solve this dilemma conceptually and claim that some underlying attributes are related with the readily detected attributes and some are not (Shaw & Barrett-Power, 1998). The others have claimed that certain parts of the values are derived from genetics and partly from environment (Keller, Bouchard, Arvey, Segal

& Davis, 1992), which implies that the interrelation of the attributes might be context specific.

In terms of underlying attributes, it should be noted here that this study is mainly investigating the impact of perceived value differences on social integration in contrast to studies, for example, which use terminal value measures. The perceived values can with equated with complying to collectively communicative/behavioral rules with caution because people can only monitor behavior, not cognition. The communicative/behavioral rules can be used in making mental evaluations and interpretations of 'expected' behavior, but the rules themselves do not prescribe what one must (must not) or should (should not) think. For instance, expatriate employees may comply with the behavioral roles without sharing values simply because it is not possible for others to his/her monitor thoughts. However, several researchers suggest that values are closely linked with motivation, communication, and behavior (e.g., Thomas, Au, Ravlin, 2003). This is because cognitive frameworks or schemas determines how people process information about people or social events, and answers to the question what is perceived to be true. As cognition and behavior are interrelated, behavioral differences might be a presentation of value diversity.

2. What causal influence do the readily detected- and underlying attributes have on social integration?

Integration of the previous research in the management science, I/O psychology, and work value literature indicates that the readily detected- and underlying attributes tend to initiate different social interaction processes for two reasons. First, the basic difference in most research and theoretical frameworks is that the readily detected attributes are subject to automatic categorization due to their visibility, whereas the underlying attributes are detected via social interaction processes and the impact of social integration through individual and contextual schematic differences. However, as mentioned above, diversity in the readily detected attributes is not necessarily an indication of value differences. Hence, diversity in the readily detected attributes may have a stronger negative impact than the underlying attributes on social integration in temporary groups rather than in permanent groups. That is, as the impact of the readily detected attribute diversity attenuates as people get to know each other, underlying attributes may command a more integral role as determining social integration.

Second, the effect of readily detected- and underlying attributes is context specific because diversity is a socially constructed phenomenon. For example, groups and

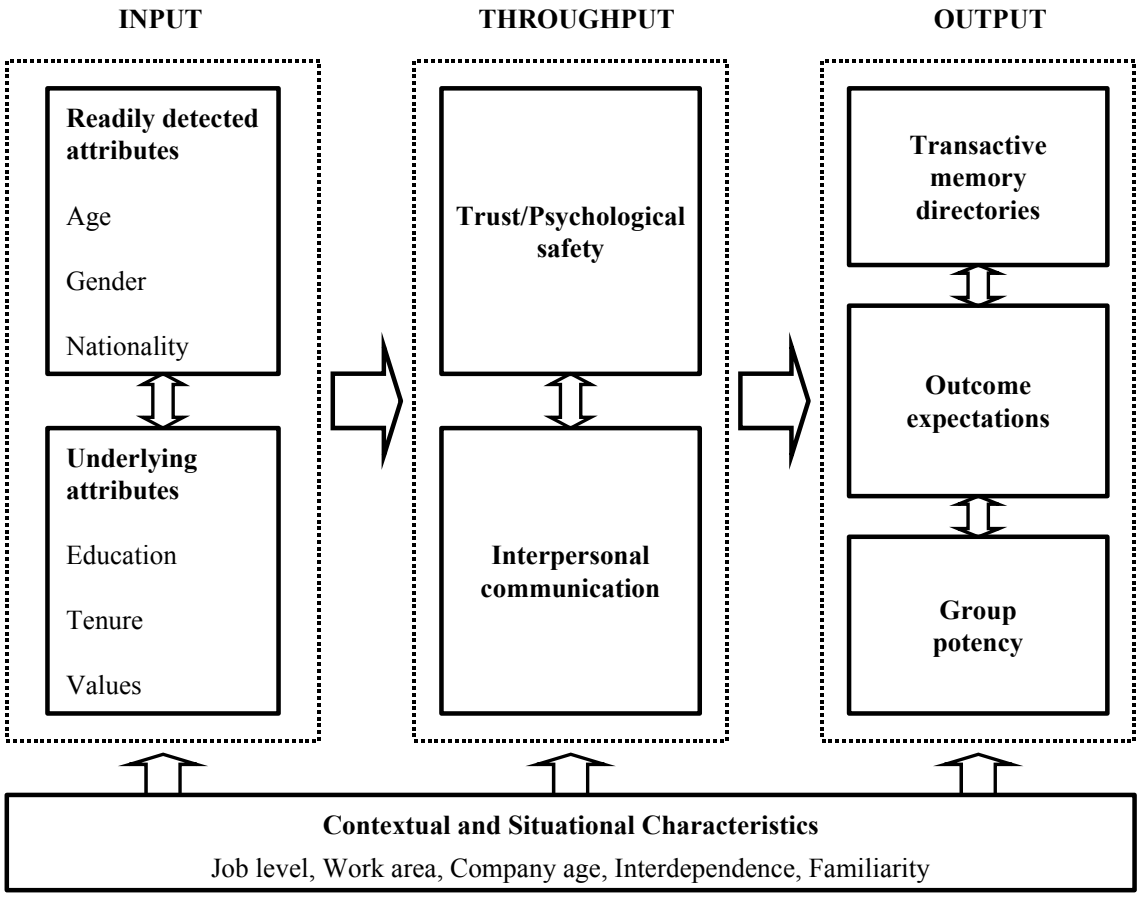
organizations with both cultural and gender diversity may function differently than those with only gender diversity, which can be explained partly by the differences in attribute salience of the attributes and gender role expectations across cultures. Basically, societies that have relatively high role obligations are more prone to classify people based on underlying attributes. The logic here is that deviation from assumed roles (i.e., value diversity) is viewed more negatively than readily detected differences. It can be further assumed that value congruence may play a more integral role in determining social integration in culturally homogeneous and collectivist Japan rather than in multicultural societies such as Australia and Brazil. Despite the contextual impact, organizational demography researchers claim that the impact of these attributes is similar because they are interconnected.

3. Does social integration mediate the relationship between the readily detected- and underlying attributes and social cognition (group potency, group outcome expectations, and transactive memory directories)?

Research in the focal area tends to indicate that diversity in the readily detected- and underlying attributes have a negative, albeit different, impact on social integration in terms of interpersonal communication (cf. Milliken & Martins, 1996; Williams & O'Reilly, 1998). However, as mentioned above, it should be noted that this impact is context specific. Conversely, homogeneity in the readily detected- and underlying attributes has a positive impact on social integration because people tend to interact with in-group members. Further, limited amount of studies have showed evidence that social integration has a positive impact on social cognition (group potency and group outcome expectations)(Gibson, Randel & Earley, 2000), and transactive memory (Wegner, 1987). Interestingly, researchers have not found any demonstrable linkages between readily detected- and underlying attributes, and social cognition (e.g., Myakovski, 2001; Rau, 2001). Hence, there is a good reason to believe that social integration mediates the relationship between demographic/underlying attributes and social cognition. It can be expected that values play an integral role in the process because cognitive similarity enables to perceive task processes and goals similarly and to determine who knows what in a given social entity.

The explicit delineating patterns of the 'what' questions can be operationally visualized by using 'arrows' to connect the 'boxes.' The key constructs used in the four independent essays are shown in figure one.

Figure one. Key constructs



The arrows illustrate the hypothesized relationship between the readily detected- and underlying attributes, and their causal relationship with social integration (interpersonal communication and trust/psychological safety). It is further shown that the attributes have a mediated relationship with social cognition (transactive memory directories, group potency, and group outcome expectations). It should be noted that the figure is illustrative and does not include all variables used in the four independent studies. The research models and causal relations are discussed more in-depth in section five.

This research aims at contributing to three gaps in the existing literature. First, in contrast to research that examines the impact of one or two attributes on social interaction processes such as communication (e.g., Zenger & Lawrence, 1989), the present study integrates several attributes of an individual's profile of readily detected- and underlying attributes. The usage of several attributes is important because examinations with only a single or few attributes may cause analysis to miss the potential impact of other attributes and their interactions. Indeed, research using

multiple attributes is claimed to be virtually nonexistent in cross-cultural context (Jackson & Joshi, 2001). Whereas the current research has identified the overall patterns of diversity, many studies do not carefully distinguish among multiple dimensions of diversity. For instance, what does it mean for an individual to be a triple minority, such as a young Scandinavian female expatriate in Japan? It is likely that the phenomena can be captured only by a combination of readily detected and underlying attributes. For example, in a multinational team, the experiences of lower-status Japanese females are likely to differ substantially from those of higher-status Japanese males. To assume that all Japanese team members have similar attitudes and engage in similar behaviors is too simplistic to enable full appreciation of how intercultural diversity will affect the work group.

Second, the present study concentrates on the perceived work values, which have not been the main focus in the organizational demography and relational demography research. This is simply because most researchers in the field of management science have concentrated on demographic information that is easier to measure and collect than cultural and work-related values. To make diversity as a unitary construct, researchers should consider the whole spectrum of attributes that influence people when they are determining that another person is different (Phinney, 1996). The focus on underlying attributes, such as values, is important and timely due to increased importance of knowledge intensive work and the globalization of business activities. It can be argued that values play an integral role in determining individual trait structures, and thus, determine the rate of knowledge integration and work processes in cross-cultural work place. By investigating the impact of the readily detected- and underlying attributes separately, this work seeks to overcome the fuzzy thinking created by equating the attributes and concentrating only on the demographics in empirical research.

Third, the present study aims to link readily detected- and underlying attributes to shared cognitive concepts, such as transactive memory directories, group potency, and group outcome expectations. Transactive memory is a collective property that links single cognitive systems to a large information network. It enables employees to use each other for external sources of knowledge in daily work activities. Since transactive memory systems are formed through interpersonal communication, it might be influenced partly by the readily detected- and underlying attributes. However, this aspect has not been examined extensively in previous research, which has predominately focused on transactive memory systems by intimate couples (Wegner, 1987). Group potency is defined as the collective belief that the group can be effective (Guzzo, Yost, Cambell & Shea, 1993). Group outcome expectations refers to the beliefs

that group members hold about likely consequences their group will experience as a result of the group performance of work tasks (Riggs & Knight, 1994). Both psychological processes are likely to be influenced by diversity and communication because feelings and expectations are communicated through verbal and nonverbal behaviors. This study was included into the present research because little is yet known how the readily detected- and underlying attributes influence the development of shared performance expectations.

4. The empirical base and used methodologies

The data for this study were collected in Finland during spring 2000, and in Japan during my stay as a visiting researcher at the Hitotsubashi University in Tokyo, from 2001 to 2003. The outline of the empirical basis and used methodologies for the independent studies is provided in table two.

Table two. Samples and methodology

Essay	Data	Data Analysis
Essay 1	Controlled laboratory study with 139 undergraduate students (46 groups)	Confirmatory factor analysis and multiple regression analysis
Essay 2	Survey data from nine Nordic subsidiaries in Japan (110 respondents) and nine expatriate manager interviews	Confirmatory factor analysis and multiple regression analysis. Qualitative analysis of text narratives
Essay 3	Twenty six managerial interviews in twenty six Nordic subsidiaries in Japan	Qualitative analysis of text narratives
Essay 4	Survey data from ten Nordic subsidiaries in Japan (111 respondents) and ten expatriate manager interviews	Confirmatory factor analysis and multiple regression analysis supplemented with managerial interviews

The first study, conducted in controlled settings, provides some benefits because it permits precise measurement of effects, deliberate manipulation of presumed causes, and strong inferences about cause-effect relations (McGrath, 1984). There were three reasons to include a laboratory study in the present work. First, meta-analyses indicate that laboratory findings normally resemble those from the field, though the latter are usually stronger (e.g., Mullen & Copper, 1994). Second, usage of student groups was also one of the most efficient ways to compose multicultural groups in culturally homogeneous Finland (i.e., most companies are racially and culturally homogeneous). Finally, a recent study indicates a high within-country consistency in respect of cultural values between students and middle managers (Keating, Gillian & Szabo, 2002).

The data collection for the first study was started at the Swedish School of Economics and extended to three business polytechnics in southern Finland. The target for the study were introductory courses taught in English, which have a relatively high amount of foreign nationalities. I contacted respective teachers in the three polytechnics for a permission to conduct a case study that lasted for 60 minutes (more details are provided in essay one). The final sample consisted of 139 undergraduate students (46 groups). The mean age of the subjects was 23 years and 64 percent were female. About 69 percent of the respondents were Finnish. In the study, I controlled cultural diversity by creating moderately cultural diverse student groups.

The data for the remaining studies were collected in Japan for three reasons. First, a high degree of linguistic and cultural fluency is asserted to facilitate cultural interpretation (Boyacigiller, Kleinberg, Phillips & Sackman, 2003). I have been in close contact with Japanese more than ten years, studied Japanese business, culture, economics, and language in Australia and the United States, lived in Japan about for five years, worked several years in a Japanese organization, and speak relatively good Japanese. Hence, I have rather comprehensive practical and theoretical understanding of Japanese values and how they have an impact on the social integration in cross-cultural contexts. Second, research indicate that Japan is a challenging country for the Western expatriates due to the large cultural differences, ethnic dissimilarity, strong in-group and out-group formations, historical isolationism, and cultural and ethnic homogeneity (e.g., Hofstede, 1980; Triandis, 1996). As an indication, Japan is classified as a collectivist society where people place high priority on in-groups. The expatriate employees are often categorized as an out-group. Third, despite being the second largest economic power and increasing target for foreign investment, the impact of diversity on social integration processes is relatively little studied in Japan. It can be asserted that most focus in research, especially in the 1980s, was to find how the culture contributes to the

success of Japanese industrial organizations (cf. Boyacigiller, Kleinberg, Phillips & Sackmann, 2003).

The data, methods, and sample sizes in the three last essays vary slightly (see table two). In the quantitative studies, one respondent was removed due to the large amount of missing data. The interviews were obtained from twenty-six Nordic subsidiaries, whereas the quantitative data was collected from nine small Nordic subsidiaries. The Nordic subsidiaries in Japan were identified through the respective chambers of commerce and contacted by phone for interviews. The initial targets for the interviews were basically all Nordic managers working in Kansai (Osaka, Kyoto, and Kobe) and Kanto (Tokyo, Kawasaki, and Yokohama) regions. For the quantitative part, I decided to concentrate on relatively small subsidiaries (less than 20 employees) in order to decrease variance introduced by size or differences in operations. The questionnaires were given to the nine interviewed managers, who further took care that most employees responded and that the questionnaires were returned on time.

Both qualitative and quantitative methods were used in the four independent studies. Utilization of both methodologies was made based on their inherited differences. This is because the qualitative method tends to focus on the unique context and rich description of unit(s) under analysis. Qualitative studies also seek to describe processes rather than outcomes or products (Creswell, 1994). Further, the physical involvement of the researcher in qualitative research enables to describe the social phenomena often more detailed than the quantitative research. Unfortunately, qualitative research is seldom used in contemporary demographic research to examine how the differences between actors influence social interaction. This is because qualitative methodology does not allow the precise identification of attributes that influence social integration processes.

Quantitative methods tend to stress causality, the precise identification of constructs, and attempt to ensure that the same phenomena are assessed in each different context. The advantage of quantitative methodology is to find which readily detected- and underlying attributes influence social interaction. Furthermore, quantitative methodology can capture some social phenomenon that is not visible to the subjects and/or researchers (e.g., transactive memory directories). However, self-report measures may have some problems to capture the social phenomena because the subject may seek to answer in social desirable ways. In short, both methodologies have strengths and inherent flaws and that is why some scholars suggest the utilization of more than one method in empirical examination (McGrath, 1984). Multiple methods, thus, can reinforce one and other by offsetting each other's weaknesses, and can add strength to the resulting evidence, if they show consistent outcomes across divergent methods.

5. Summary of the empirical studies

This thesis consists of four autonomous essays – one based on a laboratory study in Finland and three based on two years fieldwork in Japan. The thesis commences with two essays, which directly investigate the impact of readily detected- and underlying attributes on social integration in student groups in Finland (essay one) and Nordic subsidiaries in Japan (essay two). To avoid confusion, it is more accurate to claim that the essays examine the perceived level of perceived values rather than values *per se*. Although the basic theme somewhat overlaps in these two essays, they are rather different in regard of the empirical setting (controlled- vs. authentic setting), methodology (indirect- vs. direct mechanism), and the used indicators. Whereas the first essay focuses on the temporary impact of relative demographics in a controlled environment, the second essay investigates the phenomena in authentic settings where the interaction patterns are due to be influenced by socio-cultural context, hierarchy, subsidiary age, interdependence, and so on.

Third essay examines the influence of socio-cultural context on social integration in Nordic subsidiaries. It will be shown, from a Nordic expatriates' point of view, that Japanese cultural context promotes relative high role obligation, which manifests itself in relative strict horizontal- and vertical boundaries in organizational interaction. Managerial interviews show that the impact of age-, cultural-, gender-, tenure-, and value diversity on social integration is a socially constructed phenomenon. The final essay shifts the focus from the readily detected attributes to transactive memory directories, which antecedents are asserted to be homogeneity in underlying attributes, psychological safety, electronic- and interpersonal communication, and organizational commitment. The essays are discussed more in-depth below.

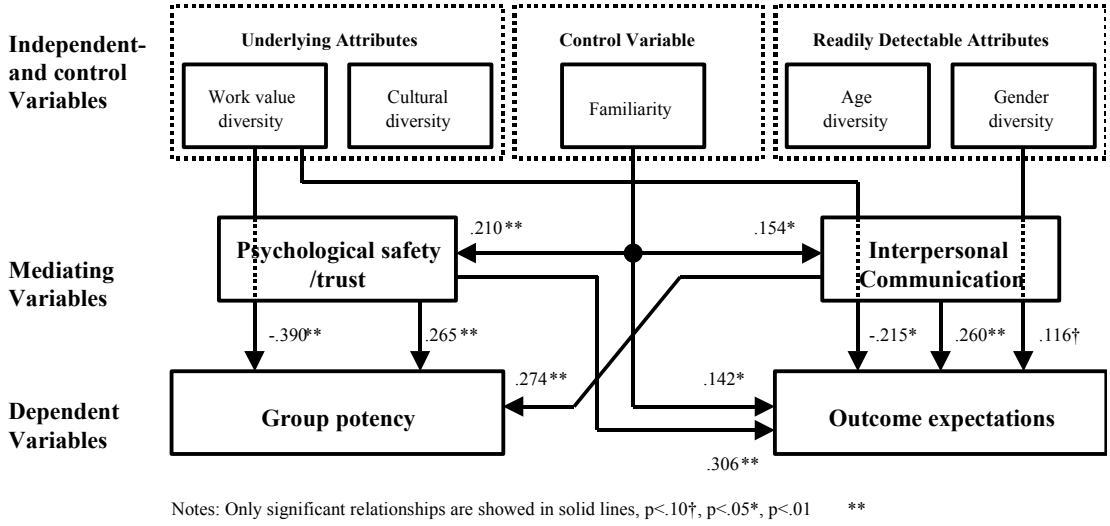
5.1. Essay One: The impact of readily detected- and underlying attributes on group potency and outcome expectations

This essay explores how the readily detected- and underlying attributes have an impact on the group potency and outcome expectations through social integration (interpersonal communication and psychological safety/trust) in temporary student groups. Group potency is defined as the collective belief that the group can be effective (Guzzo, Yost, Cambell & Shea, 1993). Group outcome expectation refers to the beliefs that group members hold about the likely consequences their group will experience as a result of the group performance of work tasks (Riggs & Knight, 1994). The both

dependent variables can be viewed as socially constructed psychological phenomena created based on visual cues and social interaction. The argument is based on the different impact of visible (age and gender) and underlying attributes (cultural- and work values) on performance expectations during the early phase of the group interaction process. The separation between the readily detected- and underlying attributes is important because majority of the studies in the fields of O/I psychology and management science assume that the underlying attributes, such as values, have a similar impact with visible attributes on group processes and performance (e.g., Tsui, Egan & O'Reilly, 1992). It can be argued that the underlying attributes, especially values, play an integral role in the formation of performance expectations because they influence how individuals view task processes and goals. The impact of the attributes was explained based on the social identity theory (Turner, 1987).

Methodologically, this essay is a mediated investigation of how individuals view the effectiveness of their groups. The research model and statistically significant relations are shown in figure two.

Figure two. The research model and statistically significant relations in essay one



Notes: Only significant relationships are showed in solid lines, p<.10†, p<.05*, p<.01 **

The mediating variables – psychological safety/trust and interpersonal communication – were included for two reasons. First, these mediating variables are asserted to capture the concept of social integration (Shaw, 1981). Hence, these mediating processes were assumed to influence individuals' willingness to work together, share ideas with other group members, and consequently capture a part of the collective belief of group's effectiveness. Second, the readily detected- and underlying attributes are likely to

influence the performance beliefs directly and through the social integration. The indicators for gender and nationality were constructed based on the concept of relational demographics, which indicates the difference between an individual and all other individuals in the sample (Tsui, Egan, O'Reilly, 1992: 562). In this study, the students were compared to other students in the same group. Nationality, which was designed to capture cultural value differences, was treated as an underlying attribute due to relative racial homogeneity (i.e., most respondents were Caucasian). Hence, in this study race cannot be equated with ethnicity as it has been done under the term of racioethnicity. Work value diversity scale is based on perceived value differences. Age was measured in years. Furthermore, the group member familiarity was controlled because it is found to have an impact on interpersonal communication and information exchange (e.g., Gruenfield, Mannix, Williams & Neale, 1996). The mediated model was analyzed based on the recommendations by Baron and Kenny (1986).

The results indicate, in contrast to commonly held assumptions in the organizational demography research, that the readily detected- and underlying attributes are not (statistically) related (not shown in figure two). Regression analyses give support to a direct and mediated relation between relative gender diversity and outcome expectations as well as to perceived value diversity and the dependent variables (group potency and group outcome expectations). As hypothesized, the perceived value diversity played the most significant role in social integration and performance expectations. Surprisingly, and against the original hypothesis, relational gender diversity was found to have a positive impact on the mediating and dependent variables. The socio-cultural context and initial group processes, such as impression management, were used to explain the contrasting result. In feminine Nordic cultures, task roles are not strongly linked to gender, and thus can influence group potency and outcome expectations through psychological processes such as trust and communication. An alternative, but equally feasible explanation is that people engage into the process of self-management in the early phases of the group cycle. That is, people are motivated to show good qualities in order to be integrated into the group. Therefore, the results indirectly indicate that the context and time play critical roles influencing how diversity affects social interaction patterns and performance expectations.

5.2. Essay Two: The impact of relational demography and socio-cultural context on interpersonal communication - Nordic subsidiaries in Japan

This essay explores the impact of the readily detected- (age, gender, and racio-ethnicity) and underlying attributes (education, tenure, and perceived work-values) on social integration in the form of interpersonal communication. This investigation was considered to be important because diversity and socio-cultural context influences communicative behavior, which can further be linked with effectiveness and performance. Indeed, researchers claim that the interaction between the attributes and the context of interaction are critical, but understudied in management research (Milliken & Martins, 1996). It was further assumed that the socio-cultural context influences how readily detected- and underlying attributes have an impact on interpersonal communication. More specifically, it was expected that in collectivist Japan, perceived work-related values and the related role expectations have a stronger impact on interpersonal communication than the demographic diversity over time in small work units. Value congruence, which can be witnessed by strong work roles and behavioral norms, are promoted in Japanese organizations, for example, by strong socialization and paternalistic management. This not to assert that demographic diversity does not have a negative impact on interpersonal communication. Rather, the magnitude of the readily detected- and underlying attributes on interpersonal communication varies considerably.

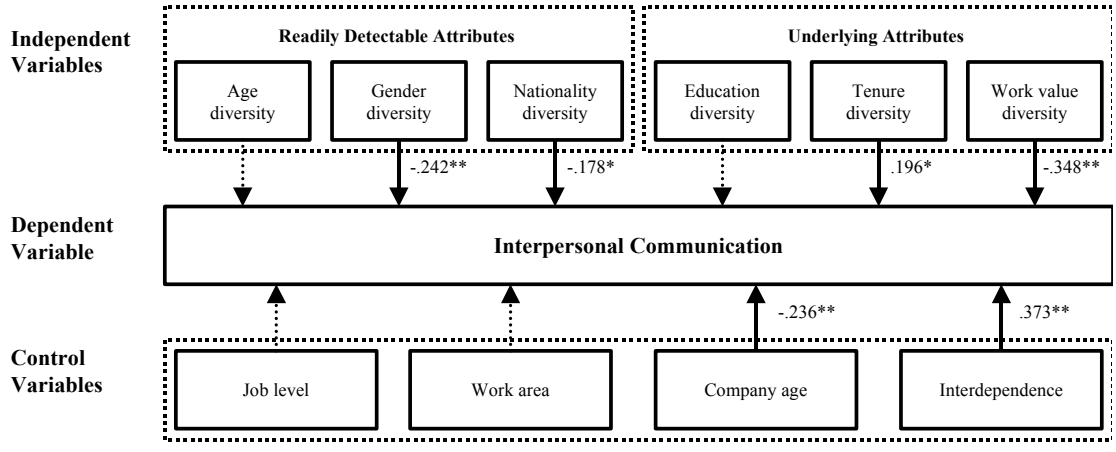
This essay extends the first study in two ways. First, this essay moves the analysis from a controlled environment to an authentic setting. Further, in comparison to the study conducted in a controlled environment, this essay highlights the influence of socio-cultural environment on interpersonal communication. Indeed, even though the impact of socio-cultural context has largely been ignored in North American diversity research, findings in some recent studies imply that socio-cultural context influences how relational demographics have an impact on interpersonal relations (e.g., Farh, Tsui, Xin & Cheng, 1998). Second, in comparison to essay one and many other diversity studies, this essay takes into account the impact of a large set of readily detected- and underlying attributes. This enables more accurate identification of which attributes contribute or hinder communicative interaction among dissimilar employees in comparison to many previous empirical investigations.

The fundamental impact of diversity on social integration in this essay is explained based on the social identity- (Tajfel & Turner, 1986), self-categorization theories (Turner, 1987). The theory-based argument focuses on the different roles of visible and

non-visible attributes in interpersonal communication processes. In general, diversity in both attributes has a negative impact on communication patterns, but they play different roles over time. This is arguably because visible attributes, such as age and gender, initiate automatic categorization processes that have an impact on the initial interaction processes. That is, demographic diversity tends to be salient during the initial social interaction processes. However, as employees validate underlying attributes through communicative interaction, they may find that the demographically dissimilar employee possesses similar underlying attributes, such as work-related values. This initiates a re-categorization process, which makes underlying attributes to play a primary role as influencing interaction patterns in the long run. In short, the influence of readily detected attributes may mature over time, which increases the role of underlying attributes as the primary determinant of social integration over time.

Methodologically, the second paper is a input-process examination for two reasons. First, the direct examination was chosen because of the large set of the readily detected- (age, gender, and racio-ethnicity) and underlying (education, tenure, and work-values) attributes and supplementary use of managerial interviews. The research model and statistical relationships are shown in figure three.

Figure three. The research model and statistically significant relations in essay two



Notes: Non-signigicant relationship = dotted line, Significant relationship = solid line, p<.01**, p<.05*

Similarly to the first essay, I relied on relative demographics measures because a small sample size does not support aggregate measures and relational measures account for more variance in statistical models. It was considered that it is more feasible to use several readily detected- and underlying attributes and to refrain from using mediating

variables because most previous research in focal area examines the impact of only one or two demographic attributes (e.g., Zenger & Lawrence, 1989). In contrast to essay one, nationality was measured as a readily detected attribute (racio-ethnicity) due to obvious racial difference between the Nordic and Japanese employees. Several control variables (interdependence, company age, job-level, and work-area) were included to identify possible sources of extraneous influence. It can be further asserted that, rather than being a traditional input-output examination that links demographic variables to performance, this essay can be viewed as an input-process examination that leaves output as a 'black box.' Concentration on group/organizational processes can be justified by a large body of research that links demographics with performance, but leave group processes largely unidentified.

The results, in most respect, confirm the hypotheses based on theoretical assumptions and empirical findings of the previous research, indicating that increased relational diversity in gender, nationality, and work values decreases interpersonal communication in cross-cultural organizations. The readily detected- and underlying attributes, with exception of age and tenure, were not related. The interrelation between age and tenure diversity was not surprising and can be explained by a low mobility of labor in Japan. Among the used attributes, perceived work value diversity was found to command a primary importance in determining interpersonal communicative behavior. As a consequence, the results imply that underlying attributes are stronger indicators of affective behavior than visible attributes in cross-cultural environment. It should be noted that work value diversity was not statistically related with the diversity in nationality. In contrast to the original hypothesis, relative tenure diversity was found to have a positive impact on interpersonal communication. The results indicate an interesting way of how socio-cultural context may influence communicative behavior. This is probably because the social norms emphasizing verticality among communicative interaction between senior (*sempai*) and junior (*kohai*) employees in Japan. In these symbiotic relationships, the senior employee is assumed to take a guiding and nurturing role and the junior employee is assumed to obey and rely heavily on the guidance of more experienced colleagues.

5.3. Essay Three: The impact of the Japanese socio-cultural context on employee behavior and cross-cultural interaction in Nordic subsidiaries

This essay seeks to further the understanding on the Japanese work-related behavior and its impact on cross-cultural interaction in Nordic subsidiaries. The essay aims to provide

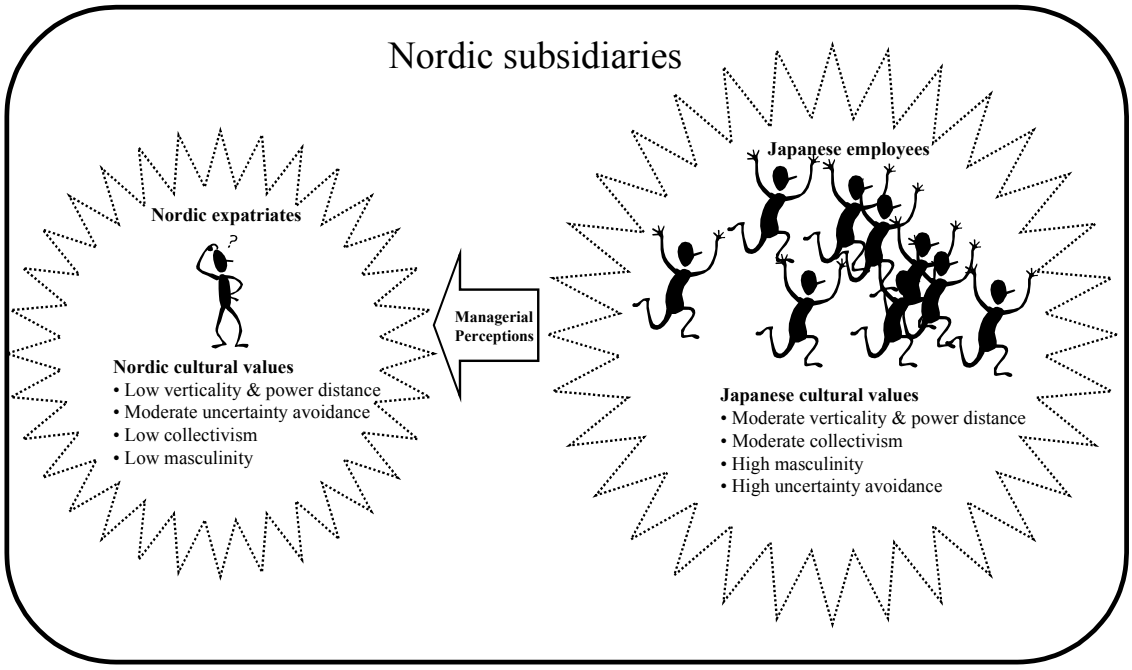
answers to three research questions. First, how Nordic managers perceive Japanese work-related behavior? Second, what types of cultural values are perceived to influence the behavioral patterns? Third, what changes the expatriate managers have initiated to cope or overcome the challenges created by cultural differences? The conceptual framework of this research relies on cultural typologies in order to compare the Nordic and Japanese cultural values (e.g., Hofstede, 1980). In the framework, emphasis was paid on Japanese cultural values because the study provides a Nordic perspective of Japanese organizational behavior.

The methodology for the third study is qualitative since the cultural impact on work values and organizational interaction is multidimensional, interwoven, and difficult to measure. Moreover, qualitative methodology was considered to provide a deeper meaning of the social reality where all contextual variables are operating. I used few parallel questions for all interviewed expatriate managers starting from personal information and moving into the focal area of interest. The interviews were flexible, which means that the research did not try to lead the respondents. The interviews were taped in digital format and transcribed in its entire length. The duration of the interviews varied considerably, and ranged from 30 to 90 minutes. The majority of the personal interviews were conducted either in Finnish or English. In addition, a large number of company documents (in English and Japanese) were collected. The principle rule was that all the interviews were transcribed and supplementary field notes were made within one day after the interview to provide an as accurate picture as possible of the various circumstances related to the interview situation.

The data were analyzed using the process of data reduction, data display, and conclusion drawing and verification (Miles & Huberman, 1994). During the data reduction phase, I focused on simplifying the interviews to categories that display the managerial perceptions. In the categorization, I followed loosely the themes proposed in previous research (e.g., Hofstede, 1980). It is important to note here that the data were not forced to fall into the cultural taxonomies. Rather, the interviews furnished clues for general value categories, such as collectivism and verticality. During the data display phase, I sought to organize the information in a way that enables to draw definite conclusions. This is shown in the study by direct quotations, which are intended to illustrate certain points of interest. Finally, the regularities and patterns were used in the verification and conclusion drawing phase.

It should be noted that the Nordic view of Japanese organizational behavior and its consequences is subjective because the expatriate managers see the social reality through their own cultural values (figure four).

Figure four. Elements discussed in essay three.



The interviews basically indicate that the socio-cultural context has a strong influence on behavioral patterns, especially in the forms of collectivism and hierarchy. Based on the interviews, Japanese employees act in a strict vertical system that provides them behavioral codes. For instance, the socio-cultural context emphasizes submissive roles for women and assertive roles for men. In most cases, the collectivist values were perceived to promote value congruence and distinct behavioral patterns. Moreover, one distinctive feature of the employee behavior was low reaction to novel things because members of the Japanese culture desire formal rules regarding interaction.

It was not really surprising to find out that differences in work values create confusion in cross-cultural interaction processes. The most frequently indicated problem was ambiguity in communicative interaction. Conventional explanation for the communication problems is the role of the context in Japanese communicative behavior. In principle, Japanese adjust their communicative behavior to their roles in the vertical system. As a consequence, little new might emerge in meetings, which often are little more than a ratification of consensus achieved by the leader beforehand. Based some expatriates, problems in cross-cultural interaction have increased distance between the foreign- and Japanese employees to the extent that the foreigners do not know what is happening at the lower organizational strata. The informal communication tends to

weaken the esteem and the informal position of the expatriate mangers because they are frequently excluded from informal forms of consultation.

5.4. Essay Four: Transactive memory directories in small work units

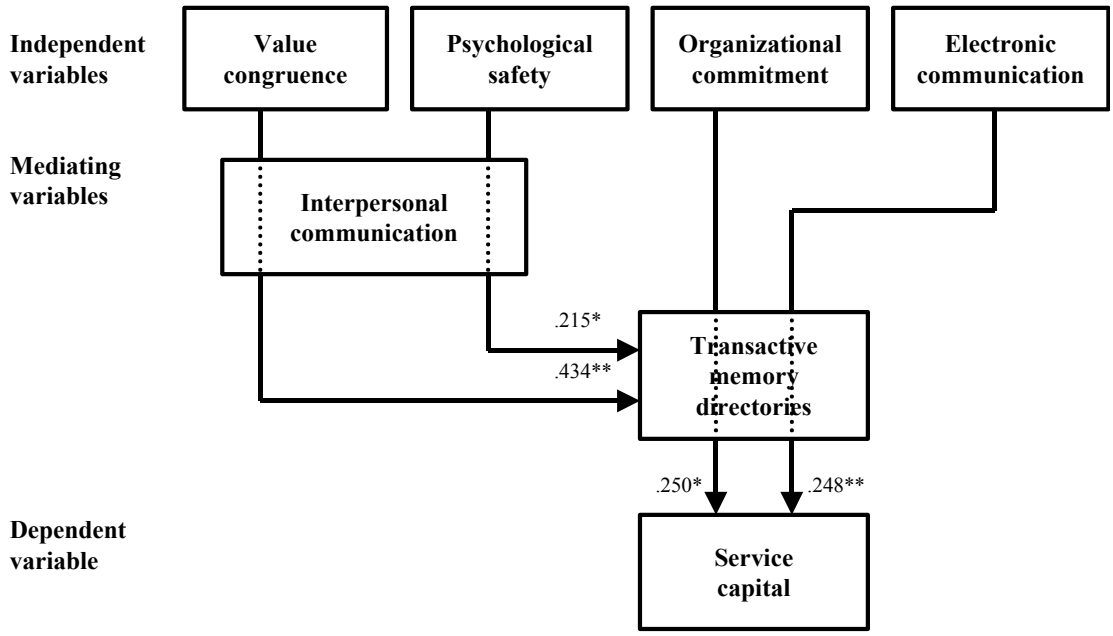
The two basic components of a transactive memory system are two or more individual's memories and the communication between those individuals. The processes pertinent to the transactive memory systems in teams are directory updating, communication to allocate information, and communication to retrieve information. The main focus in this essay is on transactive memory directories, which can be described as the interaction among a collective of individuals that helps to determine sources of collective expertise (Wegner, 1987). In large social entities, transactive memory systems are more complicated than in teams due to the hierarchy and size. As a consequence, the formation and maintenance of transactive directories can be assumed to have various antecedents, such as the group/organizational composition, socio-cultural/organizational context, and medium of interaction (e.g., electronic and interpersonal communication). The exploration of contributing components for transactive directories was considered to be important and timely due to increased diversity in groups/organizations, predominance of information technology in expert systems, and the importance to show that linkages between internal and external cognition offer benefits in service-oriented organizations. It was also considered important to extend transactive memory research from dyads and small groups in controlled settings to small work units in authentic setting.

The essay is based on three arguments. First, value congruence has a positive impact on transactive memory directories because it helps people to categorize and label information similarly. Further, psychological safety has a contributing impact on transactive memory directories because it enables people to externalize their ideas. Interpersonal communication mediates the relationship between these variables and transactive memory directories because communicative interaction plays a key role in the development of collective cognitive systems (Klimoski & Mohammed, 1994). Electronic communication was hypothesized to play only a supplementary role in the formation of transactive memory directories because richer forms of media carry more contextual information than leaner forms (Daft & Lengel, 1986). Organizational commitment has a contributing impact on transactive memory directories due to increased motivation and lower employee turnover. That is, employee instability disturbs well-established transactive directories. Research also further indicates that

new employees typically keep quiet until they have established themselves enough to have their ideas heard (Hollander, 1964). Interpersonal- and electronic communication are linked through transactive memory directories to service capital (defined as the ability to respond customers requests accurately).

This essay was methodologically challenging for two reasons. First, this is one of the first studies that applies the transactive memory concept in small units, which puts the reliability and validity of the created transactive memory directory indicator into a critical position. In order to increase the discriminant validity of the used indicator, a large amount of literature was reviewed, and the statements used in the scale were validated with several researchers active in the focal area. In confirmatory factor analysis, the internal consistency of the scale was satisfactory. Second, in comparison to the other independent studies, the statistical analysis for this study was complicated due to the amount of used indicators in a mediated model. The used variables and statistical relationships are shown in figure five.

Figure five. The research model and statistically significant relations in essay four



Note: Only mediated relationships are shown. p<.05*, p<.01**

Taking in account the relative small research population, the inclusion of several variables did not allow the usage of demographics indicators, such as age, gender, and tenure, in the model. Hence, in contrast to essays one and two, only one attribute was

incorporated in this study. Value congruence was included into this study because it was shown to have the strongest impact on social integration. The mediated model was analyzed based on the recommendations by Baron and Kenny (1986).

The results support hypotheses, indicating firstly that psychological safety and value congruence have a positive impact on interpersonal communication and transactive memory directories. Further, the results show that both electronic- and interpersonal communication and organizational commitment help to determine 'who knows what' in the studied Nordic subsidiaries. In some contrast to original expectations, electronic communication had a stronger direct impact on transactive memory directories than the interpersonal communication. Finally, the results show that transactive memory directories are beneficial in service-oriented organizations, which seek to respond fast and accurately to customer needs. The results imply that the context for interaction has powerful implications for individuals as well as companies in the increasingly diverse- and knowledge-intensive companies. Hence, the focus in many companies on information technology may not be sufficient enough; also human capital needs to be taken into account. The results imply that managers need to pay attention to create an environment where employees are motivated to externalize their knowledge and rely on collective expertise.

6. Main findings

The four independent studies indicate that readily detected- and underlying attributes play an integral role in determining social interaction in temporary groups and small work units. Despite the influence of both attributes, most empirical investigations have concentrated on demographic attributes and left underlying attributes, such as values undiscovered. The main findings in the independent studies concern: (1) the relationship between the readily detected- and underlying attributes; (2) their combined impact on social integration; (3) the influence of social and socio-cultural context on the perception of readily detected- and underlying attributes, and; (4) the mediated influence of the attributes through social integration on social cognition.

First, the quantitative studies (essays one and two) indicate that perceptual work values and readily detected attributes are not (statistically) related in cross-cultural settings. In the light of these findings, it can be asserted, albeit with caution, that demographic diversity is not always a clear indication of perceived value differences. An equally feasible, albeit not complete accurate, way to interpret the findings is to assert that acceptance of roles does not initiate perceived value differences even though

the differences, for example, between male and female or Japanese and expatriate employees would exist. That is because the non-statistical relationship between race and the perceived work values indicates that differences in cultural values is not a necessarily an indication of the perceived value differences. The non-significant relationship is an indication that values and readily detected attributes should be separated in empirical investigations, especially in cross-cultural settings. The findings are in a direct contrast with the dominant thinking in the organizational demography literature, which asserts that demographic attributes can be used as indicators for the underlying attributes. Unfortunately, values were not used as a dependent variable in the independent studies, and thus it is hard to determine what causes independence between the readily detected- and underlying attributes. It could be assumed, parallel to previous research, that part of the values are determined partly genetically and partly environmentally (Keller, Bouchard, Arvey, Segal & Davis, 1992). Hence, the core of individual values is relatively resistant to change and partly socially constructed.

Second, all four independent studies indicate quantitatively and qualitatively that some readily detected- and underlying attributes command a significant causal impact on social integration. In regard to demographic attributes, these finding are not really surprising because previous research shows that diversity has generally a negative impact on social integration (cf. Milliken & Martins, 1996; Williams & O'Reilly, 1998). It was more interesting to find the strong and consistent impact of the perceived work values on social integration, which implies that readily detected attributes command a secondary role in cross-cultural groups and organizations. The results are in contrast with the conventional assumption in the organizational demography literature that the readily detected- and underlying attributes have a similar impact on social integration. It should be noted that even the perceived values play a primary role, they do not solely explain social integration because the readily detected attributes were found to have a statistically significant, albeit weaker, relationships with the process indicators. Hence, it can be asserted with caution that inclusion of one or two readily detected attributes, which has been dominant in past diversity research, may not capture the whole complexity caused by similarity and/or dissimilarity. In sum, the findings draw a complex picture of the combined impact of the readily detected- and underlying attributes as determinants of group/organizational processes, which may be strongly influenced by the context where the interaction takes place.

Third, the independent studies provide limited evidence that the context has an impact on how the readily detected- and underlying attributes are perceived. This assertion can be supported by the large variance of perceived work values and

differentiated influence of readily detected attributes on social integration. It should be noted, though, that a direct comparison between the studies conducted in Finland and Japan is not justified because they are not match samples. However, what can be asserted is that diversity is a socially constructed phenomenon that depends on the context as well as the readily detected- and underlying attributes of the participating individuals. Hence, the positive relation of relational gender diversity on social integration can be partly explained by the socio-cultural context. It could be that most group members in relatively gender egalitarian Finland are accustomed with equal gender roles and might appreciate ideas and suggestions promoted by gender differences. In contrast, Japanese socio-cultural context could support high social and work role obligation along the demographic lines. As a consequence, some forms of demographic diversity may decrease social integration as shown by the negative relationship between relational gender diversity and interpersonal communication. Surprisingly, though, the results indicate that relational tenure diversity has a positive impact on communicative processes in Japan. With caution, part of this contrasting finding may be attributed to the socio-cultural context, which promotes social interaction between the senior and junior employees. In summary, context may play a significant role in determining on how the readily detected- and underlying attributes influence social integration in cross-cultural settings.

The findings further indicate that the context has an influence on the expected social roles. The reason why the perceived values play a main role in determining social integration is that they provide boundaries for the expected behavior. For instance, expatriate managerial competence could be interpreted over time through the expected behavioral codes derived from the surrounding context rather than based solely on readily detected attributes. Whereas social roles for managers in the Nordic countries support for low hierarchy and sincerity of being true self, the roles for managers in Japan favor role bound behavior in forms of face giving and saving and strict division between public (*tatemae*) and private (*honne*) behavior. Essay three indicates that some problems in the expatriate – Japanese manager interaction can be derived from the expatriate managers' context interdependent behavior. In other words, the Nordic expatriate managers seek to behave based on the expected roles in their home countries, which tend to differ largely from context dependent behavioral models expected from managers in Japanese socio-cultural context. For instance, Hofstede (1991) claims that in the large power distance situation superiors and subordinates consider each other as existentially unequal and thus, subordinates are expected to be told what to do. For the expatriate managers, this role bound behavior could be perceived as a sign of

dependency and lack of proactive behavior. In summary, the results of this research indicate that social integration is based more on value congruence (and perhaps behavioral congruence) than readily detected attributes. Hence, sole focus on visible differences is not enough to predict accurately the impact of diversity in cross-cultural environment.

The results tend to indicate that the social identity- and self-categorization theories could be potentially improved by further focus on the socio-cultural context and interaction duration as the possible moderators of diversity on social processes. First, as scholars have found marketable cognitive and value differences among nations (e.g., Hofstede, 1980; Nisbett, 2003), it can be expected that socio-cultural context plays a role on the categorization process and in the consequent social integration. Although social categorization is asserted to be an automatic cognitive process, there is no comprehensive explanation how socio-cultural context influences the consequent social processes. As a consequence, the personal identities, presented by traits and characterizations, and surrounding context determine which forms of diversity are salient and how they impact social interaction. Taking into account the results of this research, it can be assumed, for example, that gender might have a more important impact on social integration in Japan than in the Nordic countries. The different impact can be explained by stereotypical image of women and the attached role expectations in Finland and Japan. Hence, it can be expected that there are differences how people perceive themselves as a part of a group (social identity) and as an individual (personal identity) in the respective countries. Second, the impact of social categorization may depend on the life span of a given social unit. That is, some social units, such as project teams, are temporary whereas the others, such as organizations, are more permanent by their nature. Hence, the negative impact of readily detected diversity may not dominate, for example, in project teams that perform under a strict time pressure. However, it is slightly premature to make a strong assertion of the causal relationships because one needs to control the industry type and other extraneous factors to determine whether this relation really takes place.

Fourth, two independent studies (essay one and four) indicate that some readily detected- and underlying attributes have a mediated impact on social cognition (group potency, group outcome expectation, and transactive memory directories) through social integration. To my knowledge, these linkages have not been explored in previous empirical studies. The mediated relationship can be explained in two ways. First, diversity in readily detected attributes decreases social integration, and thus lead to decreased performance expectations. Second, value congruence enables individuals to

view task processes and performance expectations similarly, which may lead to high performance expectations, at least in temporary groups. Value congruence can be further asserted to reduce 'cognitive noise' in social interaction processes can also enable employees to determine the sources of collective expertise, as conceptualized in the transactive memory concept (Wegner, 1987). The results indicate that work-place diversity may have significant consequences beyond the social integration to performance and knowledge transfer. It is important to note here that value congruence should not be equated with demographic homogeneity or cognitive variety. Rather, individual may have cognitive differences based on functional knowledge, but may perceive work processes and goals similarly.

7. Limitations and suggestions for future research

The present research is not without its limitations that should be taken account in future research. Most of the limitations and suggestions for future research are related to methodology, in particular to the used scales. The concern with measures and mechanisms is dominant in diversity research because a multitude of individual- and collective level factors, such as experience, motivation, organizational climate, can potentially explain why people interact or do not interact with each other. Literature review further indicates that values can be measured in many alternative ways, which may explain why only a few researchers have incorporated them in diversity research. It can also be disputed whether cultural- and/or work values should be used as a contextual or individual variable. It is also unclear to what extent values are individual and to what extent they are shaped by the surrounding society. By and large, as an indication, Berry (1997) states that 'for many researchers and practitioners, culture continues to be the c-word, mysterious, frightening and to be avoided (144). Further confusion occurs because cultural- and work values and their impact are discussed in two different streams of research.

First, this study focuses on various aspects of readily detected- and underlying attributes on social integration, but tends to overlook the mediated linkage between the attributes, social integration, and performance. As a consequence, the main role of social integration in these studies creates a limit in the field of management science. In management research the performance linkages tend to play a major role in empirical investigations. Some management researchers go as far as to state that 'research questions are inherently uninteresting or trivial unless they include an explicated linkage to the performance' (Meyer, 1991: 825). Furthermore, the predominance of self-reported

scales raises a problem of common- or mono method bias, especially in essays one and four. However, reflecting on the previous research, it can be claimed that social integration is linked with group and organizational performance. For example, Jewell and Reitz (1981) assert that communication accounts for much of the variation in the group's performance. It should be noted that the focus of this research was on social integration and the theoretical frameworks used in the present work are more concerned with social processes than performance or productivity. The performance linkage should be taken into account in future studies. This problem is particularly integral to transactive memory research in which performance linkage has not been statistically tested in organizations.

Second, the sample sizes in this research are modest and provide a limitation to examine how readily detected- and underlying attributes have an impact on the social integration and the performance. In addition, the modest sample size has created some additional problems because the level or theory, the level of measurement, and level of statistical analysis has been slightly incongruent in the essays. It can be claimed that the focus of this study and places for data collection are the main reasons for the small research population. First, whereas North American researchers are able to have a sample size of close to 200 students from a single introductory course, the amount of students in introductory classes is limited in Finland. As an indication, there were only about 30 students in each introductory class used in the student sample for essay one. Where the small amount of student in the introductory classes is good for the Finnish and international students, it makes data collection rather laborious for researchers. A similar problem prevailed during the data collection in Japan. Simply, there are a limited amount of Nordic subsidiaries in Japan and most of them are modest in size. Furthermore, there were only few expatriate employees in the Japanese sample. However, an interesting detail was that even the small amount of foreign employees had a significant impact on the social integration in the studied subsidiaries. In the future research, some collaboration among researchers in several polytechnics and universities can be used to extend sample sizes for controlled studies in Finland. Similarly, data collection could be extended from Nordic subsidiaries to all North European subsidiaries (e.g., German and Dutch) in Japan to increase the sample size.

Third, values can be measured in many alternative ways. As a consequence, there are literally dozens of conceivable important work-related values (see, Meglino & Ravlin, 1998), cultural values (e.g., Hofstede, 1980), terminal values (e.g., Rokeach, 1973), and work-related attitudes (e.g., Harrison, Price & Bell, 1998) to choose from as the theoretical and methodological basis for a research paper. Hence, to make

complicated things simple, one of the least complicated methods is used in this research, which is simply to ask respondents themselves to estimate the extent their values are similar to those of the others. In addition to its simplicity, this method allows the researcher to assess values at a perceptual level. However, this approach has also been asserted to have its own flaws (Meglino & Ravlin, 1998). This is because the method assumes that the respondent (a) knows what values are, (b) knows what relevant values are, (c) knows his or her own values, (d) knows the values of the other, and (e) is able to compare these sets of values. Moreover, this type of value measurement does not indicate what kinds of work-values are seen as a hinder or enhance social integration. As a counter argument, drawing on the social constructionist paradigm (e.g., Burr, 1995), communication and values are inter-linked because the knowledge and experiences are produced or constructed in social interaction. Hence, perceived values are partly individual and partly created through environmental interaction.

Fourth, this research indicates that diversity has a negative impact on social integration, but does not provide a comprehensive explanation why this is the case. In other words, a number of moderating and mediating variables can be employed to shed light on the question '*why*'? For example, Cox (1993) proposes that a diverse organizational climate facilitates the integration of minority members, and Klimoski and Mohammed (1994) come forth with hybrid culture, which refers to an emergent and simplified set of rules, norms, expectations, roles that people share and 'enact.' Both lines of argument are feasible and could possible explain some variance in a given dependent variable. As a counter argument, Pfeffer (1983: 352) claims that 'all theories and models of man make simplified assumptions, leaving out factors that others may think are important.' Simplification is a necessary step in the process in generalization and it should be humbly acknowledged that the complex social phenomenon initiated by the readily detected- and underlying attributes could be measured in several alternative ways by using various intervening variables.

Finally, socially constructed diversity is difficult to capture in authentic research by quantitative methodology due to various forms of extraneous influence. Since the impact of readily detected- and underlying attributes is due to vary based on the participants and the context for interaction, the results in this stream of research are inherently due to some inconsistency. The philosophy of science called critical realism questions the accuracy of quantitative experiments in open environment and claims that the most constant conjunctions of events are extremely rare, spatio-temporally restricted and artificially produced (Bhaskar, 1978). Hence, it is hard for a researcher to assert that definite causal assertions between diversity and social integration based of the form

‘whenever event x then event y’ exist. Moreover, because most quantitative studies are further subject to epistemological and ontological fallacies, the primary aim of social science, according to critical realists, should lie in the identification and elaboration of the deeper structures that govern surface phenomena. Hence, the central criterion of theory assessment must be explanatory power, not predictive accuracy.

8. Managerial implications

Although the findings in this research support a fairly pessimistic view of the social integration in heterogeneous environment, there are several ways to decrease the negative impact caused by diversity in the readily detected- and underlying attributes. Hence, this introductory chapter will be ended by some practical suggestions of how to reverse the negative impact caused by the differences to create more minority-friendly work environment. Taking the focus of the independent studies and the used variables, the managerial implications concentrate on group/organizational composition, staffing, and the compositional impact on social integration. Basically, both individual attributes and group/organizational composition has an impact on social integration.

First, the results tend to indicate that social interaction processes can be initiated by altering the group/organizational composition. The results in this research, combined with previous research (e.g., Kanter, 1977), indicate that compositionally most effective groups/organizations are either highly homogeneous or heterogeneous where all demographic attributes are equally presented (i.e., equal presentation of minorities in all organizational echelons). Research indicates that homogeneity facilitates social integration because people tend to interact with the ones they perceive similar. However, because high homogeneity in most organizations is hard to achieve due to legalistic constraints in the ever-increasing diverse environment, the second most attractive alternative is high heterogeneity, especially in terms of the underlying attributes. The apparent benefit of heterogeneity is the rapid integration of new, heterogeneous members. When the environment is heterogeneous, new, heterogeneous members will be often integrated more rapidly than when the environment is entirely or predominately composed of members of one demographic category. This is because people in heterogeneous environment are more tolerant to various forms of diversity. People in heterogeneous groups are also asserted to be more apt to be knowledgeable about and identify with the norms and value systems of those from different cultural backgrounds (Cox, Lobel & McLeod, 1991). Despite the above recommendations, I have to admit parallel to Guzzo and Shea (1992) that the right combination of is very

difficult to specify because of the interrelation among several attributes and contextual impact of organizational demographics.

Second, the results in essay two indicate that another way to decrease the impact of diversity is to manipulate the context for interaction. Task interdependence was shown in essay two to have an impact on social integration, and scholars claim that increased task interdependence can potentially minimize or even negate the negative impact caused by demographic or underlying differences (Hopkins & Hopkins, 2002). The sources for perceived interdependence may be derived from the distribution of skills and resources, work processes, task and work goals, and the way that performance is rewarded (Wageman, 1995). Task interdependence may induce employees to replace cross-cutting demographic boundaries with the inclusive group/firm boundaries as the basis for social categorization. Such a re-categorization could induce individuals to replace their personalized self-concern with a cognitive representation of themselves as embodiments of a group prototype (Hogg & Terry, 2000). Such depersonalization heightens perceived similarities and attenuates their perceived differences, reducing the detrimental effects of categorical diversity. Rather similar argument is put forth by Earley and Mosakowski (2000), who claim that effective groups have strong team cultures that bind people together regardless diversity in the readily detected- and underlying attributes.

Third, individual traits and organizational context could determine of what kind of acculturation strategies expatriate employees follow in Japan. According to Berry, Poortinga, Segall and Dasen (1992) expatriates can integrate, assimilate, separate, or marginalize themselves from their Japanese counterparts. The managerial interviews indicate that the strategies of integration (identifying and having daily interaction with people in the dominant society) and assimilation (maintaining one's original cultural identity in interactions) were positively related to social integration. The acceptance of cultural norms and language ability are closely related to these acculturation strategies, and who were able to communicate in Japanese did not express large problems in interacting with Japanese customers and/or employees. A recent study indicates how important it could be for expatriate managers to create friendship ties with their Japanese colleagues. In the study, having an outgroup friendship predicted lower levels of subtle and blatant prejudice than having a outgroup coworkers (Pettigrew, 1997). Unfortunately, the burden of the assimilation often falls on the shoulders of the expatriate employees. Hence, assimilation may cause that the minority is pressured to put on a 'shield' that could be psychologically stressful (Cox, 1993; Pettigrew & Martin, 1987). Conversely, some expatriate managers are psychologically separated

(holding onto original culture and avoiding interaction) and marginalized (little possibility or interest in relations with others) from Japanese. This was shown in interviews by cultural insensitivity and inadequate language skills, which lead to frequent misunderstandings in cross-cultural interaction. It should be noted that intercultural sensitivity, which impacts on what degree the minority members are accepted and integrated into majority, is context and experience specific.

Fourth, the results of essays one and four imply that organizational composition is related to various cognitive phenomena such as motivation, group potency, outcome expectations, and comprehensive understanding of collective expertise (i.e., transactive memory directories). The essays indicate that interpersonal communication mediates the relationship between value congruence and transactive memory directories, group potency, and outcome expectations. This implies firstly that similarity in the underlying attributes stimulates social interaction, and secondly that communicative interaction increases self-confidence and motivation. In the transactive memory concept, the collectively recognized experts act as a knowledge-storage from where information is retrieved and stored. The ability to retrieve knowledge from the recognized experts tends to relieve anxiety of the knowledge seeker and increase self-esteem of the recognized expert. This reciprocal interaction acts as a time saving mechanism and increases the ability of the company to provide accurate and timely customer service. The increased communicative interaction provides further a collective feeling that a given collective entity is effective at performing a given task (i.e., group potency). This collective feeling of efficacy is collected in several studies to actual performance (e.g., Gibson, Randel & Earley, 2000).

Finally, it should be lastly acknowledged that homogeneity and heterogeneity provide different benefits in groups/organizations. Whereas homogeneity increases information flows, it might also have some negative consequences, especially in knowledge-intensive companies. This is because, on the one hand, cognitive variety introduced by heterogeneous composition has been found to enhance creative and innovative performance based on the ‘value-in-diversity’ hypothesis (cf. Milliken & Martins, 1996; Williams & O’Reilly, 1998). However, on the other hand, homogeneity promotes favorable interpersonal interaction, cohesiveness, attachment and satisfaction, reduce uncertainty, and also supply performance gains in certain situations. As a consequence, scholars have postulated an inverted U-shaped relationship between group heterogeneity and effectiveness (e.g., Amabile, 1988). That is, some optimal, moderate level of heterogeneity to balance homogeneous group’s ease of communication and cohesion and ability with heterogeneous group’s cognitive variety that induces

creativity and innovation. However, to make things more complicated, other researchers have proposed an upright U-shaped relationship between diversity and effectiveness (Earley & Mosakowski, 2000). Taking into consideration work goals, group composition, task interdependence, and socio-cultural context, it is conventionally assumed that managers have to decide whether it is more important for employees to 'get along' (implying homogeneity) or to be creatively productive (implying heterogeneity). Rather than adopting the conventional assumption that a decision have to be made whether the teams are either cohesive or creatively productive, contextual manipulation may enable diverse teams to be both cohesive and creatively productive. That is, increased awareness and careful managerial interventions enable people in diverse workgroups and organizations to get both along and be to creatively productive, implying that cognitive variety introduced by heterogeneity can provide benefits when it is acknowledged and managed efficiently.

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- Essay One -

The Impact of Readily detected- and Underlying Attributes on Group Potency and Outcome Expectations

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1. Introduction

Most conceptual and empirical studies in the field of group psychology have examined the benefits and drawbacks of homogeneity and heterogeneity for group processes and performance. Extensive literature reviews indicate that diversity has a negative impact on group processes, but a positive impact on the performance due to increased cognitive variety (cf. Milliken and Martins, 1996; Williams and O'Reilly, 1998). Furthermore, longitudinal studies indicate that heterogeneous groups often perform better than the homogeneous ones if they start to appreciate and fully utilize their cognitive variety (Watson, Kumar & Michaleson, 1993). Unfortunately, most of these studies tend to focus on the visible detectable diversity because there is widespread belief that they are reasonable proxies for underlying psychological characteristics (e.g., Bantel & Jackson, 1989; Pfeffer, 1983).

The concentration on demographic/readily detectable attributes may lead to an early conclusion that underlying attributes, such as values, have a similar impact on group psychological processes and performance. Although this can be true in some instances, researchers have increasingly showed evidence that readily detected- and underlying attributes are not always related, and that they have differentiated impact on group processes and performance. Researchers show, for example, that culture and ethnicity have a different impact on values (Cox, Lobel & McLeod, 1991). Furthermore, the differences in age and gender do not always equate to differences in values (e.g., Beutell & Brenner, 1986; Sanders, 1993; Rowe & Snizek, 1995). Finally, the effects of heterogeneity on group processes and performance have been inconsistent across group psychology studies, and thus, causal claims should be interpreted with extreme caution. As a consequence, it can be argued parallel to Meglino and Ravlin (1998) that there is little justification to assert that readily detected- and underlying attributes are always related and have similar influence on group processes and performance.

Without a few notable exceptions (e.g., Harrison, Price & Bell, 1998; Jehn, Northcraft & Neale, 1999), little research compares the differences between readily detected- and underlying attributes on group's belief concerning its general effectiveness across multiple tasks. This is surprising because the underlying attributes, particularly values, are asserted to predict more accurately and have longer impact on group processes than demographic attributes (Jehn, Northcraft & Neale, 1999; Priem, Lyon & Dess, 1999). Since readily detected- and underlying attributes contribute to the total heterogeneity in a given social unit, both types of attributes need to be taken into account to fully understand the impact of diversity on group processes and outcomes.

Diversity has an impact on people's expectations of group performance. The purpose of this study is to investigate the possible differentiated impact of the readily detected- and underlying attributes on the group potency and outcome expectations. Because prior research provides little direct guidance on the factors responsible for group potency/outcome expectations in diverse environment, the hypothesis tested with 139 undergraduate students, are mostly based on related empirical research and the social identity theory (Turner, 1987). It is proposed that the readily detected- and underlying attributes have a different impact on group interaction processes and group potency/outcome expectations.

2. Literature review and hypotheses

The strength of groups lies in people's believes that their group is able to perform a given task (Bandura, 1997). As a consequence, group composition plays an important part in this social cognitive process because it may either promote or hinder the assessment of the individual experiences, skills, and knowledge that contribute to group effectiveness. Despite that diversity is found to hinder early group processes and performance, researchers have provided limited evidence that cognitive variety introduced by diversity helps group potency (Sargent & Sue-Chan, 2001) and performance (Watson, Kumar & Michelson, 1993) over time. Since these studies focus mainly on racio-ethnic diversity, little is known about which readily detected- and underlying attributes promote collective performance beliefs.

Milliken and Martins (1996), in an extensive literature review, concluded that diversity in readily detected attributes, in most cases, has a detrimental impact on social processes. It was further stated that there is some evidence that groups, diverse with respect to background and skills, may have integration problems to those of other diverse groups. It can be argued that the cognitive variety introduced by diversity in underlying attributes is not likely to be utilized in temporary groups with various nationalities due to a visual categorization process. However, readily detected diversity may be in a secondary role in temporary groups performing under time pressure. The following discussion and the consequent hypotheses indicate that diversity in goal perceptions and task approaches is likely to increase cognitive confusion and thus hinder group potency during the group formation process.

2.1. Readily detected- and underlying attributes

Demographic attributes, in general, are individual characteristics that fit into attributes describing immutable characteristics (e.g., age, gender, and ethnicity), attributes describing individuals' relationships with groups/organizations (e.g., tenure), and attributes that identify individuals' positions within the society (e.g., marital status) (Jackson, May & Whitney, 1995). In contrast to the classification based mainly on demographic information, attitudes, beliefs, and values- classified as underlying attributes- have a significant influence on the interaction patterns in any given social entity.

In most group psychology studies, the observable attributes are classified as readily detected attributes and less visible as underlying attributes (cf. Milliken & Martins, 1996; Jackson, 1996)(figure one).

Figure one. Readily detected- and underlying attributes

	Task related attributes	**Relations-oriented attributes**
Readily detected attributes	Department/unit membership Organizational tenure Formal credential and titles Education level Memberships in professional associations	Sex Age Nationality Ethnicity Religion Political memberships Physical appearance
Underlying attributes	Knowledge and expertise Skills Physical abilities Task experience	Socio-economic status Attitudes Values Personality

Jackson, 1996: 57

Readily detected attributes can be determined quickly due to their visibility. Most of these categories are generally unchanging (with an exception of age) and subject to social consensus. Jackson (1996) divides the readily detected attributes further into readily detected task-related attributes and relationship-oriented attributes. Most researchers have concentrated on the visible forms of diversity mostly due the ease to measure it (Harrison, Price & Bell, 1998).

The underlying attributes are often not visible and subject to more interpretation and construal than the readily detected attributes. In the present study, the focus is on age and gender (readily detected attributes), and cultural- and work values (underlying attributes) as they are present in most multinational groups. In general, values are standards, or criteria, for choosing ones goals or guiding ones actions (Kluckhohn, 1951). Values can be both an individual and social phenomenon because they are developed partly over time through multiple and long-term influence of culture, society, and experience (Dose & Klimoski, 1999), and are partly derived from genetics (see Meglino & Ravlin, 1998). As a central part of individuals' identity, they are relatively resistant to change and likely to have a long-term impact on group processes. As a consequence, adoption of new values is not easy, but may occur through direct experience and social influence.

Work values constitute a somewhat narrower conceptual domain than values in general. They are evaluative standards relating to work or the work environment, which individuals use to discern what is 'right' or to assess the importance of preferences for actions or outcomes (Dose, 1997). Whereas part of the work values are a subject of individual variations, research shows that national culture influences work values (e.g., Hofstede, 1980). This is because people's work values are heavily influenced by the country (and its laws, religion, norms, etc.) in which they were raised. Using the polarity of individualism and collectivism, research indicates that people in collectivist cultures place greater emphasis on the needs and goals of the group, social norms and duty, shared beliefs, and cooperation with group members than the people in individualistic cultures (Triandis, 1989). However, culture and ethnicity have different impact on work values because minority members, who are acculturated to main cultures, tend to be bicultural and sensitive to situational cues (Cox, Lobel & McLeod, 1991: 830). In contrast to demographic studies, research shows lack of gender differences in work values (Beutell & Brenner, 1986).

Two theoretical rationales help to link the readily detected- and underlying attributes with psychological outcomes. First, cross-cultural researchers claim that individuals who hold similar values tend to have similarities in their cognitive schemata leading to common methods of interpreting events (e.g., Hofstede, 1980). Further, value congruence is proposed to help to predict other group members behavior leading to clear role expectations (Kluckhohn, 1951). Finally, empirical research indicates that value similarity is associated with more accurate peer ratings (Fox, Ben-Nahum & Yinon, 1989). Second, the social identity theory is frequently used to explain the impact of readily detected attributes on group psychological processes (Hogg & Abrams, 1990;

Turner, 1987). The theory posits that one's social identity reflects the similarities and differences between oneself and relevant others. Basically, whereas demographic homogeneity increases positive identification and depersonalization, diversity leads to in-group/out-group categorization and negative stereotyping. In summary, similarities in readily detected- and underlying attributes can be assumed to enhance collective belief about performance capabilities because these performance beliefs are formed as a result of the interactive dynamics that occur within groups (Bandura, 1997). That is, the potential of a group depends on the skill, knowledge, and ability of the people in the group, but also on their ability and motivation to make the best use of their resources achieving the group purpose.

2.2. Group potency and outcome expectations

Group potency is described as the collective belief that the group can be effective (Guzzo, Yost, Cambell & Shea, 1993). Outcome expectation is defined as 'beliefs that group members hold about the likely consequences their group will experience as the result of the group performance of work tasks' (Riggs & Knight, 1994: 756). These socially constructed concepts are closely linked to group outcome efficacy/effectiveness because they are the outcomes of group design, processes, and context (Gibson, Randel & Earley, 2000; Pearce, Gallagher & Michael, 2002; Shea & Guzzo, 1987).

The main difference between the concepts and outcome efficacy is that, whereas general and specific outcomes can be best predicted by group efficacy, group potency and outcome expectations predict the shared beliefs about general effectiveness. They both are products of shared beliefs about the group's capability to achieve the expected performance (Gibson, Randel & Earley, 2000). Whereas group potency and outcome expectations deal with psychological performance expectations, several studies demonstrate that they are closely linked with the actual task accomplishments. The empirical linkage between the performance expectations and actual performance is demonstrated in a recent study, which shows that attitudes and beliefs are positively linked with group effectiveness (Hecht, Allen, Klammer & Kelly, 2002). Group potency is further related to group satisfaction, group effort, and group performance (Lester, Meglino & Korsgaard, 2002).

Group composition and social-cultural context have an impact on the collective performance beliefs because they are conceptualized as a by-product of task-relevant affective experiences (Bandura, 1997; Gibson, 1999; Guzzo & Dickson, 1996). Due to this, collective performance beliefs might be quite different and distinguishable from the

beliefs that the members would have in isolation. As an indication of the impact of the social-cultural environment, Gibson (1999) argues that in collectivist cultures, feedback and knowledge pertaining to the group is more valued than is knowledge pertaining to any one individual member of the group. As a consequence, group-oriented knowledge creates a strong linkage between expected and actual performance. In contrast, in individualistic countries group knowledge is considered secondary and such linkage is weak. This hypothesis was proved right in two intercultural studies showing that when collectivism is low, group performance expectations are not related to group effectiveness (Gibson, 1999). Unfortunately, the study does not create linkages between the readily detected- and underlying attributes.

In terms of readily detected attributes, research shows that moderate race and gender diversity has a negative impact on the perceived group effectiveness (Baught & Graen, 1997). However, racio-ethnic diversity is found to have a positive linkage with the collective performance expectations later in the group's performance cycle, if the are members are cohesive and task interdependent (Sargent & Sue-Chan, 2001). These findings indicate that the positive linkage is not likely to occur during the early stages of the group performance cycle because of the initial negative impact of readily detected attributes on social interaction processes (Watson, Kumar & Michelson, 1993). Apparently, the effects of readily detected attributes evolve and mature over time, whereas values, which are relatively resistant to change, may be the most important predictor of group processes and performance over time.

The few studies that have examined the simultaneous impact of readily detected- and underlying attributes with focus on values provide slightly contrasting evidence. A recent study shows that, whereas age and gender diversity positively influenced group member morale, value diversity decreases commitment, intent to remain in the group, satisfaction, and performance, and increases relationship conflicts (Jehn, Northcraft & Neale, 1999). In contrast, low value diversity was found to promote high performance expectations. Further, two studies provide evidence that the congruence between cultural values and social context has a positive impact on self/group efficacy, and performance (Earley, 1994, 1999). The first study shows that a fit between training methods and work-related values has an impact on individual performance beliefs and performance (Earley, 1994). For the individualists, self-focused training has a stronger impact on self-efficacy and performance than for the collectivists. The collectivists favor group-focused training. In the second study, Earley (1999) examines the fit between work-related values and power characteristics, and their impact on group efficacy and performance. The results demonstrate that in high power distance cultures,

collective judgements of group capability are more strongly tied to higher, than lower status, group member's personal judgements. In low power distance cultures, members appear to contribute comparably to collective efficacy judgements.

The examination of simultaneous impact on group's performance expectations is complex because the readily detected- and underlying attributes are often not mutually exclusive. For example, in some studies race and cultural values can be connected as indicated under the term of racio-ethnicity (e.g., international team of Nordic and Japanese employees), whereas in some context the usage of such linkage can not be justified (e.g., international team of Finnish and American employees). Some researchers further hypothesize that value congruence has a moderating impact on readily detected attributes because they tend to have a greater impact on group processes (Dose & Klimoski, 1999). Researchers have also provided evidence that the length of time group members work together weaken the effects of readily detected diversity and strengthen the effects of underlying diversity (Harrison, Price & Bell, 1998). Thus, in case of value congruence and demographic diversity, the perceived similarity in values promotes social integration, which enables the specification based on the possessed knowledge and skills, rather than on demographic attributes (Larkey, 1996). This process, however, is due to take place later in the group performance cycle because people use readily detected attributes for initial social categorization.

When the attention is turned to the demographic attributes, social identification theory asserts that increased group identification reduces the psychological distance between the group members (Hogg & Abrams, 1990; Turner, 1987). The social identification includes the process of depersonalization because a cognitive change and emotional investment stop individuals from pursing their personal motives and agendas. This transformation of self is the process underlying group phenomena, because it brings self-perception and behavior in line with the contextually relevant behavioral prototype (Hogg, 2000). Consequently, individuals will become motivated to achieve positive outcomes for their group rather than for themselves, which results in greater contributions to the collective good. In general, the above studies provide support that the diversity in readily detected- and underlying attributes has a negative impact on performance expectations in temporary groups. However, a more debatable issue is the magnitude of negative influence. Reviewed studies indicate that diversity in the readily detected attributes initiates an automatic categorization process, and that diversity in underlying attributes increases to cognitive confusion in terms of task processes and goals. Whereas the cognitive variety might provide benefits over time, it can be assumed that underlying attributes, especially value congruence, is the most beneficial

for groups that are working under time pressure.

Hypothesis 1a: The diversity of readily detected- and underlying attributes is negatively related to group potency and outcome expectations.

Hypothesis 1b: The diversity of underlying attributes is more negatively related to group potency and outcome expectations than the diversity in the readily detected attributes.

2.3. Mediating Variables

The main element of group functioning that this paper addresses is what O'Reilly, Caldwell and Barnett (1989) termed social integration: the degree to which group members are psychologically linked or attracted towards interacting with one another in pursuit of a common objective. Focus is paid on the behavioral dimension of social integration, which consists of cooperative behavior and communication (Van der Vegt, 2002). It is proposed in a similar way to previous research that psychological safety/trust and interpersonal communication are integral components of social integration and mediate group composition and performance beliefs (Dose & Klimoski, 1999; Lester, Meglino & Korsgaard, 2002; Meglino & Ravlin, 1998). That is, group potency and outcome expectations are formed as the group members collectively acquire, store, and exchange information about each other and the knowledge relevant to the performed task.

2.3.1. Psychological safety/trust

In this paper, psychological safety/trust is conceptualized parallel to the sociologist perspective as a psychological phenomenon in collective units (e.g., Luthmann, 1988). Thus, group composition determines the level of interpersonal trust and risk-based behavior. The concept of trust is extended to cover a psychologically safe environment in which people are able to take interpersonal risks and value each others contributions to the task processes (Edmondson, 1999). Psychological safety and trust influences the amount of knowledge and skills that are externalized to contribute group processes. The knowledge sharing influences the shared feeling of group potency and outcome expectations.

Demographic research and social identification theory indicates that positive

identification enhances the perception of trust of other group members. This is because in-group members are simply perceived in more desirable ways (Hogg, 2000; Hogg & Abrams, 1990; Turner, 1987). Of course, out-group members generally are less liked than in-group members. As an indication of the in-group/out-group categorization in terms of racioethnicity, research provides evidence that individuals initial attitudes toward each other are more favorable in segregated housing projects than in housing projects with both white and black tenants (Deutsch & Collins, 1951). Whereas the demographic diversity provides a salient base for automatic categorization, the comparison and validation of underlying attributes occur through social interaction processes. The research indicates that value differences may have a hindering impact on trust formation. According to Sitkin and Roth (1993: 371), if an individual holds even a single key value that is different from the dominant group's, the influence of schematized stereotypes and the desire for cognitive consistency will take it more likely that all the person's values will be perceived as different. This could happen, for example, when some individuals would favor competitive climate against the dominant values of cooperation and harmony. Conversely, the relative overlap in values increases psychological affect among group members (Connor & Becker, 1975; Dose & Klimoski, 1999).

Trust promotes cooperation across a variety of social interactions. Research demonstrates that trust has a positive impact on group processes, in forms of enhanced participation and involvement, mutual influence, and approachability (e.g., Friedlander, Thibodeau, Nichols, Tucker & Snyder, 1985). Basically, when trust is high, people feel that group is psychologically safe to engage into reciprocal cooperation, without fear that they will be ridiculed or exploited by other group members. In terms of the impact of trust to group performance expectations, the most germane study to the present paper examines the impact of trust on group processes and the perceived task performance in 112 teams (Costa, Roe & Taillieu, 2001). The results suggest that trust is positively related with perceived task performance, team satisfaction, and relationship commitment, and negatively related with stress. In the study, perceived task performance is positively related with team satisfaction. The bases for the positive social emotional climate – performance expectation linkages can be assumed to be self-disclosure and the acceptance of the ideas and contributions of other group members (Butler, 1991; Porter & Lilly, 1996). The above studies indicate that trust functions as a mediator of the relation between group composition and group effectiveness/potency.

Hypothesis 2: Psychological safety mediates the relationship between the readily

detected- and underlying attributes, group potency and outcome expectations.

2.3.2. Interpersonal communication

Interpersonal communication plays an integral role in the formation of collective performance beliefs because it allows group members to explore what each contributes to the group in terms of experience, skills, and knowledge (Gibson, Randel & Earley, 2000). In the present paper, interpersonal communication refers to the acquisition and/or offering of information through interpersonal channels (Jackson, Stone & Alvarez, 1993: 59). Based on the social identity theory and empirical research, group composition influences communication depth and spread (who talks to whom what), and the communication frequency (how much people talk to each other overall). Interpersonal communication is utilized as a mediating variable in this study because it is proposed to be a primary example of a work process that favors similarity and undermines the potential gain from diversity (Zenger & Lawrence, 1989).

There seems to be a consensus in research that diversity in both readily detected- and underlying attributes have a negative relationship with interpersonal communication (e.g., Zenger & Lawrence, 1989). Researchers assert that readily detected attributes influence who is included and excluded from conversations (Larkey, 1996). The basic mechanisms in day-to-day group communication can be either that actors not to share important information to the out-group members, and/or that they concentrate to communicate with the ones perceived similar. Empirical research indicates similar communication patterns, showing that men and women form communication and support networks with the others of the same gender in an advertising company (Ibarra, 1992). Furthermore, a study by Hoffman (1985) indicates that formal and informal meetings among peers and with immediate subordinates are lower in racially diverse teams. It has also been suggested that when there are large cultural distances between group members, small, seemingly trivial, types of behavior may matter a great deal, often aggravating stereotypes; causing the isolation of different members; or resulting in other forms of breakdown in communication (LaFrance & Mayo, 1978). In sum, these studies indicate that the demographic minorities have smaller communication networks and fewer chances for various forms of information in comparison to the demographic majority.

Despite the values are not easily discernible from a quick physical inspection of fellow group members the way that the readily detected attributes often are, the impact of underlying attributes on communication processes in empirical research seem to be

similar in many respects. Examining the impact of work-value diversity among 545 employees, Jehn, Northcraft and Neale (1999) found that perceived value differences decrease the willingness to share information. Furthermore, in terms of the influence of cultural values on individual communication behavior, a recent study indicates that there is a moderate, negative relationship between anxiety and attributional confidence across relationships and cultures (Gudykunst & Nishida, 2001). Based on the study, the impact of group composition to communication effectiveness is partly based on subject's cultural background. Conversely, value similarity is proposed to increase the accuracy and easiness of interpersonal communication (Connor & Becker, 1975; Dose & Klimoski, 1999). This is because the similarity helps group members to create a shared language concerning a wide spectrum of task-related issues influencing group members' motivation to engage into interpersonal communication. Furthermore, attitudinal similarity reduces role conflict and helps people to form similar conceptualizations of their organizations and jobs due to increased communication (Tsui & O'Reilly, 1989).

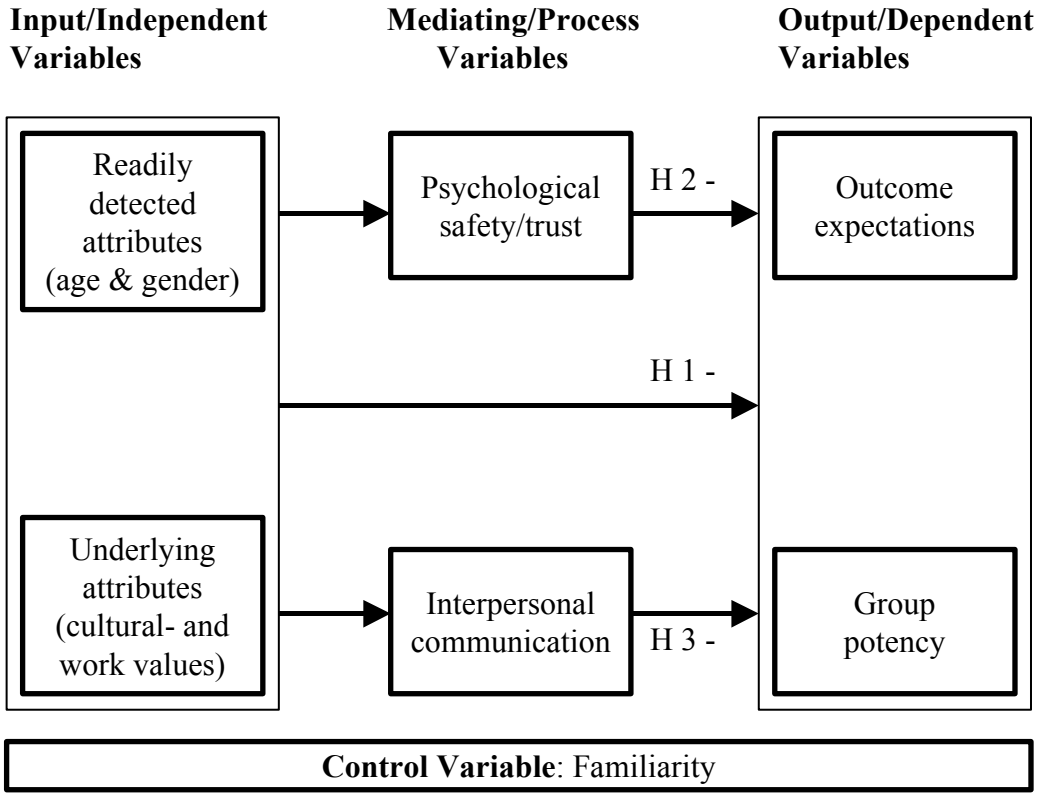
The positive linkage between interpersonal communication and group performance is well documented in the management literature (e.g., Gladstein, 1984; Jewell & Reitz, 1981). Unfortunately, only few empirical studies link interpersonal communication to group potency and outcome expectations. The evidence for the specific focus of this paper is shown in a recent research in which communicative interaction was found to be positively related to group potency among 691 high school students (Lester, Meglino and Korsgaard, 2002). These researchers asserted that as members communicate and work together, they learn about each others' skills and capabilities, which has a positive impact on group potency. In a related study, interpersonal communication was found to have a contributing impact on role breadth self-efficacy (Parker, 1998). The study shows that communication increases the perceived capability to carry out broader and more proactive set of work tasks that extend beyond prescribed technical requirements. In further studies, independent and interdependent self-images were found to have a significant impact on communication processes, satisfaction, and performance (Kerr & Kaufman-Gilliland, 1994; Oetzel, 2001). In summary, the above studies indicate that group composition has an impact on the frequency, depth, and spread of interpersonal communication, and that interpersonal communication plays an important role in the development of individual and collective belief of the performance capability. Thus, the final hypothesis of this study is as follows:

Hypothesis 3: Interpersonal communication mediates the relationship between the

readily detected- and underlying attributes, group potency, and outcome expectations.

The mediated model is framed in the classic input-process-output systems theoretical perspective of group research (figure one).

Figure 1. Direct and indirect effects of value congruence on group effectiveness, outcome expectations, and mediating variables



There are three potential relationships between the input-, mediating-, and output variables. Whereas diversity is generally found to have a negative initial impact on group processes, recent studies indicate that time moderates the negative impact of readily detected attributes on group potency (Sargent & Sue-Chan, 2001). It can be further assumed that diversity in readily detected attributes may not play a significant role in temporary groups because value congruence may provide benefits for groups working under tight schedules. The impact of diversity in readily detectable- and underlying attributes on dependent variables can be direct and/or mediated through social integration.

Group member familiarity was controlled to account for the possible extraneous

influence. This is because research shows that friendship groups perform significantly better than acquaintance groups due to a greater degree of group commitment and cooperation (Gruenfeld, Mannix, Williams & Neale, 1996). Moreover, Sargent and Sue-Chan (2001) study shows that task interdependence has a mediating impact on readily detected attributes and group efficacy over time. Finally, leadership has been proposed to be a key determinant of group potency (Guzzo, Yost, Campbell & Shea, 1993). These measures were not used in the present study because the hypotheses were tested with self-managed groups (i.e., no formal leaders were assigned) in controlled environment.

3. Method

3.1. Participants

The sample consisted of 139 undergraduate students (46 groups) in three business polytechnics and one business school in Finland. The mean age of the subjects was 23 years, with a range from 19 to 42 years (s.d. = 3.2 years), and 64 percent were female. The sample has students from 27 countries. About 69 percent of the respondents were Finnish. Of the international students, 15%, 9%, 6%, 1.4% were from the other European Union countries, non-European Union countries, Africa, and the Americans, respectively. The data were collected in 2000.

3.2. Task

This study relies on a fictional case study titled *Southern Pacific Airlines (SPA): Making Innovations Fly* (see appendix). Student groups were given 60 minutes to generate a corporate strategy for a small Australian airline. The participants were told that their plans would be evaluated based on both their novelty and appropriateness. Only a general overview of the company and aviation industry in the region was provided. The industry and location were selected in order to avoid the providing of a competitive advantage based on familiarity with the subject to any group, which could create differences in group potency and outcome expectations. Since the time period was too short to create a comprehensive corporate plan, the length of the case was limited to one page and the subjects were instructed to focus mainly on international expansion strategy.

3.3. Measures

The study consists of two dependent (group effectiveness and outcome expectations), two mediating (psychological safety/trust and interpersonal communication), four independent (age-, relational culture- and gender-, and perceived value diversity), and one control variable (familiarity). All dependent- and mediating variables as well as the independent variable, perceived value diversity, and the control variable, familiarity, were measured by a five-point Likert-format scale ranging from 'I totally disagree' (1) to 'I totally agree' (5). Further, categorical data were used to create the relational demographic variables whereas continuous data was used for the age variable.

In contrast to some previous research, the level of statistical analysis in this paper are individuals within groups. Although some researchers have expressed concerns about incongruent levels of theory, measurement, and statistical analysis (Klein, Dansereau & Hall, 1994), statistical analysis was conducted at the individual-level for two reasons. First, there is disagreement how to operationalize and measure group potency- and performance expectations (cf. Gibson, Randel & Earley, 2000). For instance, group potency explained as a belief that can be held by an individual or a group (Lester, Meglino & Korsgaard, 2002: 352). Due to the ambivalence, some researchers have aggregated individual perceptions (e.g., Gibson, Randel & Earley, 2000). Moreover, social identifications can vary in terms of their complexity and richness of content, and thus individual differences are important in understanding social identity (Hogg & Abrams, 1990). Second, group members should agree with regard to the construct and the construct must discriminate among groups. Indeed, if data do not confirm with the group level of theory, the results might be misleading without a shift in data analysis (e.g., Ostroff, 1993). For instance, for group potency to be a group-level construct, it must differentiate well between groups and must reflect processes that occur within the group.

Group potency was measured using a modified scale adapted from Guzzo, Yost, Cambell, and Shea (1993). The scale was adapted similarly to Sargent and Sue-Chan (2001) because the groups in the current study were student groups, not industry groups for which the original scale was developed. The subjects were asked to indicate the extent to which they agree on the following three statements: (1) 'My group believes that it can be very productive.' (2) 'My group believes that it can solve any problem it encounters.' (3) 'My group can get a lot done when it works hard.' ($\alpha = .76$).

An *Outcome expectation* scale was developed for this study to measure beliefs that group members hold about likely results of the group performance of work tasks. The

subjects were asked to evaluate the extent the group has been able to create an innovative corporate strategy. The scale was measured by the following four statements: (1) 'Our group produced an outcome that was greater than the sum of individual contributions.' (2) 'My group produced novel and appropriate ideas.' (3) 'This group has made highly innovative decisions.' (4) 'My group has taken many innovative ways to solve the problem.' (α = .74).

Interpersonal communication was measured using an adapted scale from Hoegl and Gemuenden (2001). The original scale was reduced from ten to four statements and adapted the student groups because the original study was conducted in German software teams. The scale assesses different aspects of interpersonal communication during the task execution. (1) 'People talked freely in my group.' (2) 'There were real attempts to share information in my group.' (3) 'The frequency of communication increased over time in my group.' (4) 'We listened to each individuals' input in my group.' (α = .72).

Psychological safety/trust was measured with a scale adapted from Edmondsson (1999) to cover trust dimensions. The scale was adapted because the groups in the current study were student groups, not groups in a manufacturing company for which the original scale was developed. The subjects were asked to indicate the extent to which they agree on the following five statements: (1) 'There was a feeling of trust among members in my group.' (2) 'People in my group were friendly and easy to approach.' (3) 'Members respected each other's ideas.' (4) 'A feeling of unity was high in my group.' (5) 'I was satisfied with the overall quality of my relationship with the group' (α = .82).

Perceived value diversity was measured similarly to Posner, Kouzes, and Schmidt (1985) by asking respondents to estimate the extent their work-related values were similar to those of the others. In addition to its simplicity, this method allows the assessment of values at a perceptual level (Meglino & Ravlin, 1998). The perceptual differences can be equated with behavioral differences simply because people can only monitor behavior, not cognition. The subjects were asked to indicate the extent to which they agree on the following four statements: (1) 'Our approaches to execute the task were similar.' (2) 'Our individual styles seemed compatible.' (3) 'I found my values and the group's values were very similar.' (4) 'We shared similar task-based values.' The scale was reversed in order to assess perceived value diversity (α = .77).

Relational demography represents the difference between a student and all other students in his/her group on gender and nationality. Following Chatman, Polzer, Barsade, and Neale (1998), relational demography was measured using the following

equation: $[1/n\Sigma(Xi - Xj)^2]$ ½; where: Xi = focal group member's score on the dimension; Xj = each other group member's score on that dimension; and n = the number of students in the group. The relational demography scale was used instead of the traditional compositional measures for two reasons. First, notable differences can not be found in empirical studies (cf. Milliken & Martins, 1996; Williams & O'Reilly, 1998). Second, scholars have recently started to assert that the findings in the relational demographic studies are more consistent in comparison to the ones using compositional measures (e.g., Lau & Murnighan, 1998). Categories for gender were 0 for women and 1 for men. Relational nationality was measured by 27 different national categories. *Age* was measured in years.

Familiarity was included into data analysis to rule out alternative explanation by extraneous influence, even though the subjects were randomly assigned into groups. The familiarity among the members was measured parallel to Louis (1978) by a question: 'How well do you know the other group members?'

3.4. Results

Table one presents means, standard deviations, and correlations for the dependent-, mediating-, independent-, and the control variables at the individual level.

Table 1. Means, standard deviations, and correlations (N = 139)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8
1. Outcome expect.	3.66	.72								
2. Group potency	3.69	.69	.541**							
3. P. safety/trust	3.86	.80	.531**	.583**						
4. Communication	4.30	.64	.483**	.464**	.634**					
5. Value diversity	2.28	.66	-.468**	-.593**	-.676**	-.568**				
6. Relational culture	.528	.33	.041	-.039	.024	.061	.016			
7. Relational gender	.528	.28	.229**	.183*	.187*	.237**	.134	-.120		
8. Age	23.2	3.2	.042	-.015	-.004	-.047	.012	.061	-.096	
9. Familiarity	2.50	1.1	.170*	.141	.330**	.216*	.119	.090	-.030	-.121

Notes: **p < .01, *p < .05

Several results are worth of noting. First, the high correlation between group potency and outcome expectations (r = .541, p > .01) supports theoretical and empirical linkages between the concepts (Shea & Guzzo, 1987). Second, the insignificant correlation between the perceived value congruence, age, and relational cultural and gender

diversity supports some previous research, indicating that demographic attributes does not always equate with values (e.g., Sanders, 1993; Rowe & Snizek, 1995). Third, in a slight contrast to previous research (e.g., Ibarra, 1992), relational gender diversity is positively related with both dependent variables (outcome expectation, $r = .229$, $p > .01$; group potency, $r = .183$, $p > .05$) and mediating variables (psychological safety/trust, $r = .187$, $p > .01$; interpersonal communication, $r = .237$, $p > .01$). Fourth, familiarity correlates with outcome expectations ($r = .170$, $p > .05$) and the mediating variables (psychological safety/trust, $r = .330$, $p > .01$; interpersonal communication, $r = .216$, $p > .05$). Lastly, the highest correlation between perceived value diversity and psychological safety/trust ($r = -.676$, $p > .01$) does not indicate serious problems of multicollinearity because a correlation below .75 is not considered problematic in hypothesis testing (Kennedy, 1979).

3.5. Regression analyses

The hypotheses predict that there is a direct and mediated relationship between the independent- and dependent variables. I used hierarchical regressions to test each hypothesis, entering first the control variables, secondly the independent variables, and thirdly the mediating variables (table two). The regression analyses indicate that inclusion of the independent and mediating variables increases the explanatory power of the models. According to Baron and Kenny (1986) three conditions must be satisfied in order to establish a mediating model. First, the independent variables must affect the dependent variable in the first equation. The second condition for mediation is that independent variables must account for significant variance in the mediating variable. The third requirement is that the mediator must affect the dependent variable. Further, the independent variables must explain less variance in the mediated analyses rather than in the main effect analyses.

Table 2. Hierarchical regression analyses (N = 139).

Predictor	P. safety/trust	Communication	Group potency	Outcome expectation
Step 1: Control variable				
Familiarity	.280**	.213*	.141†	.170*
Adjusted R square	.072	.039	.013	.022
F	11.663**	6.534*	2.785†	4.069†
Step 2: Main effects				
Familiarity	.210**	.154*	.075	.142*
Age	.022	-.038	-.006	.063
Relational gender	.065	.132*	.069	.150*
Relational culture	-.038	.005	-.056	.045
Value diversity	-.648**	-.560**	-.562**	-.413**
Δ R square	.420	.340	.314	.200
Adjusted R square	.492	.379	.327	.222
F	27.122**	17.476**	14.129**	8.726**
Step 3: Mediator 1				
Familiarity			.019	.077
Age			-.012	.057
Relational gender			.052	.130†
Relational culture			-.046	.056
Value diversity			-.390**	-.215*
P. safety/trust			.265**	.306**
Δ R square			.031	.043
Adjusted R square			.358	.265
F			13.545**	9.093**
Step 4: Mediator 2				
Familiarity			.033	.102
Age			.005	.073
Relational gender			.033	.116†
Relational culture			-.057	.043
Value diversity			-.409**	-.268**
Communication			.274**	.260**
Δ R square			.042	.037
Adjusted R square			.369	.259
F			14.161**	8.857**

†p < .10, *p < .01; **p < .001

Hypothesis 1a predicted that diversity in the readily detected- and underlying attributes have a negative impact on the group potency and outcome expectations. The regression analyses show a partial support for the hypothesis. While value congruence was negatively related with both the outcome expectations and group potency ($\beta = -.413$, $p < .01$ and $\beta = -.562$, $p < .01$, respectively), the relationship between the other independent variables did not meet the original hypothesis. In contract to the original expectations, relational gender diversity leads to positive outcome expectations among the respondents ($\beta = .150$, $p < .05$). *Hypothesis 1b* predicted that diversity in underlying attributes has a more negative impact on group psychological processes than the diversity in readily detected attributes. The results indicate that value diversity is the most negatively related to both the outcome expectations, and thus the hypothesis is

supported.

Hypothesis two, which predicted a mediating relation between the independent and dependent variables through psychological safety/trust, was partially supported. This is because value diversity affects the dependent variables and the mediating variable [(outcome expectations, $\beta = -.413$, $p < .01$) (group potency, $\beta = -.562$, $p < .01$) (psychological safety/trust, $\beta = -.648$, $p < .01$)]. The mediating variable further affected both of the dependent variables [(outcome expectations, $\beta = .306$, $p < .01$) (group potency, $\beta = .265$, $p < .01$)], and the impact of the independent variable decreased in the mediated regression analysis. The mediated relationship between the other independent- and dependent variables was not supported. Again, in contrast to the original hypothesis, there is an indication of the mediated relationship between relational gender diversity and outcome expectations.

Hypothesis three predicted a mediated positive relation between the independent- and dependent variables through interpersonal communication. The regression analyses provide partial support for the hypothesis. Similar to the first mediating relationship, value diversity affected both the dependent and the mediating variable [(outcome expectations, $\beta = -.413$, $p < .01$) (group potency, $\beta = -.562$, $p < .01$) (interpersonal communication, $\beta = -.560$, $p < .01$)]. Since the mediating variable affected both of the dependent variables [(outcome expectations, $\beta = .260$, $p < .01$) (group potency, $\beta = .274$, $p < .01$)], and the impact of the independent variable decreased in the mediated model, value congruence has a statistically significant mediated relation with the dependent variables. The mediated relationship between the other independent and dependent variables was not supported. Similar to the other mediated relationship, the regression analyses indicate a weak moderated relationship between relational gender diversity and outcome expectations.

4. Discussion

The purpose of this study was to explore the impact of readily detected- and underlying attributes and two mediating variables on the group potency and outcome expectations. This examination was considered to be important for two reasons. First, little research links group composition and social integration with group potency and outcome expectations. Second, most previous research has used both attributes under the general heading of demographics in attempting to understand the compositional impact on group processes and performance expectations (e.g., Sargent & Sue-Chan, 2001). In addition, even when distinctions have been made, most researchers especially in the

field of organizational demographics focus on the impact of readily detected attributes instead of underlying attributes. As a result, little is known about the simultaneous impact of these attributes on group processes and performance expectations.

This study shows that the independent variables do not have the same direct effects on the dependent variables. The direct impact of value diversity is parallel to the original hypothesis, indicating that the perceived value differences decrease the feeling of group potency and outcome expectations. Since values are not readily apparent like readily detected attributes, they are likely to influence the performance beliefs through group processes, such as interpersonal communication, rather than based on visual cues. In case of value diversity, one reason for the decreased performance expectations could be a lack of shared understanding of the task and behavior required accomplishing it successfully. Conversely, perceived value congruence could lead to a increased social interaction and consequently increased belief that the group can complete given tasks successfully. In contrast to previous research and the original hypothesis (e.g., Watson, Kumar & Michelsen, 1993), cultural diversity did not have an impact on the dependent variables. This finding is slightly surprising because cultural differences are claimed to create initial problems through mediating variables, such as interpersonal communication. It can be assumed, for example, that in the present study most subjects in cultural diverse groups communicated in their non-native language, which could cause increased anxiety among some group members.

While the hypothesis in regard of the perceived value diversity provides support in the predicted direction, regression analyses provide an unexpected finding. The finding that relational gender diversity has a direct impact on the dependent variables indirectly supports some recent research, but runs counter to some other studies. This is because, while Jehn, Northcraft, and Neale (1999) indicate that gender diversity increases group member morale, Baught and Graen (1997) report negative effects related to race and gender diversity on the perceived group effectiveness. One explanation is that the subjects in the present study – most brought up in gender egalitarian Nordic countries – are accustomed and might even value gender diversity. This explanation can be supported by research claiming that the Nordic cultural values support gender equality (Hofstede, 1980). In feminine cultures roles are not directly linked to gender and it, thus, can influence team processes through psychological processes such as trust and communication. It could be further assumed that the subjects are not sensitive to such diversity due to the high participation rates of female labor in Finnish companies. The reason why visible differences were not related to the perceived value diversity can be explained partly by the rather loose boundaries for expected gender roles in Finland.

Whereas in masculine and vertically oriented countries women are expected to adopt a submissive roles, in gender egalitarian Nordic societies women are often expected to take a more proactive role in group processes. As a consequence, the groups could be able to appreciate and utilize their cognitive variety even at the early stages of the group performance cycle.

In addition to the direct interaction, the present study attempts to address the 'black box' concerns raised by Lawrence (1997). The estimation of an intervening process model with mediating variables is considered to be important because research shows that group processes are related to group performance expectations (Pearce, Gallagher & Michael, 2002; Sargent & Sue-Chan, 2001). The statistical analysis confirms the research hypotheses that interpersonal communication and psychological safety/trust partially mediate the relationship between the value diversity, relative gender diversity, and output variables. This interaction among the input- and mediating variables is consistent with the conceptual models by Connor and Becker (1975) and Dose and Klimoski (1999), which propose that value congruence has an positive impact on group/organizational processes. The results show also parallel to previous empirical investigation that communication-cooperation has important effects on the development of group potency (Lester, Meglino & Korsgaard, 2002). Further, the linkage between the mediating and dependent variables provide indirect support that people form performance expectations through social processes (Guzzo & Dickson, 1996). Basically, a higher level of perceived value differences decreases the levels of interpersonal communication and psychological safety, which in turn decreases the perception of group potency.

The relationship between gender diversity and interpersonal communication is in contrast to some previous research, which claim that readily detected attributes are vulnerable to negative stereotyping influencing the communication frequency and spread. For example, Ibarra (1992) shows that gender diversity reduces the spread of interpersonal communication networks in organizations because of the in-group/out-group formation. This contrasting result can be explained in various ways. First, it can be assumed that the group size in this study has an impact on interpersonal communication because individuals are able to form their communication networks based on readily detected- and underlying attributes in larger social units. Thus, group members needed to engage into close communication in order to complete the task within the given time limit. It can be assumed that the combined effect of relative insensitivity to relational gender diversity together with higher cognitive variety has a stimulating effect on the interpersonal communication. This assumption is based on the

findings of the positive impact of diversity on the group performance in the long run and the assertion of the definite linkage requires further investigations.

An alternative, but equally feasible, explanation is build around Goffman's (1956) impression management. In temporary groups, people may be motivated to show good qualities in order to be integrated into the group. The desire to maintain a positive self-image is probably universal. This is why group members may have strong incentives, not simply to wait until the others discover his/her good qualities, but try to exert effort to prove him/herself as an attractive associate. However, what constitutes a positive-self image depends on how the self is construed and thus some part of impression management can be derived from values. This involves, essentially, revealing characteristics that are assumed to be positively valued by the others and concealing those he/she expects to be negatively valued. In a cross-cultural context, creating an impressive image of one's self is a complicated process and one has to infer from the few immediately available cues what the values of the others are, predict on the basis of this inference which qualities would make a favorable impression, and adapt his/her conduct accordingly.

It can be assumed that gender heterogeneity stimulates this process during the early phases of the group cycle. This is because research implies that female-dominated groups might be more inclusive of others such that those in the minority feel less excluded (O'Farrell & Harlan, 1982). In general, groups comprised primarily of women have more team-oriented style than male groups, women are more likely to adopt participate leadership style, be less assertive and more nurturant, emphasizing interdependence rather than independence, and express greater emotional sensitivity than men. The apparent consequence of impression management and bipolar group composition (i.e., groups consisting roughly 50 percent men and 50 percent females) may stimulate interpersonal communication and the sense of psychologically safe atmosphere where people feel free to express their opinions. It should be noted that these processes might decline during the later stages of group development as people further validate the underlying attributes through social interaction processes.

The data indicate parallel to the previous research that the readily detected- and underlying attributes are not related (Cox, Lobel & McLeod, 1991; Rowe & Snizek, 1995; Sanders, 1993) at least in the early phases of group performance cycle. In respect of the non-significant relationship between work-related- and cultural values, the findings are slightly surprising. For example, it could be assumed parallel to previous research that cultural values are related with work values (e.g., Hofstede, 1980). This is because, whereas about thirty percent of the subjects were foreigners, only about six

percent of the subjects were from non-European countries and racially diverse. The non-significant relationship can be an indication of the attitudinal and perceptual differences to different forms of diversity, which makes hard to predict how the attributes are related. A plausible explanation is that, whether the actual diversity matters or not, may be a function of the extent to which members are open to different types of diversity, regardless whether they are readily detected or underlying. For example, in gender egalitarian and culturally/racially homogeneous countries, such as Finland, subjects could be more sensitive to racio-ethnic diversity than to gender diversity. Since the readily detected- and underlying attributes are not related, they should be separated in conceptual and empirical investigations.

Combining the direct and mediated relationships, it can be asserted that gender diversity and perceived value similarity provide an initial push for group processes. This is, of course, not to say that value congruence solely provides benefits to groups over time because this and several longitudinal studies, using readily detected attributes, indicate that certain types of diversity leads to more creative solutions (Watson, Kumar & Michelson, 1993), and group efficacy (Sargent & Sue-Chan, 2001). However, what can happen is that values, which is often not immediately discernible, remain as an important predictor of group processes and performance over time, while age and gender diversity, characteristics that are readily apparent, become less relevant over time. Indeed, several longitudinal studies indicate that demographically diverse groups reach their performance peak later than the homogeneous ones (see Milliken & Martins, 1996). Based on the above, it can be assumed that the negative impact of group processes is subject to last even longer in value diverse groups. Basically, the effects of readily detected attributes evolve and mature faster than the underlying attributes.

It should be finally noted that group performance expectations could be unrealistically high in newly performed groups due to the inflated expectations and social-cultural context. First, research on met expectations (Wanous, Poland, Premack and Davis, 1992) indicates that new employees almost always enter organizations with overly inflated expectations about subsequent outcomes (such as the amount of support they will receive and the quality of interactions with others). Parallel phenomenon tends to occur also in newly formed groups. Brinthaupt, Moreland and Levine (1991) found that prospective group members are overly optimistic about their future expectations in a group. Second, research indicates that Western Europeans tend to be field-independent, which means that they perceive an individual as separate from the group and the group as distinct from its environment (Shaw, 1990). As a consequence, there may be little or no relationship between performance expectations and actual

effectiveness (Gibson, 1999). Therefore, it can be asserted parallel to Lester, Meglino and Korgaard (2002) that group performance expectations might decline as the group interaction patterns evolve and their performance is evaluated externally.

There are implications for practice that can be drawn from this study. First, the results suggest that group composition provide clear benefits in the short run. This is especially important in temporary teams (e.g., task forces and project teams) that are utilized at short notice to solve various non-routine problems. Basically, value congruence decreases initial project losses that are initiated by diverse work-related expectations, enabling group members to concentrate on the given task. As a consequence, the emphasis should be put on the compatibility of work values in the recruitment and selection process. This suggestion is not in contrast with the equal opportunity act because value congruence is not necessarily an indication of demographic homogeneity. Indeed, this study indicates similarities in work values, despite the differences in readily detected attributes. The trend for valuing underlying attributes can be seen in that many companies are using tests, which measure psychological attributes in the recruitment process. Several of these tests are designed to measure work values. Even though suggestions for member selection and recruitment are made, this study does not give readily applicable formula in regard to right group composition simply because the impact of diversity is contextual and perceptual. For example, studies show that contextual factors, such as task interdependence, organizational culture, and leader behavior moderate the effect of diversity in work groups (see Milliken & Martins, 1996).

4.1. Limitations

The present study has some limitations. Perhaps the most obvious concern in this, and all laboratory experiments, is external validity. In this experiment, college students were brought together to perform a particular task for a brief period in a controlled environment. Thus, there might be some limitations to generalize the results of this study to other populations. This issue has occurred in social psychology for a long time and is difficult to resolve. However, evidence from several meta-analyses by Mullen and his colleagues (e.g., Mullen & Copper, 1994) suggest that it may not be of so much concern. In those meta-analyses, it was often possible to compare findings from laboratory and field research. Laboratory findings generally resembled those from the field, though the latter were usually much stronger.

Other limitations are mainly methodological. First, it can be doubted whether the student teams are able to create shared mental constructs of group potency and outcome expectations within 60 minutes. Although scholars have asserted that the creation of shared mental constructs require time (e.g., Klimoski & Mohammed, 1994), the discussions have not specified how much time is needed for teams to create shared mental constructs. Second, subjective constructs increase the possibility for the mono method bias. Third, there might be some problems with reverse causation because some researchers have asserted that trust has positive consequences for interpersonal communication (e.g., Dose & Klimoski, 1999). Fourth, the measurement of cultural values based on national categories may not reflect cultural value diversity accurately because they are not uniformly shared among a society's members. Finally, whereas a large part of the present study was to examine the 'black box', efforts should be made to obtain externally assessed performance measures to permit an examination of the relationships between value congruence, group functioning, group potency and outcome expectations, and performance.

5. Conclusion

This study examines the impact of readily detected- and underlying attributes, through two mediating variables and, directly on the group potency and outcome expectations. The results indicate partial support for the hypotheses stating that value diversity is negatively related to the group potency and outcome expectations, and the mediating impact of communication and psychological safety. In addition, in contrast to the original expectations, gender diversity has a direct and mediated relationship with group effectiveness through both mediating variables. The four types of attributes are not statistically related to each other. Some practical implications for the recruitment and selection, especially for task forces and project teams, can be drawn from this study.

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Appendix: Southern Pacific Airlines (SPA): Making Innovations Fly

Southern Pacific Airlines (SPA) is a small Australian airline operating under conservative policy laid down by its founder Bill Flanders. The reactive corporate policy helped the company to grow in the domestic market, but not to be able to keep in line with the recent developments in the aviation industry such as internet booking etc. Now as Bill Flanders is retiring, company management is left to three managers responsible creating a new innovative corporate strategy for this small Australian airline.

SPA creates most of its profits (75%) by shuttle services between major cities in Australia. The profile of passengers in domestic flights has changed in recent years due to the improved economic situation and the rising importance of Perth as a technological center of Australia. The second largest source of profits (15%) is created by charter flights to popular resort places such as Bali, Fiji, Samoa, and Tahiti. Services in the chartered flights are differentiated with special food and flight attendant outfits (e.g., barbecue pork and colorful outfits for Samoan flight). The company has also started to provide services for oil companies operating in the remote places of Australia, Papua New Guinea, and Indonesia. However, special conditions such as short runaways and heavy cargoes would eventually require a purchase of new types of airplane such as Locheed Hercules.

Recent changes in the airline industry have been international alliances and information technology with electronic booking, etc. Airline mergers are bad news for SPA. The biggest domestic competitors, Quantas and Ansett have been able to increase their market shares through mergers from 60% (1985) to 70% (2000). Furthermore, new aggressive competitors such as Virgin Blue are entering the market with innovative corporate strategies. Due to alliances and increased competition SPA's market share in Australia has decreased from 20 % (1985) to 11% (2000). The other really rapid change has taken place in ticketing and information services. As recently as five years ago the only way to book the ticket was telephoning the airline, waiting in line at one of its ticket counters, or contacting travel agent. Now more customers are booking their tickets either directly on an airline's own Web site or through of the proliferating third-party online travel agencies. At the moment SPA offers services through airline service counters, phone, and simple home page.

Despite the increased alliances there is room in the industry for small innovative airlines. In recent years small airlines such as Virgin Atlantic and Southwest Airlines have been able to increase their market shares with innovative strategies such as using

low cost and underutilized airports close to metropolitan areas, budget connections, and differentiated in-flight services. In these companies the whole staff is constantly looking for and finding ways to do things better. Whereas technical staff is improving and operating efficiency of aircraft, sales, marketing and customer service employees are always seeking new ways to fill seats and process passengers and cargo more efficiently. Unfortunately, though, SPA has not been a seedbed for innovations due to the bureaucratic, reactive, and risk averse corporate culture. The inability to change has deteriorated SPA's image even further as a low quality and inefficient airline.

It is evident that SPA has to innovate to increase its market share and/or to stay alive. Your task as the new management team is to build an innovative strategic plan within next 60 minutes reaching the following goals:

- ✓ Majority of turnover should be created in international markets.
- ✓ Sales, ticketing, and in-flight services should be made changed.
- ✓ Marketing and services should be made to differentiated to build a new image.

- Essay Two -

The Impact of Relational Diversity and Socio-Cultural Context on Interpersonal Communication: Nordic Subsidiaries in Japan

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1. Introduction

Communication in everyday work interaction has a tremendous influence on individual and collective psychological outcomes (Milliken & Martins, 1996; Roberts & O'Reilly, 1979; Williams & O'Reilly, 1998). Several studies, utilizing social identity- (Tajfel & Turner, 1986) and self-categorization (Turner, 1987) theories, indicate that visible differences decrease communicative interaction as a result of increased anxiety and in-group/out-group categorization (cf. Milliken & Martins, 1996). Although this stream of research provides important information how visual cues has an impact on interpersonal communication patterns, it tends to overlook the influence of the context and non-visible aspects of diversity. In contrast, intercultural communication studies focus on which impact cultural values have on communicative interaction (e.g., Hall, 1959), but do not extend their investigations to the visible detected dimensions of diversity. Due to a lack of interlinking research, it is hard to determine which forms of diversity influence communicative behavior in a cross-cultural context. As both forms of diversity are present in every cross-cultural organization, it is important to examine simultaneously the impact of both the visible and non-visible dimensions of diversity on communicative interaction.

This paper explores the influence of the visible or readily detected- (age, gender, and racio-ethnicity) and non-visible or underlying attributes (education, tenure, and work-values) on interpersonal communication in a cross-cultural context. These attributes cover most diversity in cross-cultural organizations. It can be further assumed that the socio-cultural context increases the salience of diversity, and thus hinders communication among foreign and local employees. As an indication, a recent survey indicates that the major challenges for foreigners are the interaction with Japanese (Japan Institute of Labor, 2002). In addition to the regular language problems, the source of perplexity can dwell in the differentiated communication rules. The combination of communication rules and the socio-cultural context influences further how the readily detectable- and underlying differences are perceived, and thus the ascendancy for employee interaction. As a consequence, the research question can be formulated as *what types of diversity influence interpersonal communication in a Japanese socio-cultural context?* The impact of various types of diversity is tested with 110 employees in nine Nordic sales subsidiaries in Japan.

This paper is divided into three sections. The first section describes the relevant social psychological- and communication theories that explain the impact of diversity on interpersonal communication. The hypotheses, in the following section, are mainly

based on conceptual- and empirical research, dealing with communication in various social entities. The empirical part of this study was conducted in Nordic subsidiaries in Japan because these countries have large cultural differences and due to a relative lack of quantitative research on the focal issue in Japan. Due to the lack of empirical research, some studies conducted in North America are used with a caution in the hypotheses development. The readily detected- and underlying attributes are analyzed separately in the hypotheses section due to their different impact on communicative behavior. That is, the readily detected attributes are subject to automatic categorization, whereas the underlying attributes are validated through social interaction process. The following methodology section deals with the research population, scales, and statistical analyses. The results are discussed and limitations are indicated in the final section. Extracts from nine managerial interviews are used in the discussion section to shed additional light on quantitative results. Further, some practical implications are made to facilitate communicative interaction in diverse environments.

2. Theoretical framework

The term interpersonal communication refers to the acquisition and/or offering of information through interpersonal channels (Jackson, Stone & Alvarez, 1993: 59). It involves producing, transmitting, and interpreting symbols through verbal and non-verbal channels, directly and indirectly, passively, and proactively (Miller & Jablin, 1991). It is an important part of culture as stated flatly by Hall (1959: 191) that ‘culture is communication and communication is culture.’ As an area of inquiry, intercultural communication has traditionally been studied in fields of psychology and communication, but has recently been extended to the field of management science and social psychology. It can be claimed that each of these disciplines touch different aspects of communication and thus, some integration is needed to investigate how the readily detected- and underlying attributes influence communicative processes in a cross-cultural environment.

As the focus of this paper is on the impact of diversity on communicative interaction, this study draws mainly from the social identity- (Tajfel & Turner, 1986) and self-categorization theories (Turner, 1987). However, due to some weaknesses of these theories to explain the simultaneous impact of the readily detected- and underlying attributes, some basic tenets from communication theories are incorporated in this section. Social identity- and self-categorization theories involve the concepts of categorization, identification, and comparison. These theories maintain that people

categorize objects in order to understand them and to reduce uncertainty. In similar fashion, people initially seek to categorize themselves and other people primarily on readily detected attributes rather than psychological abstracts, such as values. The values play an important role on how people perceive and categorize objects in their environment. While serving as a function to streamline judgments and save cognitive energy, the categorization may block a person from noticing individuating characteristics of the perceived person (Larkey, 1996: 470). The categorization leads to identification, which manifests itself in interpersonal situations (personal identity) and group situations (social identity). The social identity is derived primarily from group memberships, which people strive to achieve in order to maintain a positive social identity. The positive identity derives largely from favorable comparisons, which are made between in-group and out-groups. In the event of 'unsatisfactory' identity, people may seek to leave their group or find ways of achieving more distinctiveness for it.

In slight contrast to the social identity theory, the social-categorization theory acknowledges the possibility of several levels of identity or abstraction. The central role in the abstraction are prototypes, which are fuzzy sets of attributes that capture context-dependent features of group membership, in the form of representations of exemplary members or ideal types (Hogg & Terry, 2000). For example, as an elder female employee in predominately young female workers may find the organization attractive based on gender, but unattractive based on age. The extent to which a categorization is applied at a particular level is referred to as its salience. The salience relates not just only to the general relevance of a group membership, but refers to a selective change in self-perception whereby people actually define themselves as unique individuals or as members of groups. Based on the token concept (Kantler, 1977), minorities are salient and categorized for three reasons. First, demographic minorities capture a larger share of awareness. Second, due to the visibility, the majority tends to reinforce their common attributes, which leads to the isolation of the minority members. Third, the perceived attributes are distorted to conform to the dominant category's preconceived stereotypes of the minority. As self-identification is relational and comparative to the context, in some cases the salience of social identity is formed and further redefined through social interaction processes. For instance, value diversity may act as a more salient attribute than age in collectivist societies that place emphasis on the context-depend communicative interaction. Hence, the impact of readily detected attributes may attenuate over time and behavioral and/or value differences may determine the in-group/out-group categorization process.

Communication-rules approach helps to understand why the diversity in underlying

attributes may become salient (e.g., Schall, 1983). Communication rules, which can be understood as tacit knowledge about appropriate ways to interact in given roles and situations, indicate that values play an important role in communicative interaction. In other words, value congruence enables employees to communicate based on implicit rules in regard to readily detected attributes. For instance, people in a Japanese socio-cultural context place larger emphasis on verticality than people in the Nordic socio-cultural context. The presence of a 'shared language' or coding scheme decreases anxiety in communicative interaction. Alternatively, dissimilar experiences, backgrounds, beliefs, and values are presumably are explained to cause difficulties in communication and diminish social integration. Moreover, low interaction beyond gender lines is explained by a combined impact of gender, power, and values (Ardener, 1975). As a consequence, minority members can be categorized as out-group based either or/both and the readily detectable and/or underlying attributes, depending on the context of interaction. For instance, language competence may be a more important determinant of a prototypically marginal member than race/ethnicity. However, the opposite phenomena can take place because it can be claimed that not only the cultural differences, but the combination of various readily detected- and underlying attributes that can cause the problem. Due to the potential multidimensional impact of diversity, the following hypotheses take into account both the visible and non-visible dimensions of diversity.

3. Hypotheses

Diversity in readily detected- (age, gender, and racio-ethnicity) and underlying attributes (education, tenure, and work-values) is examined based on a categorization by Harrison, Price, and Bell (1998). Their impact on communication is examined separately mainly because combining them makes it hard to distinguish how the variations affect individuals' communicative behavior. Researchers have further suggested that diversity research should take into account the full impact of an individual's demographic profile rather than only one or two demographic characteristics (Tsui & O'Reilly, 1989). In this paper, diversity is defined as 'the presence of differences among members of a social unit' (Jackson, May, Whitney, 1995: 217).

I acknowledge that some of the readily detected- and underlying attributes (e.g., racio-ethnicity and work-values) might be linked, but there are contextual and individual differences of how these types of attributes may influence communication.

For example, research indicates that race is an important source of social identity for most individuals in the United States (Milliken & Martins, 1996). In slight contrast, a group membership is the most important source of self-identification in Japan. Albeit that the categorization process is based largely on the readily detected attributes, it can be assumed that value congruence and adherence to behavioral codes plays a more significant role in collectivist Japan than the individualistic Western countries. As a consequence, a separation between racio-ethnicity and perceived value differences enables to determine which form of diversity is more salient and subject to categorization in cross-cultural context.

3.1. Readily-detected attributes

Due to their visibility, readily detected attributes are subject to instant biases, prejudices, and stereotypes. The negative impact is reflected in literature reviews, which indicate that diversity in tenure, gender, and racio-ethnicity generally decrease affective processes such as communication (cf. Milliken & Martins, 1996; Williams & O'Reilly, 1998). Moreover, based on cross-cultural research, the categorization based on perceptual cues is subject to cultural variations (e.g., Hofstede, 1980).

3.1.1. Age

The cohort concept (a group of individuals having a statistical factor in common) asserts that employees who are homogeneous in age, regardless of their expertise, status, or organizational tenure, tend to have common non-work-related experiences (Zenger & Lawrence, 1989). This notion implies that people are relatively more malleable at some state of life than at others, and experiences at these malleable periods exert as lasting influence on both beliefs and action. Without often taking into account individual variance, researchers assert that perspectives change generally as a function of the developmental process of aging (Elder, 1975). The similarity of experiences increases a shared understanding of language rules and thus, has a positive impact on non-work related communication. In an organizational environment, the effect of similarity in age can be detected by the creation of a shared language concerning a wide spectrum of issues that influence the employees' attitudes, interests, and beliefs (Rhodes, 1983; Wiersema & Bird, 1993).

The impact of age in communicative interaction is subject to socio-cultural differences. Based on cross-cultural research, collective cultures place more emphasis

on the hierarchical categorization that the individualistic cultures (Triandis, 1995). In Japan, status among employees holding a similar position is largely determined by age and employees often accept this vertical categorization to *ue*/*shita* or high/low relations (Triandis 1990). The social hierarchy with inequality has its roots in Confucianism as four of the five virtues of Confucianism address the vertical relationships between two groups of people and dictate the duties and obligations of each group (Tu, 1984). Even though the employment patterns are slowly changing in Japan, a younger person is still often assumed to take a submissive role in a dyadic interaction. Entry-level recruitment, seniority-based promotion, and low labor mobility can be seen to intensify the impact of age cohort identity. The categorization based on age, in terms of information exchange, can have detrimental consequences on organizational efficiency because it increases suppression of divergent points of view and conformity toward normative views (Nemeth & Staw, 1989). Further, due to the strong distinction between private (*honne*) and public communication (*tatemae*) in Japan, young employees may find it uncomfortable to vocalize their ideas, especially if they are rejected in public, even when they know that their ideas would be beneficial in the decision-making process.

However, in the subordinate-superior communication patterns, the socio-cultural context may cause that the dissimilarities rather than similarities initiate communication. According to Farh, Tsui, Xin and Cheng (1998), in the Eastern cultures it would be consistent with social status norms for individuals holding high level positions to be older and higher educated than subordinates. Hence, when subordinates are older that their supervisors, subordinates will perceive a lower level of support and consideration from their supervisors, in turn, supervisors will perceive a lower level of loyalty from their subordinates, and both will engage to communicative interaction with each other. Although part of this social interaction may be attributed to socio-cultural differences in power, nationality, and work-values, several empirical studies have found that age diversity in most cultures decreases both friendship- and work-related communication (Zenger & Lawrence, 1989). Thus, the first hypothesis can be formulated as:

Hypothesis 1 (H1): Relative age diversity decreases the frequency of interpersonal communication.

3.1.2. Gender

Among the readily detected attributes, the impact of gender diversity on communicative

interaction has been under focus in several conceptual and theoretical frameworks (e.g., Ardener, 1975; Kantler, 1977). Whereas some researchers explain the low level of communication by the visibility of minority members (Kantler, 1977), the others see the phenomena through the linkage of gender with values and power (Ardener, 1975). The muted group theory explains the difference between female and male communication through the concepts of experience and power based on three assumptions (Ardener, 1975). The first assumption is that men and women perceive the world differently due to the differentiated experiences. As a consequence, men and women tend to accept and perform different tasks in organizations. Second, men suppress women's ideas and language due to the acquired power. Finally, women need to convert their ideas, experiences, and meanings in organizations in order to be heard.

Even though the world has changed a great deal since the introduction of the muted group theory, demographic studies, in general, indicate that women are isolated from communication networks and subject to stereotyped roles in a male-dominated environment (Ely, 1995; Ibarra, 1992). For instance, in a study of communication networks in an advertising agency, Ibarra found that, while men evidenced a great deal of gender-based homophily for all types of networks studied, women preferred a greater proportion of men and influence ties. In other words, the reduced communication can be seen as a hindrance in female career development. The exaggerated gender differences occur especially in male-dominated organizations and/or occupations because gender is a more important social category for men (Kanter, 1977; Tsui, Egan & O'Reilly, 1992). It can further be assumed that women are subject to automatic categorization because studies indicate little or no gender differences in work-values (Rowe & Snizek, 1995).

The socio-cultural context influences communication rules, and research indicates that gender is an important antecedent for organizational communication in Japan. The main reasons for the limited role for women in Japanese working place are selective recruitment, two-track employment system, and clear distinction between male and female professions (Ogasawara, 1991; Whitehill, 1991). Moreover, socio-cultural context emphasizes gender role distinctions by seeing women as nurturing and men as task-oriented. As a consequence, women occupied only six percent of first-level managerial positions and less than one percent of top management positions in large Japanese companies in 1995 (Wong, 1997). The low presentation of female managers reflects the study of token effect by Kanter (1977), suggesting that male managers in a male-dominated hierarchy are likely to act in ways that preserve male privileges and advantages.

Based on Stephan and Stephan (1985), the presence of women in traditionally male

dominated posts tends to increase anxiety among male employees. In general, when demographic arrangements reinforce status differences between men and women, the categories for ‘male’ and ‘female’ become salient for women and their perception of psychological and behavioral differences between men and women will be exaggerated in a manner consistent with sex-role stereotypes. The dissimilarity in terms of gender has generally more negative outcomes for men than women due to the schematic representation. This helps to explain why gender diversity may have more negative consequences on communicative behavior in male- than female-dominated organizations. Thus, the second hypothesis can be formulated as:

Hypothesis 2 (H2): Relative gender diversity has a negative impact on interpersonal communication

3.1.3. Racio-ethnicity

Racio-ethnicity may consist of both the readily detected- (race) and underlying attributes (ethnicity/culture), depending on the context of interaction. Due to the apparent cultural value- and racial differences between Nordic expatriates and Japanese employees, the concept of racio-ethnicity in this paper measures both cultural value- and racial diversity. Although potentially multiple factors, such as age, gender, organizational position, so on, influence communicative behavior, a comprehensive literature review indicates that the racio-ethnic diversity initiates negative affective outcomes (cf. Milliken & Martins, 1996). Whereas the most of the reviewed studies imply that people who are racially different from the majority are categorized and subject to negative stereotyping, the terms of cultural values and race are separated in the following discussion due to their differentiated impact on interpersonal communication.

Tacitly held communication rules are closely linked to cultural values because they provide meanings of appropriate ways to interact with others (cf. Schall, 1983: 560-563). As the communication roles define how people should behave in certain situations, it is possible to define large differences, especially in terms of verticality and face giving/saving, in the Nordic expatriate- and Japanese employee communicative interaction. Face, which can be defined as an image of self- delineated in terms of approved social attributes (Goffman, 1955: 213), is linked to ones’ positional power in Japan. As verticality in the Japanese society is based on attributes such as age, gender, readily detected- attributes have an influence on the depth and frequency of

communication. In principle, vertically inferiors comply and the superiors lead and take responsibility. The consequence of strict communication rules is that Japanese can be identified to have two faces: one reflecting the authentic self (*honne*), and the other reflecting the public self (*tatemae*). The former in organizational behavior refers to benefits and responsibilities linked to readily detected attributes and the latter to personal feelings, intentions, attitudes, and so on. Japanese also tend to emphasize *giri* (social oblications) and *ninjoo* (human feelings) based on the context of interaction. Maintaining face is accomplished by taking a line while interacting socially. A line is what the person says and does during the interaction showing that the person understands the situation at hand. Due to the different communication rules, it can be assumed that expatriates from relative context-free Nordic countries interpret the context of interaction through dissimilar schemata. The schematic differences increase chances for miscommunication and thus potentially creates a division between the expatriate and Japanese employees. For instance, Japanese cultural values imply that people should respect hierarchy in communicative interaction, whereas in relative egalitarian Nordic societies' hierarchy is not the primary concern.

In contrast to most intercultural communication theories, cultural values in this paper are considered as a part of the racio-ethnic diversity. The other dimension, race, is visible and thus subject to automatic categorization explained in the social identity- and self-categorization theories. In some contrast to previous research, the minority members (Nordic expatriates) in the present study differ in terms of organizational rank and power. This is because several researchers especially in the field of organizational demography claim that the relative size of being different is an important determinant of organizational power (e.g., Pfeffer, 1983). Moreover, social psychology researchers tend to think that powerful groups tend also be the numerical majority. Due to their minority status, the foreign employees, on one hand, may be motivated to assimilate culturally and psychologically to the dominant group. On the other hand, high organizational position may enable the foreign employees to maintain a positive self-image despite their minority status. Therefore, the in-group and out-group distinction reflects ones identification of him/herself either as a part of a foreign or Japanese organization. Basically, foreign employees may seek to assimilate with the majority for positive self-identification, or have little motivation to alternate their behavior due to the legitimate power. The legitimate power held by expatriate employees may cause that overall communication is not reduced despite the racio-ethnic diversity.

To increase the complexity related to racio-ethnicity, research indicates that the categorization process can be intensified by the differences in organizational hierarchy

(Pettigrew & Martin, 1989). This is because a limited integration between the upper and lower echelon reinforces stereotyping and categorization based on nationality. Due to the low number of foreigners in Japan, ethnic differences, and linguistic barriers, Japanese employees are further likely to experience uncertainty and anxiety in their communicative interaction with the foreign nationals. Since the anxiety level in communication with out-group members is higher in Japan than in the United States (Gudykunst & Nishida, 2001), it can be assumed that most communicative interaction with the foreigners is work-related. Thus:

Hypothesis 3 (H3): Relative racio-ethnic diversity has a negative impact on interpersonal communication

3.2. Underlying attributes

Whereas there is abundant evidence that diversity in readily detected attributes has a negative impact on affective outcomes, relatively little is know how the underlying attributes have an impact on communicative behavior. This is because the demographic attributes are frequently used as the indicators for underlying values, especially in the field of organizational demographics (e.g., Pfeffer, 1983; Tsui, Egan & O'Reilly, 1992). Although this is true in some cases, researchers have provided evidence showing that readily detected- and underlying attributes are not always related (e.g., Dose & Klimoski, 1999). Furthermore, there have been disagreements about the classification of some attributes. For example, Jackson and associates (1995) included education as a surface-level attribute, but Milliken and Martins (1996) considered it an underlying attribute. In the present study education is categorized as an underlying attribute due to non-observable characteristics.

3.2.1. Tenure

Age and organizational tenure are often confounded in research. However, it is important to separate the effects of age and tenure because explanations differ in the case of why age- and tenure diversity have a negative impact to interpersonal communication. The cohort concept indicates that tenure homogeneity promotes communication due to the shared understanding of organizational policies and procedures, and the consequent shared language. Basically, employees who enter at the same time into the company go through similar experiences and thus have more chances

and motivation to exchange ideas than the employees who are diverse in terms of tenure (Katz, 1982). These differences generally decrease communication between senior and junior employees (Zenger & Lawrence, 1989). This leads to a tendency to choose and associate with others from within the same general tenure group (Pfeffer, 1983).

The impact of tenure on communication, however, may be more complex than indicated above because it cannot be isolated from the other attributes and socio-cultural context (Farh, Tsui, Xin & Cheng, 1998). This could explain inconsistencies in the research because some studies conducted in North America indicate that tenure diversity has a positive impact on internal task processes in work groups (e.g., Ancona & Caldwell, 1992). In the Japanese socio-cultural context, the impact of tenure diversity may be influenced by the cultural attributes of verticality and deep social interdependence. Indeed, research on Japanese socio-cultural attributes indicates that the responsibilities and communicative behavior is subject to vertical role categorization (Nakane, 1972). The differentiated roles could promote information exchange due to different levels of knowledge between junior (*kohai*) and senior (*sempai*) employees. Unfortunately, this assessment has not been assessed empirically and is in contrast with most research conducted in North America. However, the recruitment practices and categorization based on age makes friendship-related communication in most organizations subject to tenure homogeneity. Since friendship communication tends to be more frequent than work-related communication, it can be proposed that:

Hypothesis 4 (H4): Relative tenure diversity has a negative impact on interpersonal communication.

3.2.2. Education

Even every working place is subject to education diversity, surprisingly little research links it with interpersonal communication in groups/organizations. The limited amount of research can be partly explained by the assumed close relation between education and values (Hambrick & Mason, 1984; Kimberly & Evanisko, 1981). However, some research indicates that the organizational status and educational level has a different impact on authority-, social-, and expertise networks (Roberts & O'Reilly, 1979). Whereas the rank in this study was found to have a positive impact on authority and expertise networks, education decreases participation in all communication networks.

Theoretical frameworks that are used in this paper explain the decreased communication by the identification of themselves with the similar ones and the

increased anxiety and uncertainty in communication. This concentration of interaction along the educational background is reflected in research, indicating that superiors are most affected with subordinates with similar educational level (Tsui & O'Reilly, 1989), and that educational diversity increases turnover in Japanese top management teams (Wiersema & Bird, 1993).

The results of the study could reflect a strong emphasis on educational attainment and similarity of educational level in Japanese society. This tendency for educational similarity is shown in Japan by selective recruitment and emphasis on entrants with a four-year university degree. Large Japanese organizations usually conduct recruitment and selection on a yearly basis and tend to hire a cohort of fresh school graduates annually in April rather than conduct recruitment throughout the year as vacancies arise. This phenomenon reflects the importance of *wa* (harmony) since people from same schools would find it easier to develop smooth interpersonal relationship due their common educational background. Thus:

Hypothesis 5 (H5): Relative education diversity has a negative impact on interpersonal communication.

3.2.3. Work-values

Researchers assert that cultural values are only one dimension of overall work-values (e.g., Dose, 1997). Indeed, researchers who compare cultural values among nations do not often take into account value heterogeneity in a given nation. As a consequence, the usage of the *etic* (culture-general) approach to study *emic* (culture-specific) phenomena may produce faulty results. In other words, one should be cautious when using national cultural level concepts to interpret individual behavior in a specific context. Indeed, research indicates that 40 percent of variance of work values is genetic, whereas the other 60 percent are environmentally based (Keller, Bouchard, Arvey, Segal & Davis, 1992). Hence, it can be assumed that values can be both an individual- and social phenomenon because they are developed partly over time through multiple and long-term influence of culture, society, and experience, and are partly derived from genetics.

Values are a general part of self-identity and relatively resistant to change. In organizations and work groups, values are interpreted and evaluated through behavior simply because people cannot evaluate each other's cognition. According to researchers, there is a clear connection between values and behavior because similarity in values means that individuals share a general philosophy how work should be executed and

what are the expected task results (Connor & Becker, 1975; Dose & Klimoski, 1999). In terms of salience, values are obviously less subject to initial categorization than the readily detected attributes due to their non-visibility. However, employees have several ways to detect the differences in values in social interaction through communication, decision-making and so on. As an informal guide for collective accepted behavior, anything that promotes value salience will be particularly likely to elicit self-categorization (Dose & Klimoski, 1999: 91). More over, according to Sitkin and Roth (1993: 371), if an individual holds even a single key value that is different from the dominant group's the influence of schematized stereotypes and the desire for cognitive consistency will take it likely that all the person's values will be perceived as different.

Value congruence can be asserted to play an important role in collective cultures due to the strict role expectations. The Japanese style of collectivism, at least in its manifestation in this century, has involved a high degree of collectively coerced conformism. This means people who do not confirm to one's group are considered immoral and childish. Since one of the most important Japanese core cultural norm is to achieve and foster harmonious interdependence among in-group members, Japanese employees are expected to display a high level of value congruence. As a consequence, values and relationships potentially play a more important part of social identity than of personal identity. Japanese organizations emphasize value congruence by relying on long socialization process when collective behavioral patterns are passed through modelling, instruction, and correction. As the behavioral patterns are value based, communicative interaction of other employees can be evaluated as 'good' or 'bad', 'right' or 'wrong.' Important for individuals in collective cultures is to comply with the accepted behavioral norms because people do not exist as individuals, but rather integrated parts of groups.

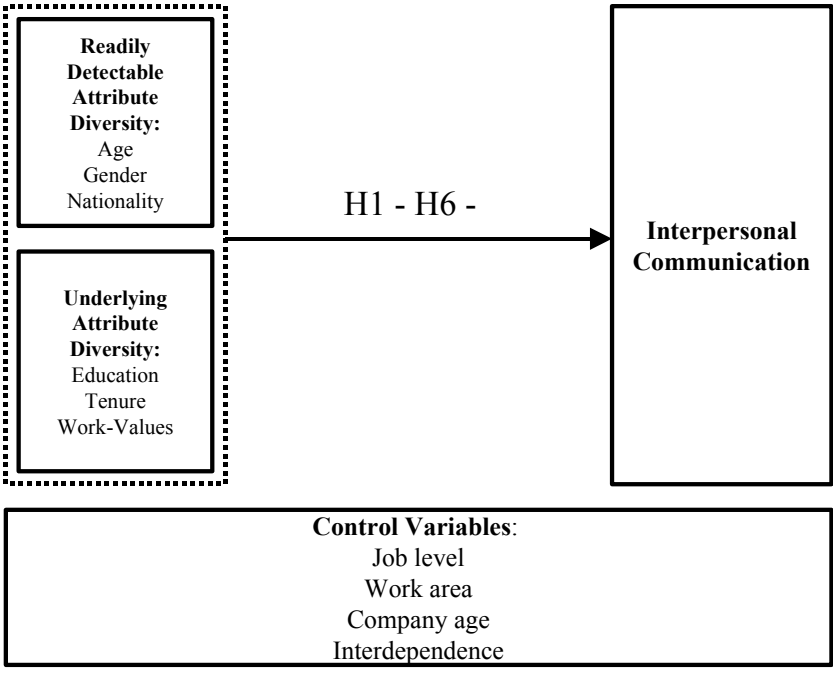
The similarity in values may bring some benefits because interaction in a homogeneous working place (i.e., value congruity) is easy and accurate because the individuals are likely to interpret messages similarly. Further, the recognition of similarity allows specification rather than demographic categorization. This enables employees to profile various characteristics rather than to view them stereotypically, based on single characteristics (Larkey, 1996). Specification facilitates positive evaluations of other employees and may make values the most important predictor of interpersonal communication over time. Thus, the final hypothesis of this study can be formulated as:

Hypothesis 6 (H6): Relative diversity in work-values has a negative impact on

interpersonal communication.

Figure one summarizes the above hypotheses.

Figure 1. Research model



The hypotheses indicate that diversity in readily detected- and underlying attributes has an overall negative impact on individuals' communicative behavior. This is because people tend to categorize those who are similar into an in-group and those who are different into out-groups. It can be further assumed that values play a major role in determining communicative interaction in Japanese socio-cultural context due to strict role expectations. In order to control some extraneous influence, several control variables (job level, work area, company age, and interdependence) were included. Several additional variables possibly influence the impact of diversity on interpersonal communication. However, the primary purpose of this study is to investigate the simultaneous impact on readily detectable- and underlying attributes and inclusion of all possible variables would make the research model and the consequent statistical analysis too complex.

4. Methods

4.1. Data

The data for this study were obtained from nine Nordic subsidiaries in Japan in 2002. When selecting potential companies for the study, I deliberately chose small subsidiaries engaged into sales activities to decrease the size and industry variation. The average subsidiary in this study employs 12 employees. The questionnaires were given to subsidiary managers, who further took care that most employees responded and that the questionnaires were returned on time. The final quantitative sample consisted of 110 employees.

In addition to the questionnaires, I interviewed nine Finnish, Danish, and Swedish subsidiary managers. All the interviewed expatriate managers were Caucasian males. The interviews, which covered various issues about organizational interaction, lasted from 45 to 90 minutes. During the interviews, I followed the interviewee's lead, controlling only to keep the focus on the area of interest. The following were typical interview questions: Describe communicative interaction among males and females? What are the largest challenges when interacting with Japanese employees?

Reflecting the selection criteria, about 60 percent of the respondents are working in marketing and sales related positions. The average age of employees is 36 years (s.d. = 10 years, range = 23 – 61 years). Most of the employees are male comprising of 68.5 percent. Most women (73%) are less than 35 years old. The percentage for the same age category for men is 51 %, which indicates either than the companies hire young women and/or that women tend to leave their companies earlier than men. Further cross-tabulation indicates that only three women are working in managerial positions.

The average subsidiary has operated in Japan for about ten years (s.d. = 7.5 years). The large variance is influenced by tenure because most employees (42 %) have worked for their companies less than two years. In other words, most employees are working for the recently established subsidiaries. The second highest frequency (32.1 %) for tenure was from two to five years. Naturally, reflecting some company's presence in Japan, the third highest frequency (16.1%) was more than ten years. Of the total population, about 35 percent of the respondents are working in managerial positions. However, in terms of the age distribution, the oldest employees are working for subsidiaries that have been the longest in Japan.

Reflecting the rather high average education level in Japan, about 68 percent of the respondents have received a bachelor- or higher level academic education. Tenure is not

related to the educational level. In terms of nationality, the subsidiaries are rather homogeneous because only about 10 percent of the employees are foreigners. All of these foreigners have received university education and most of them (83 %) are working in managerial positions. It can be assumed that most foreigners are expatriates because all of them have worked for their companies less than five years.

4.2. Control Variables

Previous research indicates that various factors, such as diversity, organizational climate, and interdependence, influence interpersonal communication. In order to decrease the possible extraneous influence, five control variables (job level, interdependence, company age, and work area) are proposed as control variables. First, research shows that *job level* influences interpersonal communication through the impact of formal hierarchy on status and interaction channels (Roberts & O'Reilly, 1979). This is because employees who are higher in the organizational hierarchy tend to engage more frequent in work-related communication. Network studies show these differences by the larger amount of instrumental ties in the upper echelons (Ibarra, 1992).

Second, contact hypothesis theorists conceptualize and empirical research indicates that *interdependence* increases communication, cooperation, and information sharing (Allport, 1954; Wageman, 1995). Basically, high task interdependence increases interaction, which can be assumed to reduce the anxiety and uncertainty of communication as conceptualized in the anxiety/uncertainty management theory. Furthermore, Hofstede, Neuijen, Ohayv, and Sanders (1990) found that even when cultural differences in values persisted, organizational and workgroup practices tended to dominate, creating a unified culture and sense of equality and belonging to all members.

Third, *company (subsidiary) age* was controlled due to the tendency for communication patterns to stabilize over time (March & Simon, 1958). The stability enables employees in the same communication network to develop a form of compatible language that is unique to them. This is why underlying attributes are asserted to predict who communicates with whom over time because the negative impact of readily detected attributes tends to mature over time (Jehn, Northcraft & Neale, 1999).

Fourth, research indicates and the interviews confirm that *functional or work area* has an impact on communicative interaction (Tushman, 1979). Moreover, recent

developments in the social identity theory suggest that people derive part of their identity and sense of self from workgroups to which they belong (Hogg & Terry, 2000). In the interviews, the negative impact of functional boundaries was indicated in one subsidiary by comments such as 'the departments are completely different, but cooperate sometimes' and 'we have big problems with fire walls between the departments'. However, the problem with horizontal communication might be an isolated case because it was not indicated to be a problem in other subsidiaries that participated to this study. Researchers explain the negative impact of work area through the physical distance and formalized communication.

In contrast to previous research (Tushman, 1979; Zenger & Lawrence, 1989), unit size, physical propinquity, and external communication were not controlled in this study. First, all the units in this study are relatively small. According to a subsidiary manager: 'it decreases the problems with internal communication.' Second, all subsidiaries have Japanese-style organizational plans where most employees are working in a large room without portions. Finally, external communication was not included into this study due to its non-relation with the demographics and the need to include various forms of communication media (e.g., telephone and electronic communication).

4.3. Measures

The study consists of one dependent- (interpersonal communication), six independent- (age, education, gender, nationality, tenure, and work-value diversity), and four control variables (company age, interdependence, job-level, and work area). A five-point Likert response format, ranging from '1 = to no extent' to '5 = to a great extent', was used to measure interdependence, interpersonal communication, and work-values. The other measures are based on the categorical data. The questionnaires were distributed in English and Japanese. The Japanese questionnaires were translated and back translated from English to Japanese and double-checked by two bilingual Japanese.

The *interpersonal communication* scale measures the frequency and depth of interpersonal communication. The subjects were asked to indicate the extent to which they agree on the following five statements: (1) 'People talk with one another openly and freely in my work unit.' (2) 'We really listen and try to understand the feelings and points of view of each other.' (3) 'People in my work unit communicate mostly directly and personally with each other.' (4) 'We freely express out feelings and ideas in meetings.' (5) 'There is frequent communication in my work unit.' (α = .76).

Value diversity indicates the perceptual differences in work values. The perceptual assessment of values simply by asking respondents to estimate the extent their values are similar to those of other has been suggested in work value literature due to its relative accuracy (Meglino & Ravlin, 1998). The perceptual differences in values can be equated with behavioral differences simply because people can only monitor behavior, not cognition. Hence, perceived value differences reflect mental evaluations and behavioral interpretations, but it does not prescribe what one must (must not) or should (should not) think. However, researchers link values frequently with observable dimensions of communication/behavior (e.g., Connor & Becker, 1975; Dose & Klimoski, 1999). The subjects were asked to indicate the extent to which they agree on the following three statements: (1) 'People in my work unit share similar values.' (2) 'People in my work unit have similar goals.' (3) 'Members in my work unit agree what is important for our performance.' The scale was reversed in order to assess value diversity. (α = .82).

Relational demography refers to the comparative characteristics and represents the difference between an individual and all other individuals in a given social unit. Based on the concept, people in organizations/work units compare their own demographic characteristics with those of individual other members or the group as a whole, and that perceived similarity increases social integration (Hogg & Terry, 2000). The measure in the present study was used for three reasons. First, this concept is based on the Euclidean distance measure proposed in the self-categorization theory by Turner (1987). Second, the relational demography is postulated to account for variance above and beyond that accounted for simple demographics (Tsui & O'Reilly, 1989: 404). Third, researchers claim that the findings in the relational demographic studies are more consistent in comparison to organizational demography ones (Lau & Murnighan, 1998).

Following Chatman, Polzer, Barsade, and Neale (1998), relational demography was measured using the following equation: $[1/n\Sigma(Xi - Xj)^2]$ ½; where: Xi = focal unit employee' score on the dimension; Xj = each other unit employees' score on that dimension; and n = the number of employees in the work unit. The formula was used to measure all categorical diversity (age, gender, education, job-level, nationality, tenure, and work area). Age was measured by five categories (1 = less than 25 years, 2 = 26-35, 3 = 36-45, 4 = 46-55, 5 = more than 56 years). Gender was coded with 1 designating male and 2 designating female. Education was measured by five categories (1 = high school, 2 = vocational school, 3 = junior college, 4 = bachelor degree, 5 = master degree). Two levels, with 1 designating non-managers and 2 managers, were used to measure job-level due to a relatively large amount of employees working in managerial

positions. Racio-ethnicity was coded with 1 designating Japanese and 2 designating non-Japanese. These two categories captured all racial categories because all employees were either Asian or Caucasian. Tenure was measured by four categories (1 = less than two years, 2 = 2-5, 3 = 6-10, 4 = more than 10 years). Finally, work area was measured by seven categories (1 = R&D, 2 = production, 3 = marketing and sales, 4 = human resources, 5 = finance, 6 = information systems, 7 = other administrative).

Interdependence was measured by asking the subject to indicate the extent to which they agree on the following four statements: (1) 'Other members of my work unit depend on my performance to do their jobs.' (2) 'How other members do their job has an impact on my performance.' (3) 'Members in my work unit frequently cooperate to get the work done.' (4) 'People in my work unit help and support each other as best as they can.' (α = .60).

The *company age* was inquired in the interviews and reconfirmed by using company brochures when possible. The mean age (mean = 9.8 years, standard deviation = 7 years) was used to create a dummy variable where the companies were divided into two categories (1 = less than 9.8 years, 2 = more than 9.8 years).

4.4. Results

Table one presents the means, standard deviations, and correlations among the variables.

Table 1. Means, Standard Deviations, and Correlations (N = 110)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Communication	3.510	.7859										
2. Age	.7051	.1924	.093									
3. Gender	.5699	.1962	-.174	-.170								
4. Racio-ethnicity	.3577	.2372	-.092	.245**	-.036							
5. Education	.7417	.1605	.141	-.002	-.032	-.154						
6. Tenure	.7042	.1775	.182	.594**	-.205*	.145	.031					
7. Work-value d.	1.897	.9776	-.582**	-.113	.055	-.017	-.013	-.073				
8. Interdependence	3.268	.7284	.593**	.167	.012	.149	.147	.115	-.542**			
9. Company age	1.545	.5002	-.244*	.230*	-.368**	-.015	-.274**	.288**	.147	-.254**		
10. Job level	.5781	.2289	.309**	.272**	-.094	.078	.181	.280**	-.352**	.326**	-.228*	
11. Work area	.6797	.1976	.131	.007	.235*	-.037	.190*	.161	.026	.139	-.270*	.305*

** Correlation is significant at the 0.01 level (2 - tailed)
* Correlation is significant at the 0.05 level (2 - tailed)

Several results are worth of mentioning. First, the high correlation between relative age- and tenure diversity ($r = .594$, $p > .01$) indicates simply that tenure differs with age. Since the correlation is well belong One, there is no good justification to confound age and tenure in research. Further, the positive correlation among employee age and job-level ($r = .272$, $p > .01$) indicates that the companies, at least to some extent, follow seniority-based promotion practices. This is because the job-level differences tend to follow moderately age diversity. Second, the negative correlation among gender-, and tenure diversity ($r = - .205$, $p > .05$) indicates that women tend to leave their companies earlier than their male colleagues. Third, the statistically insignificant relation between the perceived work-value- and racio-ethnic diversity is in some contrast with cross-cultural value research (Hofstede, Neuijen, Ohayv & Sanders, 1990). That is, in the given subsidiary context, higher racio-ethnic diversity does not have a statistically significant relationship with value diversity. The possible reason for the non-significant relationship is that in contrast with the methodology used in the trait research, value diversity in this study is based on perceptional differences. Finally, the highest correlation between age- and tenure diversity ($r = .594$, $p > .01$) does not indicate further serious problems of multicollinearity because a correlation below .75 is not considered problematic in hypothesis testing (Kennedy, 1979).

Multiple regression analysis was used to estimate the effects of the relational diversity on interpersonal communication. The hierarchical regression models, which was chosen to find out the independent contribution of relational diversity to variance in the dependent variable, is presented in table two. Several other researchers in the field of management science have used a hierarchical regression model for similar purposes (e.g., Tsui, Egan & O'Reilly, 1992; Zenger & Lawrence, 1989). The first block (left side) tests the relationship between the dependent- and control variables. In the second block (right side), controlling for interdependence, company age, job level, and work area, all independent variables were entered simultaneously and regressed against the interpersonal communication. This procedure controls for intercorrelations among independent variables by partialing out shared variance and measuring the unique contribution of the block of variables entered into the regression after all other independent variables have been entered (Tsui & O'Reilly, 1989). If inclusion of a block of independent variables significantly increases the overall amount of variance explained, that block of variables is deemed to have an independent contribution to the variance explained in the dependent measure beyond that explained in the earlier block. The change in adjusted R^2 shows that the readily detected- and underlying attributes account significant variation (more than 50%) in the second model.

Table 2. Results of Regression Analysis (N = 110)

Variables	**β**	**Variables**	**β**
- Interdependence	.534**	- Interdependence	.373**
- Company age	-.082	- Company age	-.236**
- Job level	.116	- Job level	-.052
- Work area	-.002	- Work area	.064
		- Age diversity	-.055
		- Gender diversity	-.242**
		- Racio-ethnic diversity	-.178*
		- Education diversity	-.027
		- Tenure diversity	.196*
		- Work-value diversity	-.348**
Adjusted R^2	**.348****	**Adjusted R^2**	**.514****
		Adjusted ΔR^2	**.166**
F	**15.564**	**F**	**12.511**
$p < .01$**, $p < .05$*			

In the first regression model, interdependence ($\beta = .534$, $p < .01$) accounted the only statistically significant variance. In the second regression model, as shown in table two, relative gender diversity is negatively related to the dependent variable ($\beta = -.242$, $p < .01$), providing support to hypothesis two. As relative diversity in nationality and work-values indicate statistically significant relations to the predicted direction ($\beta = -.178$, $p < .05$ and $\beta = -.348$, $p < .01$, respectively), hypotheses three and six were supported. Contrary to hypothesis four, relative tenure diversity ($\beta = .196$, $p < .05$) was positively related to interpersonal communication. Hypotheses one and five were not statistically significant.

The results for the control variables were largely consistent with the findings of past research. For example, the results show ($\beta = .373$, $p < .01$), parallel to contact hypothesis and previous research, that interdependent work practices increase

communicative interaction (Allport, 1954; Wageman, 1995). Furthermore, the results indicate ($\beta = -.236$, $p < .01$) that the level of communication tends to be lower in older subsidiaries. This can be explained partly by the established routines and familiarity with functional tasks (March & Simon, 1958). However, in slight contrast to previous research (e.g., Roberts & O'Reilly, 1979), organizational position and work area did not have a significant impact on communication. The low impact of occupational and functional differentiation can be explained by the high degree of vertical status differentiation in Japanese organizations.

5. Discussion

This research examines the impact of readily detected- and underlying attributes on interpersonal communication in Nordic subsidiaries located in Japan. The guiding theoretical frameworks for this paper are the social identity- (Tajfel & Turner, 1986) and self-categorization (Turner, 1987) theories, which assert that diversity mainly in the readily detected attributes decreases communicative interaction because employees tend to interact with the ones perceived similar. In addition, it was expected that perceived value similarity accounts of a significant impact on communicative interaction in the Japanese socio-cultural context. This is because people, who do not behave based on behavioral/communication roles, are considered immoral and childish. Parallel to the original hypotheses, heterogeneity in gender, racio-ethnicity, and work values was found to have a negative influence on communication. However, the positive linkage between the relative tenure diversity and communication can be attributed to the social status norms, which intensify communication between the junior (*kohai*) and senior (*sempai*) employees.

Given that people generally prefer homogeneity to heterogeneity, it is not surprising to find that communication frequency in the studied subsidiaries is reduced when the gender composition departs from homogeneity ($\beta = -.242$, $p < .01$). The high variance of the relative gender heterogeneity in the regression analysis implies that male-dominated environment (68.5 percent) may intensify the linkage between this type of diversity and interpersonal communication. Thus, the reduced social interaction is, at least partly, initiated by the differentiated occupational roles, the related role expectations, and social categorization. The demographic data further indicates that women are frequently excluded from work-related communication networks because men are holding managerial positions or other traditionally male-dominated positions. In contrast, most women, especially in traditional Japanese companies as well as in the

researched Nordic subsidiaries, work in administrative or supportive positions. In such circumstances, women are further categorized in terms of employment classification.

The limited communication may further be linked to motivation because women are less attached to their working places (shown in younger age). The lack of motivation can be partly accounted to the strict gender roles and partly due to the limited possibilities for career advancements. It can be firstly assumed that a part of the decreased communication lies in the nature of social life in Japan. For instance, women are traditionally expected to take a submissive role in the working place and to leave work as they get married. Hence, women, who comply with role expectations are not interested in building a career, may seek to identify with their female colleagues, which decreases communication beyond gender lines. A Nordic manager explains the differentiated roles as:

> There have not been any problems between genders. Women are still making coffee, which I think is not a good thing. This is part of Japanese office culture. Women come here first in the morning to pick up the newspapers and so on. Women feel that this is normal and have done it from the beginning.

Alternatively, the lack of motivation can partly be accounted to the indicated male resistance against the promotion of female managers and equal organizational status. Indeed, gender segregation is strong in Japan, where career paths are often based on gender (Ogasawara, 1991; Whitehill, 1991). Foreign subsidiaries, in principle, offer more chances to women, but are frequently subject to unequal gender distribution and tokenism, which restrict chances for women to be regarded as equal. As explained by a Nordic subsidiary manager:

> Even though women here are the smartest of our employees, men do not let them develop to the same level. Even though they would get the title, they are not able to get the responsibility.

Women and men acquire skills and beliefs that correspond to specific gender roles that are manifested in task and relationship settings. Indeed, research generally indicates that males devote a greater proportion of their interaction to task behavior (i.e., giving opinions, suggestions, and information), whereas females primarily show reactions to others (i.e., agreements or disagreements)(Aries, 1982). The interviews further indicated that the socio-cultural context intensifies the differences in the work roles, the politeness

of language, and the communication frequency. As men are more prone to gender-based categorization processes, they may feel that intensive communication with female employees does not have contributing impact on their work performance.

Parallel to the original hypothesis, relative heterogeneity in racio-ethnicity has a negative impact on interpersonal communication ($\beta = -.178$, $p < .05$). In this research racio-ethnicity is a muddled indicator consisting of visible (race) and non-visible dimensions (ethnicity/culture). As a consequence, in addition to the occupational and racial token status, the foreign employees are different from their Japanese colleagues in terms of cultural values. Researchers have claimed that one of the determinants of interpersonal communication is role distinction, which combined with the strong behavioral norms restricts interaction, especially between the highest and lowest organizational echelons (Roberts & O'Reilly, 1979). Based on this line of thinking, diversity in organizational roles decreases vertical communication because for the employees at the lowest echelons of a foreign subsidiary, managers seem distant and thus hard to approach. The results of this study do not confirm with the assumption that organizational echelons determine the rate of interpersonal communication. Instead, the results show that race and/or cultural values determinate significant variance in communicative interaction.

The results indicate that the readily detected racial differences do matter and constitute as a part of the categorization process. Due to the racial differences, the expatriate employees capture larger share of awareness and thus, trigger automatic categorization. As the cognitive categorization processes elicits stereotypes, initial interaction processes are made to confirm the preconceived mental images. These stereotypical mental images are based partly on 'cultural knowledge' transferred through the usual socialization channels (e.g., books and the media) and partly on personal experience. As a consequence, a person can hold either positive or negative stereotypical information about the expatriate employees. Since part of the categorization is validated through social interaction, language proficiency and cultural understanding is likely to influence the categorization processes because they can be perceived as signs of competence (Fernandez, 1991). Although the results indicate that the mental images of foreign employees tend to be negative, it is also important to consider the connections of race to communication and behavioral rules in forms of cultural values. Indeed, it is possible to find large differences between Japanese and the Nordic employees what is the 'right' way to conduct organizational interaction (cf. Hofstede, 1980). For instance, whereas behavioral norms in Japan emphasize vertical orientation, the Nordic employees are accustomed to direct communication patterns and

flat organizational hierarchies. The value-derived difficulty in interpersonal communication was explained as:

> It is sometimes frustrating to work with Japanese because you do not get feedback. That is why I need to ask many questions. Communication is the biggest problem with Japanese.

Whereas the Japanese subordinates expected to be told what to do, the Nordic managers want the subordinates to express their opinions openly and without strict vertical role distinction. It can be assumed that the Japanese employees frame the situation in terms of the *uchi*/*soto* distinction and then adjust by using associated concepts such as *honne*/*tatemae*, *ue*/*shita*, and *ninjoo*/*giri*. In contrast, the Nordic expatriates tend to conceptualize social relations more openly in terms of universalistic social categories and values as well as to emphasize individual autonomy in managing relationships.

The fundamental differences in communication rules increase miscommunication, and can lead to a reduced interaction between the Nordic managers and Japanese subordinates. Indeed, Japanese subordinates hold culturally bound role expectations for managers and deviance from these expected roles may cause that subordinates rely more on the Japanese managers for advice due to similar frames of reference. This assertion can be confirmed by a recent study, which indicates that direct interaction with foreigners cause more anxiety and uncertainty in Japan than in the Western countries (Gudykunt & Nishida, 2001). In some cases this may lead to isolation of expatriate employees as indicated by a Nordic subsidiary manager:

> They accept me as a subsidiary president but they want to have someone on the side that is my parallel. I do not like this, but this is kind of dual structure exists in many companies. They have the oldest manager as their representative. He is the one to go when they have problems.

Since part of the problem can be created by incompatible communication rules, frequent rotation of expatriate employees may increase in-group/out-group division. In addition to the similar communicative behavior, the senior Japanese managers might hold more social capital and thus, be desired sources for advice. In contrast, newly assigned expatriate managers might have little understanding of the business environment and employee relations. Moreover, since strategic objectives are often extensions of the personal values of those in power, contrasts in expatriate and Japanese views of

company operations might diverge and thus, decrease communicative interaction.

In contrast to the original hypothesis, relative tenure heterogeneity is positively related with communicative behavior ($\beta = .196$, $p < .05$). This indicates that the surrounding socio-cultural environment may cause that dissimilarities rather than similarities initiate social interaction. Indeed, this finding is in contrast with some studies conducted in the United States that explain the negative impact of diversity by the lack of shared understanding (Zenger & Lawrence, 1989). In the Japanese socio-cultural context, social status norms promote verticality, which can be attributed to the subtle differences in social interaction between the senior and junior employees. The social norms support senior – junior (*sempai – kohai*) relationships where the more experienced ones are in the position to control and provide assistance and the less experienced ones are in the position to obey. In other words, this divides the roles to responsibility and obedience. Although these relationships may not always be smooth and without disagreements, these practices are rooted in social norms and most cases all parties find comfort in these symbiotic relationships. These relations can be seen to intensify with task complexity due to larger need for information to execute the given tasks successfully. It can be further assumed that this interaction is an essential part of the organizational socialization process by which new employees learn and adapt to a new value system, the norms, and required behavioral patterns of an organization.

The large negative impact of perceived work-values on interpersonal communication ($\beta = -.348$, $p < .01$) indicates that underlying attributes may be the main determinant of individuals' social interaction patterns, over time. This is because the impact of readily detected attributes becomes more mature as the individuals get acquainted with each other and start to find the differences/similarities in underlying attributes. The values as guides of social status norms are subject to vary based on the surrounding social cultural context. In the Japanese work place behavior, values provide clear frames for social interaction patterns due to the collective and homogeneous environment. The behavioral deviation may lead to exaggeration of differences and to isolation from both the social work activities of the majority. A Nordic subsidiary president explains this tendency for isolation by reduced communication by:

> If there is somebody who does not really fit to his role or to the organization, then, my observation is that they isolate the person without really isolating the person. But, in reality the person was not part of the group.

The isolated person in this particular case was a Japanese male with a long overseas

experience who probably did not comply with the pressures to behavioral uniformity. Hence, similarity in readily detected attributes does not guarantee group acceptance, which in Japanese context requires the ability to read context and entails great sacrifices. By being atypical, a marginal in-grouper jeopardizes the distinctiveness behavioral clarity and integrity of the in-group (Hogg & Terry, 2000). Thus, fellow in-groupers will strongly reject the deviant in order to consolidate a clear behavioral model to which they strongly assimilate themselves through self-categorization. Parallel to this particular case, studies indicate that Japanese with long overseas experience have problems to assimilate with their school friends and/or colleagues due to behavioral differences (Lewin, 1987). This process is particularly difficult for females who have sojourned in countries with more liberal gender attitudes. Because of the cultural emphasis on the authority of the group, Japanese place the desire and needs of the group before their individual desires and needs. In short, people who are integrated into work- and friendship-related communication networks are more congruent in terms of work-values than the isolated ones.

Taken together, the results of this study shed some light on the combined impact of the readily detected- and underlying attributes on communicative behavior. The results indicate that the linkage between relative demographics and interpersonal communication may be more complicated than proposed and penetrate beyond the readily observable attributes. Further, since most studies have not examined the combined impact of the attributes on communication in diverse working places, the results may help to understand some of the inconsistencies in the earlier research. In most respects, the results reflect previous research showing that heterogeneity in readily detected attributes tends to decrease individuals' communicative behavior, especially in the short run. However, the results indicate that communication patterns evolve over time and are due to some variations depending on the given social cultural context.

5.1 Practical Implications

This research indicates that the effect of readily detected attribute heterogeneity is potentially nonsymmetrical and/or nonlinear. The former means that the reactions of the majority may not be equivalent to that of the minority, and the latter means that the larger amount of minority decreases the categorization process. In practice, this means that the categorization is likely to be less detrimental in subsidiaries with higher portion of foreign employees. However, the increase of female workers is not likely to improve the situation substantially without altering power relations between female and male

employees. The similar logic may not apply to work-related values because cognitive dissimilarity increases the cognitive costs of interpersonal interaction, whereas the impact of readily detected diversity is due to attenuate over time.

In terms of staffing, communicative behavior can be facilitated either by a balanced presentation of both categories or by creating a homogeneous environment. Whereas the latter approach seems to be a current trend for laying-off first female workers and reducing the amount of foreign employees, research indicates that cognitive variety created by diversity is beneficial in terms of creative and innovative performance (Milliken & Martins, 1996). Therefore, in the time of globalization and equal employment, the practical suggestion is to seek to create a diverse work environment with more equal presentation of the minorities in all organizational echelons. However, since year-to-year hiring and turnover patterns determine the demographic distribution, compositional alternations, particularly in the short run, are problematic.

The results further imply that interaction and collaborative work practices increase communicative interaction. This intervening relationship implies that interdependent work practices potentially decrease the negative impact of relative demographics. The logic behind this is that the increased interaction facilitates communication and helps individuals to assess the differences in underlying attributes rather than by using the surface-level demographic data as information proxies. In some cases, expatriate managers have used their legitimate power to increase interaction with the lower echelons and thus, to increase organizational transparency. A Nordic expatriate manager explains the process as:

> I will call every staff member to me in the next few months for a chat asking whether they are happy in the company. I know that the departmental managers will not like it because they would think that something is told behind their backs. I will say that I need that contact with the staff. I need to know what is going on.

According to research interpersonal attitudes can be improved via contact between individuals from different demographic groups (Allport, 1954). Research supports this contention by demonstrating that beneficial consequences of contact among members of overtly dissimilar social entities are most likely under conditions of equal status and cooperative contact (e.g., Sigelman & Welch, 1993). The interdependence can further initiate other organizational processes, such as the socialization of new employees and the feeling of commonalities among the organizational actors.

5.2. Limitations

This study has several limitations. First, this analysis is limited to sales subsidiaries in Japan, and some caution should be exercised when applying the results in different organizational and socio-cultural context. Second, this study does not link the relative diversity and interpersonal communication with performance because the small sample size does not allow firm-level analysis. Third, organizational culture can mark large differences how readily detected- and underlying attributes influence communicative interaction. The variable was not used for two reasons: (1) researchers have suggested that organizational culture is a direct consequence of communicative interaction (e.g., Schall, 1983), and thus it can be assumed to be closely linked with interpersonal communication; (2) organizational culture can be divided into subcultures that are based on status, task, tenure, gender, race, and so on. Finally, it is hard to predict precisely the impact of the attributes because they might be inter-linked. As an example, Hambrick and Manson (1984) state that a person's educational background may serve as a muddled indicator of underlying traits due to the linkages with social-economic status, ethnicity, and so on.

6. Conclusion

This study examines how the relative heterogeneity in readily detected- and underlying attributes has an impact on interpersonal communication in Nordic subsidiaries in Japan. According to the results, the general pattern for individuals' is to decrease their communicative interaction as the diversity in both attributes increase. The exception to this is relative diversity in tenure, which stimulating influence can be explained by the norms in the particular social cultural environment. The results further suggest that underlying attributes, in form of perceived work-values, may explain the most variance of interpersonal communication, especially in the long run. Combination of previous studies and the used control variables suggest that communicative interaction can be increased by creating more interdependent work processes and/or creating more balanced working places in terms of nationality.

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- Essay Three -

The impact of Japanese socio-cultural context on employee behavior and cross-cultural interaction in Nordic subsidiaries

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1. Introduction

The recent changes in the market and the legal structure have made it easier for foreign companies to operate in Japan. As a sign of the changing business environment, foreign investment in Japan increased 30 percent over the previous year to 3.1251 trillion yen (about 24 billion EURO) in 2000 (Japan Institute of Labor, 2002). This marks the highest annual inward movement of foreign capital in Japanese history with the establishment of more than 100 new foreign-affiliated companies. Given the growing business involvement, more and more foreigners find them selves doing business with the Japanese and/or living part of their live working in Japan. Unfortunately, due to often an inadequate or non-existent pre-departure training, many of these foreigners are not prepared to differences in socio-cultural context, which has a significant impact on their adjustment and subsequent work performance. In addition to the potential damage to the individual's career, unsuccessful expatriate assignments are costly for organizations.

As cultural values shape the content and overall structure of a person's trait hierarchy, people in different cultures interact with one another based on different a web of assumption. In principle, larger cultural distances increase chances for misinterpretations and thus, increase psychological anxiety. A recent survey indicates that major components of expatriates' interpersonal and professional adjustment consist of interaction with Japanese colleagues as well as supervision and guidance of subordinates (The Japan Institute of Labor, 2002). Despite the importance of cross-cultural interaction in expatriate adjustment and performance, little systematic research has been conducted on the work environment where the Nordic expatriates find themselves in Japan. As a consequence, many expatriates arrive to Japan with mainly hands-on knowledge from their predecessors. Whereas the experience sharing is an efficient way to transfer hand-on knowledge, it might provide a biased image due to personality differences and individual experiences. Moreover, as most comparative research to this date is conducted on differences in socio-cultural context between Japan and the United States, many Nordic expatriates have little guidance but to muddle through their cross-cultural encounters.

The goal in this research is to increase our understanding of the Japanese work-related behavior and its impact on cross-cultural interaction in Nordic subsidiaries. A more specific aim of the present paper can be made by three research questions: (1) How Nordic expatriate managers perceive Japanese work-related behavior? (2) What types of cultural values are perceived to influence the behavioral patterns? (3) What

changes the expatriate managers have initiated to cope and/or overcome the challenges created by cultural differences? The conceptual framework of this research is built on cultural taxonomies (e.g., Hofstede, 1980), which enables to break culture into manageable components. The conceptual framework was used to analyze semi-structured interviews with 26 Nordic (Finland, Denmark, Norway, and Sweden) expatriates in Japan.

This paper is divided into five sections. The next section starts with incorporating cross-cultural trait research to compare the Nordic- and Japanese cultural values. It will be followed by a brief discussion about the research sample and methodology. After the methodology section, the managerial interviews are used to illustrate the perceived impact of Japanese cultural values on the employee behavior, cross-cultural interaction, and to show how the expatriates have sought to cope with the cultural challenges. It is important to note that this research does not attempt to develop a formula to explain all dimensions of the Japanese organizational behavior. The interview are rather used to point out the social reality from the Nordic expatriates' stand point. The last two sections deal with the limitations, summary, and some illustrative examples how expatriates take into account cultural differences in management.

2. Cultural values in the Nordic countries and Japan

National culture is the system of values, beliefs, and assumptions that distinguishes one group of people from another (Hofstede, 1991). This incrementally acquired knowledge, which is relatively permanent in any society, is used to interpret experience and to generalize social behavior. As an indication of relative permanence of the cultural values, replication of a study after 20 years did not indicate any notable changes in Japanese work values (Takezawa & Whitehill, 1981). Due to distinctive value differences at the national level, culture is frequently viewed as a collective construct, which is neither about genetic nor about individual behavior (e.g., Hofstede, 1980, 1991). A contrasting view is presented in the research on individual work values, indicating that genetics guide 40 percent of individual behavior, and the other 60 percent are environmentally based (Keller, Bouchard, Arvey, Segal & Davis, 1992). Hence, the usage of general cultural values to explain individual behavior may lead to false generalizations (e.g., Triandis, 1994). Indeed, as any person, gone through some intercultural interactions, is able to detect some individual variation in any given culture, it might be more accurate to claim that a mixture of individual- and cultural values guide individual behavior in specific organizational situations.

Comparative studies indicate generally that there tends to be less individual variance in values in the Asian collective countries in comparison to the Western individualistic countries (e.g., Hofstede, 1980, 1991). Among the studied countries, Japanese are frequently found to have the most homogeneous value systems (e.g., Whitely & England, 1977). While acknowledging and accepting some limitations of *etic* (culture general) approach to interpret *emic* (culture specific) phenomena and avoiding strict causal claims, the multidimensionality and the consequent cultural differences can be presented effectively by cultural typologies. An often-cited typology is the one developed by Hofstede (1980, 1991). From a large-scale study, he derived that culture has at least four dimensions, including: *power distance* (tendency to accept power inequality in organizations), *uncertainty avoidance* (tolerance for ambiguity or uncertainty about the future), *individualism-collectivism* (preference for independent vs. interdependent relationships with others and one's own personal vs. in-group goals), and *masculinity-femininity* (preferences for achievement and assertiveness vs. modesty and nurturing relationships). These scales have been confirmed in several large-scale surveys (e.g., Trompernaars & Hampden-Turner, 1998; Schwartz, 1994; Smith, Peterson & Schwartz, 2002; Smith, Dungan & Trompenaars, 1996).

The general differences in cultural values between the Nordic countries and Japan are shown in table one.

Table one. Cultural value dimensions

Dimensions	Japan	Nordic	Denmark	Finland	Norway	Sweden
Power distance	54	28	18	33	31	31
Uncertainty avoidance	94	40	23	59	50	29
Individualism-collectivism	46	69	74	63	69	71
Masculinity-femininity	95	16	26	26	8	5

All numbers are on a 100-point scale. Numbers are taken from Hofstede (1980).

Whereas some management researchers have pointed out differences among the Nordic countries (Holmberg & Åkerblom, 2001; Ludvigsen, 2000; Tixier, 1996), cross-cultural researchers frequently group Finland, Denmark, Norway, and Sweden together on the basis of geographical proximity, religion, language (with exception of Finland), work-related values, and leadership style (Brodbeck, Frese and 43 co-authors, 2000; Hall, 1976; Hofstede, 1980; House, Hagens, Ruiz-Quintanilla, Dorfman, Javidan, Dickson and 170 co-authors, 1999; Lindquist, 1988; Ronen & Shenkar, 1985). Based on

comparative research, Nordic countries show moderately strong tendency for future orientation, institutional collectivism, and gender equality (Brodbeck, Frese, et al., 2000; Hofstede, 1980, 1991; House, Hagens, et al., 1999). A country-specific study further indicates that normative integration in Swedish organizations is made possible through value congruence, supported by strong organizational cultures that lessen the need for formal control (Selmer, 1993). Aspired management attributes in Nordic companies are consensus decision-making and visionary leadership (House, Hagens, et al., 1999). Conversely, negative leadership attributes are face saving, self-centered, and malevolent behavior.

The Japanese management system, in its purest form, is characterized with lifetime employment, enterprise unionism, group decision-making, seniority system, and paternalism. This system is frequently explained in terms of religion, historical tradition, post-World War II adaptations, cultural isolation, and the late-stage of economic development (e.g., Abegglen, 1958; Dore, 1973; Nakane, 1970). As a reflection of collectivist cultural values, Japanese organizations rely on value congruence through socialization into the company culture, rather than bureaucracy for control (Ouchi, 1981). As the value congruence and insider (*uchi*) versus outsider (*soto*) categorization play key roles in the internal practices, these companies rely almost exclusively on inside suggestions. A related consequence is a low mid-career movement in Japan. Further, collectivist values and low tolerance for ambiguity promote consensus decision-making. Japanese organizations seek wide participation in decision-making through *nemawashi* (building consensus through consultation) and *ringi-seido* (the circulation of formal proposals for the purpose of obtaining seals of approval by affected managers and departments) techniques. As final action is often deferred until consensus is reached, decision-making is a slow and complicated process in Japanese organizations.

The Nordic countries are horizontal individualistic countries indicating that people want to be unique and independent, but are not particularly interested in being distinguished from each other and do not seek high status (Triandis, 1995). Combined with relatively low power distance, the Nordic employees are willing to take responsibility and suggest ideas directly to their superiors. This promotes a consultative leadership style with open and frank communication between subordinates and superiors (Selmer & De Leon, 1996). As there are little management prerogatives in the Nordic organizations, subordinates can challenge the actions a manager conducts (Hofstede, 1980). In contrast, Japanese find relief and comfort arraying themselves hierarchically (Nakane, 1970). In the society at large, status hierarchy is based on age,

gender, education, school, and working place. In organizations, further components of status distinction are gender, seniority (age and tenure), department, immediate work group, and/or subunit. The verticality is expressed in social interaction by deep reliance on superiors, indulgent (*amae*) behavior, strict behavioral norms, and high organizational ranks (Doi, 1962; Smith, Peterson & Schwartz, 2002). The other side of the verticality is close relationships among managers and immediate subordinates with frequent two-way communication (Bass & Burger, 1979). A recent study indicates that the vertical relationships and strong leadership promote operational efficiency (Linowes, Mroczkowski, Uchida & Komasu, 2000).

In the Japanese society, masculine values and vertical orientation promote the gender roles, with division into assertive males and submissive females. As signs of cultural tendencies for gender emancipation, Japanese organizations traditionally use a two-track employment system that emphasizes temporary positions and supportive roles for women (Ogasawara, 1991; Shire, 2000; Whitehill, 1991; Wong, 1997). Since women are frequently blocked from career advancement and expected to leave their work after they get married, women filled only six percent of first-level managerial positions and less than one percent of top management positions in large Japanese companies in 1995 (Wong, 1997). In contrast, the Nordic countries are categorized as feminine cultures with relatively overlapping social roles for the gender. In contrast to masculine values for material success in Japan, men in the Nordic countries do not have to be ambitious or competitive, but may go for a different quality of life than material success. Relatively equal wages and a large amount of female parliament positions reflect the gender equality in the Nordic countries.

The Japanese style collectivism, at least in its manifestation in this century, involves a high degree of collectively coerced conformism. In principle, this means that people are situational and place emphasis on the context during organizational interaction. As employees exist only in terms of the group to which one belongs, they seek to submerge themselves into groups by showing the ‘right’ attitude and values. As people place great importance on ‘correct’ public action, harmony (*wa*) and face giving/saving behavior constitute a chief goal of social interaction (e.g., Kim & Nam, 1998; Nisbett, 2003). Social behavior in Japan is complex because an important part of an individual’s social competence is determined by his/her ability to take into account verticality and the consequent roles in a specific context. As vertical ranking is contextually relational, people seek to determine one’s position based on age, gender, tenure, and so on. As the avoidance of social embarrassment plays an integral importance in the organizational behavior, effective social interaction is subject to the adjustment to various interpersonal

contingencies and not to disturb the harmonious equilibrium of interdependent transactions among individuals (Kim & Nam, 1998). In other words, context interdependent behavior might cause another person to lose his/her face. In contrast, since individuals in the Nordic countries are more independent and possess relatively more free will, emotions, and personalities, they are less face-conscious and more concerned about the personal elements. In fact, face saving has been fond as a negative leadership attribute in the Nordic countries (House, Hagen et al., 1999).

The impact of socio-cultural values permeates to various further dimensions, such as logic and language. Starting with logic, a recent research shows evidence that East Asians tend to be holistic, attending to the entire field and assigning causality to it, making relatively little use of categories and formal logic, and relying on 'dialectical' reasoning (Nisbett, 2003). Conversely, the Westerners are more analytic, paying attention primarily to the object and the categories to which it belongs and using rules, including formal logic to understand its behavior. Due to these differences, it is meaningless in Western cultures to state that A is true and A is not true. East Asian cultures allow A to be true for not A to be also true, that is, the statement A and not A has meaning (Hofstede, 1991). Consequently, Japanese take into account the context when making causal attributions and modeling. In terms of language, the Japanese context has been categorized as a low-context (Hall & Hall, 1990). Simply expressed, this means that most of the information in Japan is in the physical context or internalized in the person, while little is in the coded, explicitly transmitted part of the message. Since recipients keep themselves informed through social networks, transmitted information is related to the environmental context and can be brief. In contrast, the Nordic languages are high-context. For people in Nordic countries, a great proportion of information is in messages because there is no steady stream of networked data available.

In summary, the reviewed literature indicates that cultural values have a tendency to affect the organizational behavior in various ways. The fundamental difference basically is that whereas the world for the Nordic employees is a place with 'objects' (i.e., people), for Japanese the world is mostly about relationships between the objects. In comparison, Japanese employees are more used to organizational hierarchy and to meet collective expectations, making them generally more risk averse and less accustomed for proactive behavior than their Nordic colleagues. Due to the cultural differences, Nordic managers might expect their Japanese subordinates to take individual responsibility (entrepreneurial behavior), to be flexible to changes in the working place, and to make direct suggestions regardless of their organizational ranking. Whereas the

Nordic employees tend to be rather individualistic, organizational behavior in Japan tends to be context-dependent, meaning that individuals identify themselves with their primary social group and supervisor. This emphasizes on the importance of value congruence among Japanese employees is reflected by length of employment, consensus decision-making, and communication rules. It should be noted, though, that no concrete conclusions could be made about cross-cultural differences due to the lack of research linking the Nordic and Japanese organizational behavior.

3. Methodology

Several scholars have discussed about the involved methodological problems in cross-cultural management research. For instance, Adler (1983) claims that the fundamental problems that permeate all aspects of cross-cultural management research are: (1) defining culture; (2) identifying whether the phenomenon is culturally specific or universal; (3) determining how a researcher can mask his/her cultural bias in designing and conducting a study; (4) determining which aspects of the study should be identical and which equivalent across cultures; and (5) identifying threats to interpretation caused by interactions between cultural and research variables. One way of dealing with at least with some of the identified problems is to consult a large amount of expatriates (i.e., people working on international assignments lasting for more than one year at a minimum) who have first-hand experience of the particular country in question. This kind of method is well suited to studies that can be directly observed, such as behavior between managers and subordinates (Suutari & Riusala, 2001).

The methodology of this study can be classified as polycentric because it aims to describe, explain, and interpret organizational behavior in Japan (see Adler, 1983). Studies of this kind seek to identify the patterns of relationships that are characteristics to a particular foreign culture (i.e., cultural specificity). In the present study, interviews with expatriates in Japan were regarded as the most useful method for collecting the data. The interviews were carried out with 26 Nordic managers in Japan [Finnish (n = 7), Danish (n = 3), Norwegian (n = 2), and Swedish (n = 14)] during 2002. All subjects were male, holding subsidiary president (81%), or divisional manager (19%) positions. Most of these subsidiaries (96%) are in sales-related business, such as engineering (50%), shipping (20%), and computer-related (30%) industries. Most companies, rather modest in size (average size of 40 employees), have long physical presence (average of 15 years) in Japan. Most of the interviewed managers (80%) have spent more than five years in Japan.

Although the cross-cultural typologies were used to illustrate partly the main cultural differences between the Nordic countries and Japan and partly the unique Japanese cultural values, the methodological approach of this study is inductive, which allows patterns to emerge from the interview data. During the interviews, I followed the interviewee's lead, controlling only to keep the focus on the area of interest. The following were typical interview questions: Describe Japanese employees' organizational interaction? What are the largest challenges when interacting with Japanese employees? The length of interviews, conducted in Finnish or English, ranged from 30 to 90 minutes. The Finnish interviews were translated to English to ease data comparison. In the line with the established qualitative research protocol, the interviews were supplemented with field notes and observations (Yin, 1994). All the interviews were transcribed and supplementary field notes were made within one day after the interview. Since the managers were assured of confidentiality, no individual and/or company names are revealed.

The data were analyzed using the process of data reduction, data display, and conclusion drawing and verification (Miles & Huberman, 1994). During the data reduction phase, I focused on simplifying the interviews to categories those that display the managerial perceptions. In the categorization, I followed loosely the themes proposed in previous research (e.g., Hofstede, 1980, 1991; Hall & Hall, 1990; Nakane, 1970). It is important to note here that the data were not forced to fall into the cultural taxonomies. Rather, the interviews furnished clues for general value categories, such as collectivism and verticality. The dominant themes in the interviews were: verticality (88% or 23 respondents); collectivism (77% or 20 respondents); communication (65% or 17 respondents); age (58% or 15 respondents); gender (38% or 10 respondents), idea generation (31% or 8 respondents), etc. The categories were in some cases overlapping because cultural attributes permeate all behavioral dimensions (e.g., vertical categorization influences communication and horizontal interaction). During the data display phase, I sought to organize the information in a way that enables to draw definite conclusions. Finally, the regularities and patterns were used in the verification and conclusion drawing phase. The patterns derived from the interviews are presented in the next two sections.

4. Nordic perceptions of Japanese employee behavior

Verticality permeates to all dimensions of social behavior in Japan. Despite the gradual societal transformation, people in the present day Japan still continue to recognize that

age, gender, education, schools attended, and family background determines a person's rank in the overall hierarchy. This vertical categorization establishes both guidelines and limits to individual behavior (i.e., behavioral rules). In organizations, the behavioral rules are manifested in intangible dimensions of organizational power (potential to control behaviors of others). Whereas the legitimate power (authority's legitimate right to require and demand) is often linked with the intangible power dimensions and determines who has the right to lead, the expatriate interviews indicate that the socio-cultural context plays an important role in determining one's vertical rank in the studied subsidiaries.

Japanese companies traditionally rely on entry-level recruitment, long-term employment, and seniority-based promotion practices. Hence, for the good or worse, importance and possessed power of individuals in some Japanese organizations can sometimes be more proportional to length and strength to individual's contacts than their ability. As most interviewed expatriates indicated that internal recruitment and seniority-based promotion are also widely used in their subsidiaries, similar tendency for vertical ranking based on age/tenure tends to surface also in the researched Nordic organizations. By the words of a Nordic expatriate manager:

> Some of the managers are more important because they are older... It is not because he is the most clever or he can provide the solution, but because he is the oldest.

The comment indicates, and several other interviews confirmed, that a fine-grained role distinction is likely to occur even among employees holding a similar organizational position. Although the vertical role distinction based on age is sometimes far from optimal, the interviews indicated that elder employees are frequently used as the company representatives to outside parties and/or to present the wishes and desires of the Japanese employees to the expatriate presidents. The role of seniority in business negotiations was expressed to be especially important in new business relationships because it symbolizes the commitment of the interacting parties.

Partly due to the strict vertical categorization, Japanese employees were expressed to be sensitive about the extent of the responsibilities and privileges that come with their place in the hierarchy. Several expatriate managers expressed that as the employees move slowly up in the ladder of the seniority system, they feel justified to shift parts of their workload to junior employees. This task role distinction, which is based partly on organizational position and age/tenure, means that junior employees, often directly from university, have to earn their position in the organization through hardship, especially

during the first few years after entering the organization. This organizational pecking order and the acquired privileges are captured in comments: ‘when employees reach a certain age and management position, they feel that they do not have to work anymore’ and ‘it is hard for managers to understand that they should be as little as possible behind the desk. Instead, they should be meeting customers’. This strict task categorization was seen as problematic and to hinder economic efficiency because several expatriates indicated that their subsidiaries are starting to have top-heavy organizational demographics due to a combined effect of low employee turnover and reduced recruiting. As a consequence, it was possible to find Nordic subsidiaries with a large amount of senior employees who considered an important part of their work as advising/controlling junior employees.

Whereas research generally indicates that vertical mobility in Japanese companies is traditionally based on seniority-related (*nenko*) system (e.g., Dore, 1973), it was not rare to find relatively young expatriate managers in the visited subsidiaries. In contrast, most Japanese managers have reached their position through the seniority-based promotion. The interviews revealed in a vivid way that the usage of young expatriate managers tends to create confusion in organizational interaction, especially among the elder Japanese male subordinates. A young expatriate manager explains this by:

> They do not want to obey orders. They want to do it in their own way, and they respond slowly to direct orders. They say ‘yes’ but do not execute the given command. That is why I need to control whether they have executed the given commands.

Further interviews with young expatriates confirmed the manager’s comment and indicated that Japanese employees seem to transact more easily elder managers because it creates natural lines of verticality. When dealing with elder Japanese middle managers, the young expatriates expressed that a great deal of diplomacy was needed to initiate organizational changes. In few cases, as shown in the above excerpt, the interviewed managers indicated the necessity of occasionally using legitimate sources of power to restore order and speed up the processes slowed down by reluctant senior employees.

Whereas the Japanese senior employees in some occasions tend to play an important organizational role due to the accumulated tacit knowledge and social capital, the hierarchical distinction based on age/tenure was indicated to increase authoritarian conservatism. As the elder employees were seen frequently to be reluctant to accept organizational changes, the expatriates expressed that young Japanese employees have a

positive impact on the organizational processes in forms of flexibility, acceptance of new ideas, and idea generation. Conversely, as expressed by an expatriate manager 'I am not optimistic to change the older one's behavior because they are as they are'. A common explanation to the differentiated behavior was the difference in vertical ranking and the consequent role distinction among the senior and junior employees. Whereas the junior employees were eager to learn and accept the changes, the senior employees were seen often to be overconfident and thus reject new ideas. New ideas, especially from foreign operations, were frequently seen unfit to the Japanese markets. A further perceived negative impact of top-heavy age structure and the consequent authoritarian conservatism is the decreased frequency and depth of vertical communication, especially by young employees. An expatriate manager in a knowledge intensive company explains the disturbing impact of large age differences as:

> We have some examples of younger generation to providing positive ideas, but if we are not very careful, somebody of the old generation might keep a lid on it.

According to the expatriate manager, it is not that elder employees feel that they should have those ideas. Rather, it is improper for young employees to vocalize their ideas; especially in the areas they are not directly involved. In addition to the expressed impact of verticality based on age, there are several conventional ways to explain the phenomena, such as the roles of context and face giving/saving behavior (e.g., Kim & Nam, 1998; Nakane, 1970). As the primary mode for Japanese organizational behavior is avoidance of social embarrassment, the suggestions by younger employees violate the hierarchical order and thus, make the elder ones to lose their face. Hence, junior employees should share their ideas with the senior employees, and use the eldest employee to deliver the message to the upper organizational levels. In other words, direct expression of ideas in public place shows relative context insensitivity by the younger employees because it breaks vertical categorization and thus, the social harmony. According to research, in most cases vertical distinction based on age does not disturb organizational harmony because it is accepted and internalized by most Japanese employees (Hampden-Turner & Trompenaars, 1993).

Another indicated dimension of verticality is the influence of gender in organizational interaction. It is important to understand the impact of gender rules in Japan because the Nordic subsidiaries are increasingly relying on female labor. The interviews indicated two reasons for the increased female recruitment. First, there is a large pool of capable female university graduates that can be recruited cheaper than

males. Second, career-minded Japanese females consider foreign companies attractive in comparison to Japanese companies, which often segment employees based on gender through selective recruitment, two-track employment system, and a clear distinction between male and female professions. Although the expatriates expressed that gender equality exists in principle in their subsidiaries, the strong culture derived gender roles were indicated to be some of the main reasons for emancipation. A good example of a 'natural' task role for women was given by an expatriate manager, who indicated that as a new office was opened, 'the women started automatically to make coffee and pick up newspapers for men in the morning'. In most cases, the gender-based role distinction was not indicated to create tension because women were often seen to assume the submissive roles by seeking to work in supporting positions, and often resigning when they get married.

Partly due to their own desire and partly due to persistent male resistance, only few females were indicated to work in the managerial positions. The interviews created a general view that the Japanese male acceptance of female managers is still relatively low in both Japanese companies and foreign subsidiaries. According to the interviews, only in rare cases female subordinates are considered for promotion. A subsidiary president explains the situation a**s:**

> Even though some women here are the smartest of our employees, men do not let them develop to the same level. Even though they would get the title, they are not able to get the responsibility.

In the above case the expatriate president's suggestions for female promotion was indicated to face Japanese middle management resistance. Two reasons were offered for this behavior. First, the middle managers had their own candidates that they wanted to promote. Most Japanese managers were indicated to favor male subordinates over females. Second, the female promotion would violate status hierarchy because women traditionally work in lower organizational positions. As a consequence, the promotion process was perceived to require a long persuasion simply due to the male reluctance to accept female managers. If promoted, female managers were seen to find a persistent gap between their formal and informal ranking. In most cases, organizational harmony and operational efficiency can be seen more important for expatriates than stepping out from strict task boundaries to lobby for female promotion.

As the verticality determines one's behavioral- and task roles in the pyramid-shaped system, the interviewed expatriate managers indicated that lower ranks tend to avoid

responsibility and adopt a submissive role shifting decision-making to the higher echelons. In the interviews, this obedience and the subsequent low propensity for risk-taking activity was indicated by excessive task clarification to the extent that some expatriates feel that they are basically responsible for providing guidelines from the beginning to the end in a given task:

> In Scandinavia**,** if you would go to someone and explain the objective, that person would come back time-to-time to check if this kind of information is needed…In Japan, employees want to know exactly what kind of information we want to the smallest specification.

Based on the expatriate managers, it is hard to initiate tasks that deviate from normal organizational routines. Albeit viewed as an important part of the work behavior, the interviewed managers did not find a comprehensive explanation for such behavior.

Drawing from cross-cultural management literature, some possible explanations for the indicated need for specifications and submissive role are, fear of failing and being viewed as inferior in a group, paternalistic management, and distinctive roles in superior-subordinate relations (e.g., Hofstede, 1991; Naoi & Schooler, 1985; Whitehill, 1991). The indicated need for specification is a sign of uncertainty avoidance or fear of not executing the task based on expectations (e.g., Hofstede, 1991). As a consequence, Japanese employees are used to and have a desire hierarchical structure in which they are closely monitored and told what to do by their immediate supervisors. It is important to note that this does not mean that managers engage into one-way communication by telling the subordinates exactly what to do. In contrast to the Western managers, Japanese supervisors are more likely to discuss things with their subordinates, instead of just telling them what to do (Naoi & Schooler, 1985). Moreover, Japanese managers are asserted to prefer two-way communication to one-way communication and are better at it than managers in any other nationality (Bass & Burger, 1979). Perhaps the importance of two-way communication and constant monitoring as a part of task execution has not occurred to the interviewed expatriate managers, who stated that employees at worst, 'have a robot-like way to attack problems' and at best**,** 'they think and come to ask for me to make the decision for them.' These culturally-based reasons may explain further why expatriates expressed that tasks sometimes remain undone or half-executed when the Japanese employees are given individual freedom to execute the task based on their own judgment.

The above discussion about various dimensions of verticality is integrally linked to

collectivism and horizontal interaction, as Japanese employees were indicated to identify themselves closely to their primary social units. As the individual identity is closely tied to immediate supervisors and principal social units, the interviews provided evidence that there is a strong incentive for Japanese employees to control not only one's own behavior, but also to monitor the behavior of others in the same in-group. A Nordic subsidiary president analyzed the phenomena as:

> The people are very good at working in teams, but not good at working individually. Maybe it is a cultural thing that you should not be brilliant by yourself. You should let the team be brilliant. It is really difficult to generate radically new ideas and to have positive response to new ideas.

The interviews confirmed this expatriate's observation and indicated that employee behavior is frequently guided by reinforced value congruence and 'sticking to the rules.' Basically, as each employee is involved in decisions concerning his/her group, they have distinctive responsibilities as a part of the group membership. The interviewed managers stressed that Japanese employees need to 'share' similar values and adopt 'right' behavioral patterns to be accepted by their coworkers. In other words, the environment influences behavior rather than proactive employees who intentionally seek to manipulate the environment (i.e., contextually conditioned behavior). As the consequence, virtually nothing was indicated to occur as a result of an individual effort in the studied organizations because it is wrong for individuals to take action of their own, as it would usurp the rights and responsibilities of the others to act as collective. Some expatriates illustrated this cultural prejudice against individuality by a proverb 'the peg that stands out I pounded down'. The expatriates explained further that individualistic and opportunistic behavior could lead to social sanctions, such as an exclusion from the principal social unit. In cases of severe deviance between individual- and group values, several managers expressed that internal transfers have been made to move 'unfitting' people to other units. In few extreme cases, the inability for employees to get along with their colleagues was indicated to be a reason why employees have exited their companies.

The interviews indicated that the context-dependent collective behavioral includes a vertical dimension as individuals' group membership is tied with relationships with the immediate leader. That is, immediate supervisors initiate a part of the collective interaction either naturally by task allocation or by forcing subordinates to conform to the in-group rules. Based on an expatriate manager, it is rational that subordinates

‘willingly or not adapt the same way of thinking as their supervisors’ because ‘large part of their future in the organization depends on their relationship with the immediate supervisor’. As a consequence of the combined impact of the strong ingroup cohesion through value congruence and two-way communication with immediate supervisors, there is little incentive for employees to interact beyond their principal units. The interaction with the other units is simply initiated and often conducted by the supervisor. An expatriate manager explains this phenomenon as:

> Employees are too narrowly focused to see the whole picture. I would say that departments are operating in isolation. They have some competition between areas when we are talking who is making money and… We have problems with horizontal communication.

The indicated role for Japanese middle managers, in addition of linking upper and lower echelons, is the responsibility for initiating and controlling horizontal interaction. In some occasions it leads to limited horizontal interaction that was indicated during the interviews by ‘functional departments live their own lives with their own rules’ and that departments ‘think that they are separated from everything else’. This role was indicated to make the middle managers as the key for operational efficiency in the studied subsidiaries because they have the most complete knowledge of the organizational processes and control over their subordinates. In some extreme cases, according to a subsidiary manager, ‘staff is hardly allowed to speak to anybody else, except to their immediate supervisor’. The combined effect of strong peer and supervisor monitoring, obligatory expectations, and collective orientation is that people refrain from ‘rocking the boat’ leading to minimal behavioral deviance.

The final factor, which was indicated to have an impact on employee interaction, is the focus to fulfill individual responsibility in a group and/or wider organizational environment. As individuals seek to fulfill expectations as a part of the group, they were perceived to be risk averse and have a lack of entrepreneurial spirit. Based on the expatriates, ‘staff seems to be focused what is said or written down’ and ‘everything outside that area is not their business.’ The indicated negative consequence was that employees might remain indifferent to processes that occur in the gray area beyond the specified job description without managerial intervention. A subsidiary manager uses a ball metaphor to describe this phenomenon:

> In Japan, if a ball hits a spot between several persons and the leader does not say ‘get

> the ball', those people will not react easily. In the Nordic countries people would recognize that when the ball hits the gray area they would react even if it would not actually belong under anyone's specific job description.

Even several expatriates explained that a part of the phenomenon occurs through rather specialized job descriptions, two cultural explanations could be given to shed additional light on the limited horizontal interaction. First, the strict vertical categorization might decrease motivation for a person to react to the stimuli because it could lead the focal- and/or related individual to an embarrassing situation. As movement to the gray area might disturb the harmony, the employees have to determine whether the stimulus is worth of personal risk-taking and proactive behavior. A recent research indicates further that the Japanese tend to pay attention to the context and the embedded relationships (Nisbett, 2003), and due to the related complexity a person might feel that pretended ignorance might be better than proactive behavior. Second, as it was partly mentioned by the expatriates, Japanese organizations traditionally use loose job descriptions to ensure labor mobility and thus to prevent the occurrence of some gray areas. As a consequence, the rather tight job descriptions in the studied subsidiaries could provide natural boundaries for horizontal flexibility and thus decrease individual responsibility.

5. Cross-cultural interaction, challenges, and transformation processes

Cultural values, through diverse aspirations, standards, and perceptions of reality, increase chances for confusion and misinterpretations in cross-cultural interaction. Whereas reasons for the cultural misinterpretations are various, one of the most frequently indicated problems in the Nordic-Japanese interaction was ambiguity in communicative interaction. An expatriate manager express the frustration initiated by low and poor interpersonal communication by:

> The biggest problem is communication because they [Japanese employees] are not able to communicate. If they are able to communicate business matters, they are not able to communicate their private matters. By this I mean their feelings and…so I try to dig those feelings out. And when you start digging a lot of stuff comes out because people do not come to talk about their problems.

Based on the expatriates, Japanese employees hesitate to express their private feelings in public space mainly for two reasons. First, possible mistakes and unawareness of the

whole complexity of the given issue could make a person in question to look incompetent in the eyes of his/her colleagues. Second, as it was indicated in the previous section, free expression of ideas could disturb harmony based on distinctive roles in a vertical system. Since it was further indicated that there is a vast difference in communication depth in one-to-one and meeting, little new was seen to emerge in meetings. Several expatriates viewed this behavior as passiveness and lack of initiative. A Nordic subsidiary president explains this phenomenon in meetings by:

> We have a fixed weekly meeting to follow up issues. They are extremely passive…they have very little to talk about. They are shy in the meeting and used to very hierarchical system. We need dialogue.

The interviewed expatriate told that since the Japanese employees did not express their ideas; he had to do most of the talking. As a consequence, he indicated that the subordinates knew what his ideas were, but he did not know what the Japanese were thinking. This unbalanced communication was obviously considered unproductive and to lead to poor decisions.

A conventional explanation for the indicated communication problems can be drawn from the research on cultural differences in cognition, communication, and dialectics (e.g., Hall & Hall, 1990; Nisbett, 2003). In contrast to the Western analytical thinking and focus on objects, communicative behavior in Japan is field-dependent with relative difficulty in separating objects from the context (Nisbett, 2003). Moreover, whereas the Western people rely on contrasting identities (true or false) and causality in dialectics, the Japanese pay emphasis on initial events that serves as the impetus to subsequent events (impact of context on the subsequent events). As objects can be understood only in their relation to the context, Japanese need detailed information about the objects and context in the decision-making processes. Partly related to the indicated differences in research, decision processes in Japanese meetings are designed to avoid conflict/dissonance, and are little more than a ratification of consensus achieved by the leader beforehand. In the light of the above research, the frustration caused by the perceived lack of communication might have been partly caused by different ways to process information and cultural influence of communication rules.

Due to the indicated Japanese employee hesitation to vocalize their opinions and strict constraints for vertical interaction, the eldest Japanese managers often act as linking pins connecting expatriate subsidiary presidents with the Japanese organization. Whereas there may be little reason for the expatriate presidents to engage into deep

interaction with all organizational actors, the concentration of communication and the related tacit knowledge to few people may cause that expatriates have little knowledge of what is happening in their organizations. As put by a Nordic subsidiary president:

> It could be said that the information from the departmental manager is subjective. The information is filtered on the way. That is why I sometimes do not know where we are going.

The indicated information filtering may leave expatriate managers, especially with limited Japanese language comprehension, to 'sit in delightful blind ignorance' as it was expressed by an experienced expatriate manager. It was further expressed that when the expatriates try to force their ideas without consensus, disturb operational management, and/or engage into in some other context insensitive behavior, a situation can emerge where the Japanese management 'do not tell him bad news and they do not tell him anything, even the good news'. According to an expatriate with a long experience in Japan 'it is easy *for Japanese* to keep foreigners outside if they want to' (*Italics* added).

In worst cases, the separation between expatriates and Japanese was indicated to lead to situations 'where the *gaijin* (foreign) as part of an organization does not really know that there is a mirror organization that is really running the business operations'. This way, expatriates were expressed to be merely responsible of being a linkage between the subsidiary and headquarters. A Nordic subsidiary president explains the separation from the operational management and the Japanese part of the organization as:

> They accept me as a subsidiary president but they want to have someone on the Japanese side that is my parallel. I do not like this, but this kind of dual structure exists in many companies. They have the oldest manager as their representative.

Whereas the interviewed manager seems to accept his secondary position in the organization, several other expatriates have actively sought to have a stronger control in their subsidiaries. The frequently indicated ways to increase organizational transparency are to seek in some way to develop better relationship with the key Japanese managers, make personnel changes, and/or to develop mechanisms to increase contact with the lower organizational strata.

Among the various ways to cope with the challenges, one rather creative way to increase organizational transparency is to have meetings with lower echelons without the middle management involvement. Based on the interviewed manager, direct

meetings were faced with informal resistance because the middle managers were concerned about the fact that direct contact may expose expatriates to information or some information that they are not aware is exchanged between expatriates and Japanese employees. As put by an expatriate president:

> Managers are a little bit suspicious that I am making deals with employees without their involvement. I kind of enjoy the situation because I am not playing one group against the other one. I am the link. But for managers it is very unusual that the president kind of steps down and creates a link with normal people.

The employees were indicated to need some adjustment period to get used to the direct dialogue with the subsidiary president because this method can be seen to be in contrast with cultural values. Despite the apparent contrast to Japanese cultural values, the expatriate explained that front-line employees, after getting used to express their feelings, have welcomed regular meetings with the subsidiary president. However, the meetings are held under the continuing suspicion by the middle management.

In some extreme cases, the Japanese managers were indicated to have almost complete control of operations, which made it hard for expatriates to run the subsidiary based on the headquarters' expectations. In cases where expatriates saw that the corporate policies are not initiated because of reluctant senior managers, some expatriates have adopted rather radical measures to create shared vision and to increase organizational transparency. A Nordic manager expressed a situation he faced as:

> The managers were operating their agenda and company as a group had its own separate agenda. So, we had to change the system to get commitment to our own mutual or common objectives. So that is why we turned the company upside down and changed the management completely.

In most cases**,** replacement of the most reluctant manager was sufficient enough to send a message to the Japanese management who is the source of legitimate power. An interesting detail that emerged from several interviews is that expatriates indicated that the most power struggles took place soon after they arrived to the subsidiaries. Expatriates came up with two reasons for such behavior. First, new expatriate sought to make fast changes without a clear understanding of the business environment. Indeed, several expatriates expressed to be too eager to make radical changes without adequate knowledge. Second, Japanese managers were seen to have their career advancement

being blocked by expatriate managers.

6. Limitations

This research has some limitations. First, the sample size is rather small due to the limited amount of Nordic expatriates in Japan. In most old subsidiaries, Japanese management has slowly replaced the expatriates, and the amount of expatriates has been actively reduced. However, since the sample includes most of the Nordic companies in Japan, the study should reflect how the Nordic managers perceive the Japanese work-related behavior and the challenges that are created while interacting with Japanese employees.

Second, the perceptions of the interviewed expatriates are subjective and culturally biased. As most expatriates have gone through the initial adjustment process, they are able to provide rather accurate, albeit subjective, description of Japanese organizational behavior. However, I was able to make distinction between expatriates with strong and weak learning orientation. Whereas expatriates with strong learning orientation were able to adapt to the cultural differences and analyze the cultural influence more or less parallel with previous research, the expatriates with weaker learning orientation were ‘sitting in delightful blind ignorance’, as mentioned by an experienced expatriate manager. Consequently, the weak learners were the ones who had problems to integrate with the Japanese employees.

7. Summary and recommendations

This paper provides a Nordic managerial interpretation of (1) how the Japanese socio-cultural context has an impact on the employee behavior, (2) the consequent challenges in cross-cultural interaction, and (3) transformations initiated by the expatriates to cope with the cultural problems. First, the interviews indicate that Japanese organizational interaction is based on vertical differentiation. In daily organizational interaction, it means that people on a lower hierarchical level tend to adopt submissive roles, executing tasks initiated at higher echelons. Tendency for collectivism and group-orientation causes that some of the primary concerns for individuals are to comply with a web of obligations in his/her primary social unit. Employees thus place considerable efforts to maintain nurturing and reciprocal relationship with their closest colleagues and immediate supervisor(s). The interviews indicated further that employees are often narrowly focused causing functional units literally to ‘live their own live, with their own

rules'.

Second, whereas the cultural impact on social interaction patterns were indicated to constitute of the basic frame for employee interaction in the studied subsidiaries, the expatriate managers expressed problems to communicate with Japanese employees and desired relatively frank and open interaction among the managers and subordinates. The consequence of the limited vertical interaction is that expatriates are frequently reliant on the Japanese middle managers, who are in a crucial role facilitating information horizontally and vertically, within and beyond organizational boundaries. Third, due to the indicated problems some expatriates have sought to increase organizational transparency by seeking to develop their relationship with the key Japanese managers, make personnel changes, and/or to increase contact with Japanese employees, for example, by having meetings with employees without Japanese managers.

Although the Japanese organizational behavior was identified to be different, it is in no means inferior to the Nordic one. Rather, it is important for an expatriate to understand how the cultural values influence employee behavior in order to utilize them efficiently in management. In well performing subsidiaries, expatriates often act like Japanese top managers by creating a vision and utilizing the operational knowledge and social capital of the Japanese middle management. These expatriates have been able to create synergistic relations with the Japanese middle management and largely maintain large vertical and minimal horizontal differentiation in their organizations. Based on these expatriates, it advisable for new subsidiary managers first to establish good relationships with Japanese middle managers before starting to initiate strategies and/or organizational changes. The need for context sensitivity and patience in Japan is in sharp contrast to the desired Western management values, which promotes a new manager to start with new strategic and organizational policies. The importance of the accumulated tacit knowledge of Japanese middle management is crucial, especially in operational management. Based on the interviewed expatriate, 'It is better to ask them how to do *operational* things' said the manager, continuing 'that this is how I often use the company' (*Italics* added). The synergic and close relations with the Japanese middle management enable the expatriates to initiate and implement visions for getting the company where it should be going. An expatriate manager expresses his role as; 'I decide the goals…seldom telling people how to do things because I can not know everything by myself'. Through the goal setting and continuous two-way communication with the middle management, a feeling among the employees that the social atmosphere itself is a change agent, not any particular person, is created.

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- Essay Four -

Transactive Memory Directories in Small Work Units

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1. Introduction

Knowledge creation and transfer are essential sources of a firm's sustainable competitive advantage. In order to stay competitive, companies need to manage their tangible and intangible knowledge assets. One important part of the knowledge management, therefore, is to create linkages between various knowledge domains, whether they are individuals, teams, or departments. In most companies information technology has been utilized to link knowledge seekers with knowledge domains. However, technical pathways are not enough. The knowledge about social networks and expertise also affects the ability for groups and organizations to utilize their knowledge assets (Nonaka & Takeuchi, 1996). Actors in these social domains simply need to know what kind of knowledge is available and where it is located in order to access, retrieve, and combine it efficiently.

Pathways, or directories, linking internal and external knowledge, enable groups and organizations to act as transactive memory systems, where each actor with a distinctive role as a knowledge repository is able to access knowledge from appropriate domains (Wegner, 1987). Directories are the foundation for knowledge creation because people can not retrieve external knowledge without pathways linking it to internal knowledge. The formation of the directories, through social interaction or information technology, is subject to the actors' social and technical resources (Anand, Manz, & Glick, 1998). Both of these dimensions are subject to vary in organizations according to the level of information technology, demographics, motivation, and social-emotional climate. Whereas the technical dimension is under increasing interest by scholars and practitioners, personal knowledge and its externalization is the foundation for directories and knowledge creation (Nonaka & Takeuchi, 1996).

Transactive memory research provides evidence that the linkages between internal and external cognition exist and have a positive impact on the performance (Hollingshead, 1998a, 1998b; Liang, Moreland & Argote, 1995; Moreland, Argote & Krishnan, 1996; Moreland & Myosakovsky, 2000; Rau, 2001; Rulke & Rau, 1997; Wegner, 1987, 1995; Wegner, Erger & Raymond, 1991). The studies show that transactive memories are likely to be formed in teams/dyads that have shared experiences, common language, and joint decision-making. Although the researchers have provided valuable information on various dimensions of transactive memory, to our knowledge, no empirical research has examined the factors that have an impact on directory formation and its consequent impact in organizations. This paper seeks to contribute to the transactive memory research by providing answers to the following

questions: (1) What factors promote directories in small work units acting as a part of a global organization? (2) What benefits do directories offer to these small work units? The hypotheses are tested with 111 employees in ten Nordic sales subsidiaries in Japan.

This paper is divided into three sections. The first section starts with a brief explanation of transactive memory and the role of directories. The reviewed literature indicates that directories are more complex in large social entities than in dyads/groups due to hierarchy, location, power, and so on. In the second section, several hypotheses are developed based on the previous research. The basic assumption behind the hypotheses is that the favorable composition and social-emotional climate improves the social interaction, and thus, consequently also the directories. Also, the electronic communication and motivation will positively influence directories. The directories, in turn, reduce individual cognitive load due to specialization, allowing a wider range of information from diverse domains, and thus enabling organizations to respond accurately and fast to environmental stimuli. The following section deals with methodological issues. The results, implications, and limitations are discussed in the concluding sections.

2. Transactive Memory

Transactive memory is a combination of the knowledge possessed by actors and a collective awareness of ‘who knows what’ (Wegner, 1987). The idea behind the concept is that people in close interaction are able to enact as a single memory system with differentiated responsibility for remembering different portions of common experience. In the system, individuals know the locations, rather than the details of common events, and rely on one and another to contribute missing details that cue their own retrieval. This is possible because actors have learned about another’s areas of experience and/or have become dependent on one and another for acquiring, remembering, and generating knowledge. Therefore, if a question is imposed towards an actor who is a well-integrated part of a transactive memory network, this person often is able to answer (after consultation with other network members) with information well beyond his/her cognitive limits. This is possible because individual cognition is connected to external memories by directories, which enables people to rely on one and another to contribute missing details that cue their own retrieval. The system allows actors to share two types of information, both important to the performance: the knowledge possessed by a particular person and an awareness of ‘who knows what.’ By this account, individual memory systems can become involved into larger, organized memory systems that have

distributive cognitive properties that are not traceable to the individuals (Wegner, Erger & Raymond, 1991).

Directory formation, or learning what others are likely to know, enables actors to allocate and retrieve information from collectively recognized experts. The simplest, and often most inaccurate, way to form directories is stereotyping. Research shows that one simply expects different areas of memory storage from a woman than from a man (Ross & Holmberg, 1988). According to Wegner, Erger and Raymond (1991), more advanced ways to form directories are negotiated entries, perceptions of the relative expertise, and access to information. The negotiated entries simply mean that a person agrees to accept the responsibility of certain domains of knowledge and will be known as a repository of relevant items. The social interaction enables actors to create a perception of relative expertise in a given social domain. Expert recognition is a continuous knowledge inventory process over time. For example, in a transactive memory network with three employees A, B, and C, employee A's perception of how knowledgeable employee B is, regarding a particular computer software, might increase by directly asking employee B questions and finding that employee B is a good source of information. However, employee A's perception of employee B's expertise may decrease after communicating with employee C, who proofs to be more knowledgeable about the topic than employee B. Lastly, network position may enable some actors to have a better access to information than the other ones. In a stable environment, the directories are over time due to contain idiosyncratic information, informing actors about the existence and location of external information, as well as the means of retrieving such information (Wegner, 1987). The search process may occur through a series or strong and weak social ties and/or through information technology.

Directory formation becomes more difficult, the greater the size of a given social entity. The first problem is related to explicit coordination (verbal agreements or formally adopted plans). This difficulty arises not from the number of actors per se, but rather from the horizontal and vertical communication processes (Wittenbaum, Vaughan & Stasser, 1998). Since organizational hierarchies rely on the vertical downward communication, primarily through routines, orders, and directives, it is not likely that the upper echelons have perfect knowledge of expertise at the lower ranks. Due to this, large organizations may have several overlapping transactive memories based on hierarchical layers/specialization (Anand, Manz & Glick, 1998; Kieser & Koch, forthcoming). As organizational information is chunked into a variety of domains, employees specializing into one or two domains maintain directories through interaction concerning the knowledgeable people in other domains. In the original concept, social

entities were considered as transparent with perfect information flows (Wegner, 1987). This allows actors to consult each other, as they are perfectly aware who possesses the relevant knowledge. This has given room to criticism that the role of tacit and explicit knowledge has not been separated the original concept due to the close interpersonal interaction (Anand, Manz & Glick, 1998). Further, imperfect social interaction patterns due to diversity, geographical distance, and lack of trust may decrease pathway accuracy and cause problems for actors to transfer tacit knowledge (Jackson, 1996; Nonaka & Takeuchi, 1996).

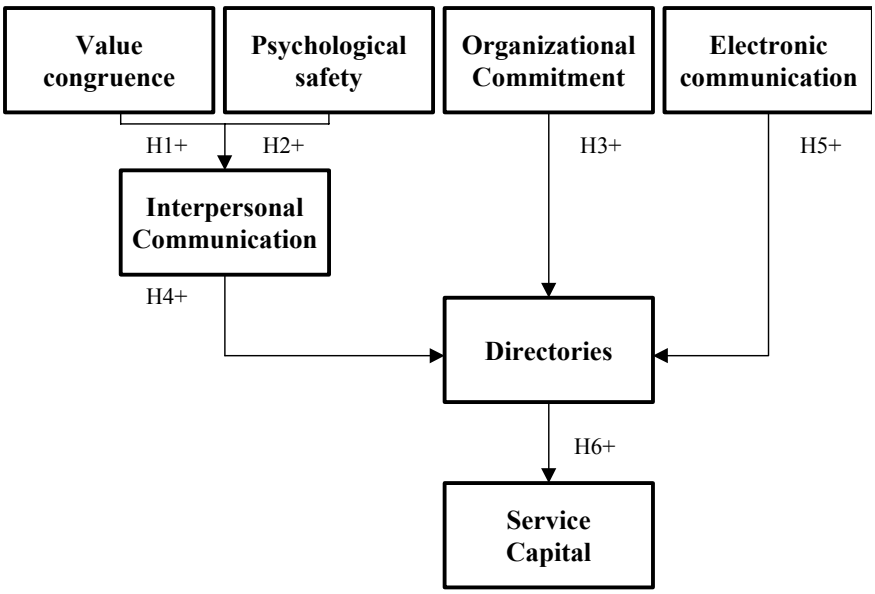
Technological advancements and the extension of the original concept gives room to divide the directories further into interpersonal- and technical dimensions (Moreland, 1999). The interpersonal dimension deals with social processes, which enable actors to locate a specific person in the organization and then to obtain the needed information. This interaction may occur within or beyond the focal transactive memory structure due to social networks and information technology. Directories created by social interaction are important due to the tacit knowledge transfer (Hansen, 1999; Nonaka & Takeuchi, 1996). The technological dimension explains how the needed information is obtained through the use of information technology. The information technology enables actors to engage into search activities and to form temporary or permanent information networks both within and without firm boundaries. Using the network terminology, the interpersonal dimension presents the strong ties, whereas the technical dimension presents weak ties in intra- and extra unit patterns of connections (Granovetter, 1973). These two dimensions overlap in most contemporary organizations.

3. Hypotheses

The literature review indicates that directories in organizations are more complicated than in dyads/groups due to structural and psychological factors. For example, since the directories require intense interpersonal communication (Hollingshead, 1998b; Rulke & Rau, 1997; Moreland, Argote & Krishnan, 1996; Wegner, 1987), several intertwined factors, such as organizational demographics, commitment, and social-emotional climate affect the form and accuracy of directories in a given social domain. Thus, I propose that value congruence (Meglino & Ravlin, 1998) and psychological safety (Edmonsson, 1999) promote transactions among individual actors, which increases the awareness of ‘who knows what’ and consequently the company’s ability to respond customer requests accurately. Further, information technology is proposed to play a complementary role in directories, due to its increased influence on the organizational

interaction, geographical boundaries in international business, the need for external knowledge, and the linkages with external actors. Lastly, organizational commitment is proposed positively relate towards the directories because of the linkage transfer of internalized knowledge (e.g., Dawes, van de Kragt & Orbell, 1988; Frey & Bohnet, 1995), and the stability of directories (Moreland, Argote & Krishnan, 1996; Wegner, Erger & Raymond, 1991). The hypothesized linkages are shown in figure one.

Figure one. Research model



The model shows that value congruence and psychological safety are the antecedents to interpersonal communication, which mediates their relationship to directories (hypotheses one, two, and four). Further, electronic communications and organizational commitment are proposed to have a direct impact on directories (hypotheses three, five). It is also proposed that directories have a positive impact on service capital (ability to respond customer requests accurately)(hypothesis six).

3.1. Value Congruence

Social identity- and transactive memory theories indicate that diversity in readily detectable- (e.g., age, gender, and race) and underlying (e.g., attitudes and values) attributes shape social interaction patterns (Tajfel & Turner, 1986) and directory

formation (Wegner, 1987). These theoretical conceptualizations are confirmed in literature reviews, which indicate that diversity in most cases has a detrimental impact on affective processes, such as interpersonal communication (c.f., Milliken & Martins, 1996; Williams & O'Reilly, 1998). Whereas the results on the readily detectable attributes are fairly consistent, little certain can be said about the impact of values on social interaction and transactive memory directories due to a lack of empirical research.

Values have a strong and permanent impact on social interaction and directory formation in groups/organizations (e.g., Dose & Klimoski, 1999). Empirical studies indicate that people tend to begin the social categorization process with readily detectable attributes because they are subject to visual cues. Attitudes and values are likely to play a more important role in the long run because their assessment tends to require more extensive social interaction and information processing. For example, Polzer, Milton, and Swann (2002) found that the negative effect of the readily detectable attributes were attenuated when individuals were interpersonally congruent, suggesting that similarity in perspectives can moderate the effects of differences in readily detectable attributes. Further, Van der Vegt (2002) found a clear negative link between attitudinal diversity and social integration in work groups. These studies suggest that when individuals share common attitudes and values, people are motivated to form transactive directories based on negotiated entries.

The detrimental impact of value diversity on directory formation and management is based on limited intergroup interaction and cognitive differences (Anand, Manz & Glick, 1998; Erez & Earley, 1993; Tajfel & Turner, 1986). For example, a field study in a medium-size software company indicates that value diversity may create a barrier to the accurate assessment of relative expertise (McDonald & Ackerman, 1998). The study illustrates vividly how a foreign software engineer had a completely different view from his American counterparts regarding the clients' future needs and problems. Limited interaction with the foreign employee may provide distorted views of relative expertise due to the value differences; despite the fact that this person is an expert in particular medical software. Researchers further assert that values provide a strong basis for in-group and out-group categorization, especially in cross-cultural organizations (Erez & Earley, 1993).

Since much of the empirical work on transactive memory has been conducted using intimate couples in a controlled environment, only two experimental studies have linked diversity with transactive memory structures (Myaskovsky, 2001; Rau, 2001). First, research shows that gender diversity does not have a significant impact on transactive

memory in temporary groups (Mosakowski, 2001). Group members that were trained together, rather than apart, strengthened the positive feelings among same-gender groups, but weakened positive feelings among mixed-gender groups. Second, Rau, (2001) in an authentic field study, found that underlying attributes (functional background and industry expertise) are not statistically related with transactive memory in top management teams. Taken together, the studies suggest that whereas diversity may not have a direct impact on transactive memory, it might have an indirect impact through social interaction processes such as interpersonal communication. Hence, as value congruence facilitates the interpretation and classifying environmental events in similar ways and the easiness of interpersonal communication (Dose & Klimoski, 1999; Meglino & Ravlin, 1998), it is also proposed to assist directory formation and management.

Hypothesis 1 (H1): Value congruence is positively related to directories.

3.2. Psychological Safety

Psychological safety is defined as a shared belief that environment is safe for interpersonal risk taking (Edmondson, 1999). This refers to a social-emotional climate where actors are not rejected or punished for expressing their ideas and speaking up. As a consequence, psychological safety deviates from cohesion, which has shown to reduce willingness to disagree or challenge others' views (Janis, 1982). The examination of the direct impact of a social-emotional climate on the directories has not gone beyond the assertion that transactive memory flourishes in social environment where people, know, trust, like, help, and rely on each other, and where they appreciate each other's unique abilities and contributions (Wegner, 1987). This might be due to concentration of research on intimate couples, which, in principle, should have developed an environment for open communication.

Research shows that a social-emotional climate has a positive impact on information sharing (e.g., Larson, Foster-Fishman & Keys, 1994), because people often fail to externalize and/or overweigh commonly shared information in decision-making (Stasser & Titus, 1985). The overemphasis of common knowledge takes place either due to psychological conformity towards commonly held opinions (concern to agree on an answer than on coming to the correct answer), and/or natural tendency for people not to share personal information in psychologically unsafe environment. The imperfect information sharing may lead to exaggeration or inaccurate retrieval cues because

people do not have complete knowledge who is an expert in a given information domain (Wegner, 1987). This simply makes it hard for people to direct and retrieve information to the right domains, leaving transactive memory systems underdeveloped. Taking into account the above findings, it can be asserted that pathway accuracy and expert recognition is most developed in a psychologically safe environment.

Hypothesis 2 (H2): Psychological safety is positively related to directories.

3.3. Organizational Commitment

Organizational commitment refers to a binding of the individuals to the behavioral acts that results when individuals attribute an attitude of commitment to themselves after engaging in behaviors that are volitional, explicit, and irrevocable (Salancik, 1977). The definition indicates that an individual's commitment to the organization is a fairly loose psychological construct because it deals with the organization as a whole, rather than with a narrower focus such as job, role, or supervisor. The important parts of organizational commitment to the current research are information sharing (Dawes, van de Kragt & Orbell, 1988; Frey & Bohnet, 1995) and the impact of turnover (Moreland, 1999; Moreland, Argote & Krishan, 1996; Wegner, Erger & Raymond, 1991) to transactive memory.

In many organizations, the structure and operating premises decrease actors' commitment to share their knowledge. Research on expertise transfer shows that organizational attributes, such as extensive competition, strict control, and hierarchy, decrease information sharing (Cicourel, 1990; Hinds & Pfeffer, forthcoming). An interesting assertion is that enforced competition among employees/units actually increases the cost for individuals to share their knowledge (Hinds & Pfeffer, forthcoming). Without reciprocity, information sharing in competitive environment means sharing power – and one is not motivated to share information if the related costs are higher than the consequent benefits. Furthermore, whereas formal hierarchies serve the purpose of coordinating and increasing the efficiency of organizational information flows, research shows that it may decrease information sharing (e.g., Cicourel, 1990). For example, research on communication patterns in operating room teams shows that nurses and other low status employees often were reluctant to share their expertise and advice with surgeons (Cicourel, 1990). This is because surgeons were reported to respond negatively to advise from the lower status team members. This finding is parallel to the research showing that participation and personal relationships are

foundations for intrinsic motivation and transfer of internalized knowledge (e.g., Dawes, van de Kragt & Orbell, 1988; Frey & Bohnet, 1995).

Researchers have long provided evidence that low organizational commitment increases employee turnover (see a review by Reichers, 1985). As efficient transactive memory systems are characterized by low redundancy (i.e., each member has unique information stored in his/her memory), they are vulnerable to employee turnover (Dess & Shaw, 2001). Personnel instability (caused by either a new member entering the system or an old member leaving the system) would take away certain expertise or bring in a different set of expertise and therefore change 'the distribution of task-relevant knowledge' in the system (Moreland, 1999:7). Moreland, Argote, and Krishnan (1996) examined whether a transactive memory system would be transferred from the group in which it was developed to a group composed of different members. Results indicated that transactive memory did not transfer to groups composed of different members. Similarly, Wegner, Erger & Raymond (1991) found that imposing division of labor on an ongoing dyad that had already developed its own knowledge 'who is good at what' hurt the performance of the dyad. Given that strongly committed employees share information and have an interest in remaining with the organization, one might expect that they will have a heightened interest to know 'who knows what' in the organization.

Hypothesis 3 (H3): Organizational commitment is positively related to directories.

3.4. Interpersonal Communication

Interpersonal communication plays an integral role in the manner in which knowledge is learned and retrieved in transactive memory systems (Hollingshead, 1998a, 1998b; Wegner, Erger & Raymond, 1991). Since part of the transactive memory directory concept resembles communication networks, the present study combines the information richness theory with the network perspective to explain how collective understanding of relative expertise is created and maintained in groups and organizations. Linkage of transactive memory research with network and knowledge management research (e.g., Hansen, 1999; Nonaka & Takeuchi, 1996) shows that face-to-face communication contributes to the directory development and updating in two interrelated ways. First, interpersonal communication helps to discern whether the needed information is shared, unique, or not know by anyone in a given social entity. Second, information richness theory asserts that the strong ties provide a rich medium to

transfer knowledge (Daft & Lengel, 1986).

The most accurate directories are created though interpersonal communication because the strength of social ties determines how much tacit knowledge can be transferred (Granovetter, 1973; Hansen, 1999; Nonaka & Takeuchi, 1996). This form of knowledge is transferred most efficiently through strong ties, which are built through time, emotional intensity, and reciprocity (e.g., Wegner, Erger & Raymond, 1991; Hollingshead, 1998a, 1998b). The weak ties enable to scan a wide amount of information, which, however, are hard to transfer due to inadequate 'bandwidth' or carrying capacity. These differences between strong and weak ties are illustrated in a recent research, which shows that project teams in a large electronic company use weak ties to search useful knowledge from other subunits (Hansen, 1999). Thus, weak ties speed up projects when knowledge is not complex, but slows them down when the knowledge to be transferred is highly complex. This study shows that directories are developed and maintained through weak and strong ties. The difference lies in the pathway accuracy. Whereas the frequency of communication may help actors to identify a large amount of possible knowledge depositories, the depth of communication can be linked with tacit knowledge transfer. Therefore, the cost of weak ties can be poorly developed directories and lowered pathway accuracy.

The logic of strong and weak ties can be elaborated to explain why pathway accuracy may remain at a sub-optimal level in groups/organizations. It can be assumed that internal pathways are most inaccurate among people who are working together for the first time and/or in groups/organizations subject to a strong in-group/out-group categorization. In both cases, transactive directories are poorly formed within the collective unit due to redundant knowledge and faulty perceptions of the relative expertise. In some cases, people may even have a stronger extra-unit communication ties due to social exclusion or lack of relevant expertise. It can be conceptualized that optimal transactive memory directories, within a given work unit, consist of a series of strong and weak ties. It is likely that negotiated entries are created within work units through frequent social interaction due to shared corporate identity and performance assessment, whereas the perceptions of relative expertise and access to information may exist either within or beyond the collective boundaries. In summary, in a well-developed transactive memory system, each individual possesses different areas of expertise, but can assess the knowledge that others possess by accurately identifying who is knowledgeable in different areas (Wegner, 1987).

While communication frequency facilitates the information exchange, the effective pathway formation depends upon the type of interactions. The information richness

theory (Daft & Lengel, 1986) states that face-to-face interaction provides the richest medium for interaction due to nonverbal communication and paralinguistic cues (eye contact, body language, tone of voice, etc.) and the possibility for instant feedback. While Anand, Manz and Glick (1998) assert that the media richness theory deviates from the transactive memory; several researchers have linked the depth of information exchange to the transactive memory concept. Indeed, compared to face-to-face interaction, electronic mail has several weaknesses such as different transmission and feedback time lags as well as constraints on the channels or modalities by which information can be transmitted (e.g., non-verbal cues are absent in computer-mediated communication). In a recent study, distributed workers were found to have less overlapping in their mental representations, in terms of the task and work context, than co-located workers (Hinds, 2000). Further, intimate couples perform better in a face-to-face knowledge-pooling task in comparison to strangers (Hollingshead, 1998b). The intimate couples also scored significantly better on the knowledge task when they had an access to either nonverbal or paralinguistic communication cues.

The above studies provide evidence that strong ties provide more accurate path way accuracy than weak ties, and that face-to-face interaction is more efficient way to exchange complex information than computer mediated interaction. It is important to note that transactive directories are not static, but dynamic and constantly evolving through communicative interaction. The core of the system is the strong ties that enable to transfer tacit knowledge, accurate expert recognition, and to create shared belief structures and negotiated entries (e.g., Klimoski & Mohammed, 1994). The weak ties provide opportunities to update directories through expert recognition and link several transactive memory systems. It can be further asserted that weak ties may develop over time to strong ties, depending on the location of the employee and a need for complementary knowledge. Furthermore, focal actors can be linked to several other employees through strong ties and a disappearance of strong linkages may disturb transactive memory structures (Moreland, 1999; Moreland, Argote & Krishnan, 1996). Since perceived similarity and favorable social-emotional climate facilitate the development of strong ties (and to some degree of weak ties), interpersonal communication can be asserted to have a mediating role with value congruence and psychological safety.

Hypothesis 4 (H4): Interpersonal communication mediates the relationship between value congruence and psychological safety on directories.

3.5. Electronic Communication

The information technology supports rapid and cost-efficient communication across vast distances and time zones. The role of information technology has increased especially in multinational companies that need to transfer large amounts of data across units in different parts of the world. As employees increasingly rely on computer-mediated communication, directories can be created and updated both by human contact and human-machine interaction. Information technology also enables to link several transactive memory structures as actors participate to several groups, or as complementary information is exchanged between transactive memory systems (Anad, Manz & Glick, 1998). This increased connectivity through weak ties and radial networks provides actors an access to a larger base of potential expertise than by sole social interaction.

Electronic mail can be linked to directories through dyadic interaction (Moreland, 1999). Employees can simply engage into search activities through electronic mail by sending a message to everyone connected by similar interest or to a relevant distribution list. These broad requests for information to previously unknown people may sometimes lead to more permanent and intensive dyadic communication linkages (Steinfield, 1983). This way, the repeated contacts and clarifications may become slowly more interpersonal enabling processual development of directories and transactive memory structures. Research provides evidence that emergent groups have been developed through the use of electronic mail and electronic bulletin boards (Eveland & Bikson, 1987; Finholt & Sproull, 1990). These groups were indicated to transcend the existing organization structure, forming a new, overarching layer based on information need. The basic idea here is that through exchanged messages, employees are gradually able to assess and identify each other's competencies and use them as external memory systems.

Electronic communication can also be used to maintain existing directories by periodical interaction. This way computer-mediated communication is frequently used to compliment face-to-face meetings in various work relationships. The need for this kind of interaction could be needed, for example, among colleagues working for a project in the same company in different geographical locations. In such collaborations, nonverbal communication may not be as important for effective information retrieval as colleagues learn how to adjust their communication to the medium over continuing experience (Hollingshead, McGrath & O'Connor, 1993). Taking further into account the benefits of the speed and the cost, electronic communication may enable employees to

be part of several transactive memories.

The other forms of information technology linked to directory formation are databases, group ware, and electronic yellow-page technology (Moreland, 1999). Since knowledge is difficult to transfer (Nonaka & Takeuchi, 1996), the goal of most of these systems is to connect experts with knowledge seekers. These systems allow employees to learn the cues and location of collectively recognized organizational expertise and job responsibilities by specific keywords and/or categories. Due to this, employees do not need necessarily to rely on social ties to locate 'who knows what' because of the identified location of an item with a certain label. Research provides evidence that queries of the expert data base leads to personal contacts with individuals that would not have occurred except through the information provided in the database (Finholt, 1993). Furthermore, the frequently used group ware, Lotus Notes, enables employees to review the thread of discussions that had emerged on particular issues and to record and review the views and experiences regardless of their disciplinary background. This allows employees to rely on their own judgement from who to retrieve information. In summary, knowledge codification in knowledge sharing systems gives a structured way to identify and assess organizational sources of expertise.

Hypothesis 5 (H5): Electronic communication positively related to directories.

3.6. Directories

The ability for people to utilize external knowledge is a foundation for knowledge holding systems that are larger and more complex than either of the individuals own memory systems. Although the transactive memory – performance linkage is well documented in groups/dyads (e.g., Hollingshead, 1998a, 1998b; Liang, Moreland & Argote, 1995; Wegner, 1987), little research links it with organizational performance. Parallel to the previous research, it is assumed in the present paper that information allocation, integrative retrieval processes, and specialization leads to increased information-processing capacity in organizations.

Transactive memory is claimed to reduce individual cognitive load due to specialization, allowing social entities to have a wide range of information from diverse domains (Anand, Manz & Glick, 1998; Dess & Shaw, 2001; Wegner, 1987). Basically, each member has a distinctive role in a well-functioning transactive system. The related expert recognition facilitates task allocation and organizational learning (Argote & Ingram, 2000; Kieser & Koch, forthcoming). The specialization in organizational

learning literature is an important source of productivity because it helps to route incoming information to and retrieve it from the appropriate people (Argote, 1993). Another factor linked to organizational performance is integrative retrieval processes because combination of two ideas might add up to the third idea (Wegner, 1987). For example, organizational actors, who might be asked to give ideas, related to customer service, might each put forward different ideas due to responsibility of different knowledge domains. Taken one at the time, these suggestions may not be noteworthy, but taken together the result might be significant. Integration of various knowledge bases has been acknowledged as one of the fundamentals in knowledge creation process (Nonaka & Takeuchi, 1996).

Despite the long laundry list of possible benefits, only few studies have demonstrated linkages between directories and organizational performance (Rau, 2001; Thomas, Clark & Gioia, 1993). First, Rau (2001) found that transactive memory has a positive influence on ROI in banks. Further, Thomas, Clark and Gioia (1993) show that information gathering is positively linked with admissions and profit in hospitals. In this study, directories are proposed to enhance service capital (ability to respond customers requests accurately) in three interconnected ways. First, accurate directories help organizations to respond fast and accurately to external stimuli (e.g., customer inquiries, complaints, etc.). This is possible because of specialization through expert recognition, which enables work units to store and retrieve information from collectively acknowledged sources. Second, directories enhance task allocation. Basically, transactive directories and expert recognition enable organizations to place the right people in the right positions. Third, integrative retrieval processes enable organizations to provide products and services based on customer needs, as various perspectives are utilized in decision-making. In sum, the complex and dynamic net of transactive directories can be conceptualized as an information processing system characteristics of non-redundant knowledge that enable to combine complementary knowledge bases and to link the firm's internal capabilities with environmental complexity.

Hypothesis 6 (H6): Directories are positively related to service capital.

4. Methodology

4.1. Subjects and Procedures

The population for the study consists of 111 employees in ten (average size of 13 employees) small Nordic sales subsidiaries in Japan. The selection was based on two criteria: (1) size (< 20 employees) to maximize the impact of social interaction and to reduce structural impact; (2) the primary activity in sales and sales support to decrease industry variance. The companies' coordinates were sustained through the respective chambers of commerce. The company presidents were contacted for the interviews where the questionnaires were distributed. The purpose of the personal interviews was two-folded. First, to maximize response rate. Second, to get additional information about the social processes that may influence directories.

Reflecting business activities, most respondents are working in marketing and sales (55%), and supporting administrative (13.5%) positions. Similarly, male employees are dominant in sales- related subsidiaries with a 68 percent share. The subjects have worked in the subsidiaries less than two years (42.3%), or two to five years (33.9%). The majority of the respondents have obtained a four-year bachelor (50.5%), or Masters-level education (18%). Most respondents were Japanese with a 89 percent share. Nordic nationalities were distributed evenly in the sample holding mostly managerial positions. The average age of the respondents was 36 years (standard deviation 9.9258). Material for the study was collected in 2002.

4.2. Measures

All the scales were measured with a five-point Likert response format ranging from '1 = to no extent' to '5 = to a great extent.' The questionnaires were distributed in English and Japanese. Japanese questionnaires were translated and back translated from English to Japanese and double-checked by two bilingual Japanese.

Value congruence indicates the perceptual differences in work values. The perceptual assessment of values, simply by asking respondents to estimate the extent their values, are similar to those of others what has been suggested in work value literature due to its relative accuracy (Meglino & Ravlin, 1998). The used scale, measured by a four-item scale (α = .8156), was taken from Jehn's (1995) study. The original construct was labeled as value diversity, but as the mean indicated high similarity in values, the scale was relabeled as value congruence. A four-item scale (α = .7788) from Edmonson

(1999) was used to measure *psychological safety*. Four items for the *organizational commitment* scale (α = .7637) were taken from O'Reilly and Chatman's (1986) study.

Scale for *interpersonal communication* (α = .8294) was created combining items from three scales. First, Hoegl and Gemuenden (2001) 'there is frequent communication in my work unit. Second, Earley and Mosakowski (2000) 'people talk openly and freely in my work unit.' The last four items were taken from a knowledge survey used at Hitotsubashi University: 'we raise new ideas through free discussion'; 'there are frequently meetings where we can express our ideas and opinions'; 'we really listen to one another and try to understand the feelings and points of view of each other'; and 'we spend a lot of time outside the workplace socializing.' These questions, designed to measure organizational knowledge creation process, are validated by Nonaka, Byosiere, Borucki, and Konno (1994).

The scale for *electric communication* (α = .8253) contained the following items: 'information is distributed mostly through electronical communication in my company', 'electronic communication is used frequently in my company,' and 'we can store and derive information using the company database.' The scale measuring *directories* (α = .7343) contain the following items: 'when exposed to novel task/problem with no clear solution, I am able to identify a person with relevant knowledge in my company', 'I know who has what kind of specialized expertise in my company', 'I know who is assigned to what task in my company,' and 'people in my work unit know the right people and sources of information to perform efficiently'. *Service capital* (α = .61) was measured by two items: 'This company is effective at retaining customers', and 'This company is effective at putting itself in the position of customer to identify their problems and needs.'

4.3. Results

Summary descriptive statistics and the correlation matrix are presented in table one. The mean and standard deviation of each construct are reported in the first two columns. All correlation coefficients are significant at the .01 level (two-tailed test).

Table 1. Univariate statistics and Pearson Correlations among the Variables (N = 111)

Variable	Mean	SD	1	2	3	4	5	6
1.Value congruence	3.1141	.9801						
2. Psychological safety	3.4414	.8878	.557**					
3. Org. commitment	3.4212	.8048	.459**	.638**				
4. Communication	3.4535	.8178	.282**	.311**	.424**			
5. Electronical com.	4.4054	1.033	.576**	.766**	.576**	.276**		
6. Directories	3.5991	.7806	.553**	.457**	.531**	.507**	.522**	
7. Service capital	3.4144	.8683	.339**	.362**	.506**	.496**	.376**	.544**

** Correlation is significant at the 0.01 level (2 - tailed)
* Correlation is significant at the 0.05 level (2 - tailed)

The measures indicate positive relationship among the used variables. For hypothesis testing, multicollinearity is not considered problematic until correlations reach .75 (Kennedy, 1979). Thus, the correlation (r = .766, p < .01) between electronic communication and psychological safety might be a sign of multicollinearity. However, there was no feasible reason to combine these scales based on previous research, used questions, and/or factor analysis. To facilitate interpretation and minimize the possible problems of multicollinearity, the following analyses were conducted with centered variables (Aiken & West, 1991).

Six linear regression models were formed for hypotheses testing. The mediating relationships were conducted following the three steps proposed by Baron and Kenny (1986). The first step for mediation is indicated if the initial variable correlates with the outcomes. The second step is indicated if the initial variable is related with the mediator. The third criterion holds that the effect of the independent and the dependent variable has to diminish (partial mediation), or disappear (complete mediation) after including the mediator in the regression equation.

The first regression in table two shows the direct effects of independent variables to the dependent variable. The following two regression analyses tests the mediating role of directories.

Table 2. Regression models for main effects and moderating role for directories

Predictor	Directories	Service capital
Main effects		
Interpersonal communication	.239*	.117
Electronic communication	.308**	.335**
Organizational commitment	.198*	.306**
Psychological safety	-.118	-.068
Value congruence	.304**	.075
R-square	.477	.335
F	21.034**	12.090**
Mediator		
Directories		.282**
Interpersonal communication		.050
Electronic communication		.248**
Organizational commitment		.250*
Psychological safety		-.035
Value congruence		-.011
ΔR-square		.036
R-square		.371
F		11.801**

*p < .05 **p < .01, one-tailed test

The first regression indicates that there is a positive relationship between electronic communication (β = .308, $p < .01$), organizational commitment (β = .198, $p < .05$), value congruence (β = .304, $p < .01$), and directories. Thus, hypotheses one, three, and five are given statistically significant support. Hypothesis two, the direct linkage between psychological safety and directories, was not supported. The third regression model indicates a positive relationship between directories and service capital (β = .282, $p < .01$), giving support for hypothesis six. The regression analyses show that directories mediate the relationships between electronic communication, interpersonal communication, organizational commitment, and service capital. It should be noted that step one is not required, if the path from the initial variable to the mediator and diminishing impact is indicated (Judd & Kenny, 1981).

Regression models in table three test the mediating role of interpersonal communication.

Table 3. Regression models for moderating role of interpersonal communication

Predictor	Interpersonal communication	Directories
Main effects		
Psychological safety	.646**	.215*
Value congruence	.215**	.434**
R-square	.612	.326
F	87.745**	27.608**
Mediator		
Interpersonal communication		.284*
Psychological safety		.031
Value congruence		.373**
ΔR-square		.025
R-square		.351
F		20.860**

*p < .05 **p < .01, one-tailed test

The regression models show that interpersonal communication partially mediates the relationship between value congruence, psychological safety, and directories. Thus, hypothesis three is supported.

5. Discussion

Researchers in the fields of knowledge management and social psychology suggest that a specialized division of cognitive labor and intensive social interaction enable collective entities to create a structured way to process knowledge (Anand, Manz & Glick, 1998; Nonaka & Takeuchi, 1996; Wegner, 1987). The transactive memory concept describes the collective of individuals, their memory systems, and the communication that occurs between them (Wegner, 1987). To date, much of the empirical work on transactive memory has been conducted using controlled experimental studies of small groups comprised on two- to three-person teams working on relatively simple collaborative tasks. In this paper, the original concept of transactive memory is extended to deepen our understanding of the antecedents and consequences of directories in small work units. In addition to the previously found contributing impact of interpersonal communication, the results show also that value congruence,

commitment, and electronic communication have a profound impact on directories in organizations.

The results firstly indicate that value congruence is positively related to transactive directories, both directly and through interpersonal communication. The mediated relation is in line with the resent conceptualizations claiming that value congruence decreases 'cognitive noise' and facilitates interpersonal communication (e.g., Dose & Klimoski, 1998). In contrast, cognitive differences require a significant cognitive effort and it is likely to result in negative feelings about the interaction with dissimilar employees. This linkage should not be confused with social innovation/knowledge creation, as cognitive variety is frequently found to have a positive relation with cognitive outcomes (Milliken & Martins, 1996). What can be concluded, instead, is that value congruence facilitates collective understanding of 'who knows what' through the depth and frequency of interpersonal communication. Since value congruence reduces the cognitive costs in communicative interaction, employees are able to recognize experts in their transactive memory systems. These properties can be linked with pathway accuracy, allowing the work units to develop a larger cognitive capacity than combined amount of individual repositories. It can also be assumed that the hostility and anxiety decreases directory formation and may distract employees from providing the optimal service to customers.

Electronic communication was surprisingly found to have the strongest relationship ($\beta = .308$, $p < .01$) with transactive directories. This gives empirical proof to the conceptual division of directories into interpersonal and technical dimensions (Moreland, 1999). Building on Moreland's conceptual paper, it can further be claimed that electronic communication has an important role in the maintenance of the directories. While part of the electronic communication is used to send reports to headquarters, it provides chances for actors to form and maintain flexible communication networks. These information networks are formed to transfer knowledge among people linked through integrative work processes and common interests within and without the organizational boundaries. Employees who do not find the needed knowledge through the current directories may also rely on electronic communication in search activities to a certain extent. In some cases, prolonged information exchange enhances directory accuracy and enables people to turn to right places when external information is needed. If people have are already formed directories, simple and unequivocal information can be retrieved effectively and efficiently by electronic communication (Daft & Lengel, 1986). However, it can be asserted that information technology is limited to transfer tacit knowledge that can be

acquired mostly through observation and face-to-face interaction (Nonaka & Takeuchi, 1996).

The nature of the examined work units also partly explains why information technology is utilized largely in search activities and directory maintenance. Most of the researched work units are knowledge-intensive, indicating that employees utilize various information technology applications to locate and retrieve knowledge. It can be further assumed that the employees need to contact their colleagues beyond the unit borders and to seek knowledge through information technology because adequate information sources might not be available in the work unit. Whereas communication technology plays an important part in information exchange, the interviews reveal that training sessions at headquarters as well as internal ties within a work unit may also play an important role in creating shared understanding where information is located in the organizational network. That is, employees may locate experts within their organizational network through face-to-face interaction and use information technology for information retrieval. Further, research indicates that since electronic mail is increasingly playing a primary mode of communication in some work relationships, people learn how to adjust their communication to the medium through continuing experience (Hollingshead, McGrath, & O'Connor, 1993).

The strong role of electronic communication does not rule out the importance of interpersonal communication. In contrary, taking into account the size of the unit and value congruence, it can be assumed that the directories in these units are well developed, and utilized actively to locate and retrieve knowledge. In other words, the internal network density allows actors to rely on each other in search process due to actors various memberships in overlapping transactive memory systems. For example, person A may help person B to create a directory with person C due to person A and B's membership in the same transactive memory system. This way, B uses his/her strong ties with actor A in search process that may eventually lead to directory formation with actor C. The wide utilization of strong ties explains why transactive networks are sensitive to employee turnover. The utilization of strong ties in the search process might be especially important in Japan where social capital determines ones access to both internal and external information. Therefore, the network density within the unit and the nature of external linkages enables employees to search and utilize information from various domains. The search process may occur through social ties or information technology. The chosen media determines what kind of knowledge can be retrieved. In principle, face-to-face communication can be used to transfer tacit and socially complex knowledge. Leaner forms of communication are likely to have

inadequate ‘bandwidth’ or carrying capacity (Hansen, 1999; Nonaka & Takeuchi, 1996).

The above discussion gives room to suggest that electronic- and interpersonal communication have complementary roles. Basically, whereas the strong ties through interpersonal communication enable to transfer tacit knowledge, organizations need to have weak ties through electronic communication for scanning purposes. These forms of communication enable organizations to obtain complex knowledge networks that link several overlapping transactive memories within and beyond organizational boundaries (Anad, Manz & Glick, 1998). The managerial interviews provide a concrete example how this works in a multinational company. According to the interviews, the subsidiary managers are often acting as a part of several transactive memory systems. Some of these are created through the interaction with subordinates in the work unit. Other linkages, for example, could be created or maintained through computer-mediated and occasional interpersonal contacts with colleagues at the headquarters/other subsidiaries. As indicated in the interviews, the managers use directories used in social interaction with other subsidiary managers, especially in practical issues. Most of these managers have formed the directories with the other managers at headquarters before their expatriate assignments.

The final linkage with the directories is the organizational motivation. The finding can be related to research that links motivation to knowledge transfer and participation (Dawes, van de Kragt & Orbell, 1988; Frey & Bohnet, 1995). A natural part of the commitment is to take responsibility of certain knowledge domains and to find out who possess what kind of knowledge in the work unit. Further, motivated employees engage in to search activities and help to create directories linking two or several transactive memory systems. In short, the employee’s motivation facilitates search activities, information allocation, and retrieval processes. It can further be assumed that the commitment – employee turnover linkage increase pathway accuracy and the directory’s stability.

The results also indicate that directories have a positive impact on service capital (ability to respond customer requests accurately). The finding is parallel with previous research showing evidence that environmental scanning and knowing ‘who knows what’ has a positive impact on performance (Rau, 2001; Thomas, Clark & Gioia, 1993). In this study, directories may increase the actors’ to ability locate and utilize information. That is, transactive directories have a time saving function because employees can turn to a colleague instead of engaging into lengthy search activity. More over, the directories decrease causal ambiguity (i.e., imperfect understanding of the relationship

between inputs and outputs) helping employees to respond fast and accurately to external stimuli.

There are implications for practice that can be drawn from this study. It is logical to note that transactive directories play a central role linking organizational commitment and communicative behavior to service capital because motivated employees tend to take more responsibilities and to find out collective sources of expertise. The finding can be supported by research, which shows that employees are motivated to undertake actions based on collective reinforcement (Bandura, 1986), and that people are motivated to help others when they perceive it, will effectively improve another's condition (Utne & Kidd, 1980). In short, the division of labor and the wide utilization of collective expertise is most likely to take place in organizations with close and frequent interaction, supportive organizational climates and motivated employees.

There are several ways to increase the formation and maintenance of transactive memory directories. First, managers may promote collaborative work practices and group training-sessions where people are able to engage into close social interaction, and thus develop negotiated entries, perceptions of the relative expertise, and have access to individualized knowledge. Second, loose job descriptions may facilitate a task allocation based on collectively recognized expertise. Hence, it is important for managers to support naturally occurring cognitive division of labor rather than seek to kill it by emphasizing formalized division of work. In short, effective transactive memory directories can be seen as collectively supported knowledge networks where all employees recognize relevant sources of expertise, take responsibility and act as a source and depository in an interlinked knowledge system.

6. Limitations

This study has several limitations. First, this study relies on self-reported scales, increasing the possibility for response-bias. This is most problematic with the perceived the scale measuring the service capital. However, on the other hand, research indicates that individuals perceive themselves and their social environment accurately (Funder & Dobroth, 1987). This should make the results less distorted and less subject to the problems of common method variance.

Second, the scales are limited to measure all dimensions attributed to the directories. The focus in this study was deliberately paid on expert recognition because it helps employees to utilize external knowledge. This measurement problem is due to occur because organizational environment provides more complex environment than previous

studies of dyads/groups in controlled environment. Despite these methodological weaknesses, this research can be seen as one of the first steps to examine directories in organizations.

Third, some variables in the research model are subject to reversed causality. This is most apparent with organizational commitment, which can be used as both an antecedent and consequence of directories. Research shows that organizational commitment is linked to both information sharing (Dawes, van de Kragt & Orbell, 1988; Frey & Bohnet, 1995), and that expert recognition and specialization increase commitment and job satisfaction (e.g., Yamarino & Naughton, 1988).

7. Conclusion

This paper investigates the antecedents and consequences of transactive directories in small work units. The results indicate that value congruence and psychological safety enhance interpersonal communication, which, combined with electronic communication and organizational commitment, increases accurate presentation of 'who knows what' and from where to retrieve the needed information. The transactive directories have a positive connection with the service capital (ability to respond customer requests accurately). Taken together, the results suggest that directories decrease causal ambiguity (i.e., imperfect understanding of the relationship between inputs and outputs) because various knowledge repositories can be combined and utilized dynamically.

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