

# The Effect of Ethno/Lingo Diversity on Knowledge Sharing in Groups

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## ABSTRACT

*In today's economy, the role and value of knowledge as the last competitive advantage has been suggested and the Knowledge Management (KM) concept has emerged and received great attention. A big part in KM is about managing the way knowledge flows in and between organizations i.e., managing Knowledge Sharing (KS). While technology admittedly facilitates KS, the success of KM efforts still depends highly on considering human factors. This paper proposes that one of these human factors, ethno/lingo diversity, can significantly affect the success of KM practices; in particular knowledge sharing by influencing communication and social interaction among the members of a group. An empirical investigation is suggested to test the proposition.*

## Keywords

*Knowledge Management (KM), Knowledge Sharing (KS), Diversity*

## 1.0 INTRODUCTION

In today's business environment, one can see changes everywhere, much faster than a couple of decades ago. As competitive advantages keep on diminishing (Stapleton, 2003), trade patterns do not follow the old norms (e.g. one can see technological products being exported from South Korea and China to the U.S; or India becoming the largest software provider in the world). No longer are the capital, labor, or land the determining factors in the new economy, but rather intellectual capital (Baker, 2008) or knowledge. More and more companies fall off while some others climb the ladder to the top ranks in world business. A simple look at the Fortune 500 list today and comparing it with sixteen-years-ago standing, as proposed by Housel and Bell (2001), would prove this statement. Which companies would be the climbing ones in this so called knowledge economy? Most probably

the answer is the ones that can create, gain, share, renew and leverage knowledge into their operations to get a competitive edge. Therefore, in today's business environment it is one of the most crucial steps companies need to take in order not to only prosper, but even to survive, to have successful KM policies and practices.

To have a successful KM practice in an organization, knowledge sharing, or KS, must be facilitated. In fact, some researchers believe that KM is merely the management of knowledge sharing, or managing the process of organizational learning (Huysman & De Witt, 2002). Although the role of technical solutions and infrastructure in facilitating knowledge sharing is not disputed, it has a limited role in supporting knowledge sharing. An example is provided by McDermott and O'Dell (2001) as the opening case in their article where a large global firm had set up a website for the employees in different locations to share knowledge. The website offered interesting and easy to use interface and applications but the result was not as anticipated. After rolling out the project, they found most of the document areas empty, except for the initial entries. This case shows a situation where technology was provided, but the people who were supposed to use it did not do so.

To knowledge sharing, social networks are often more important than electronic ones (Huysmann & De witt, 2002). Obviously, even with a well-equipped, leading-edge IT supported facilities, there would be little gain, if any, as no knowledge would be shared if knowledge workers are not willing to use them. After all, it is the people who share knowledge, not machines. When people interact and communicate with each other, they receive the cues and information they get and incorporate the new knowledge with their own contextual knowledge. Additionally, face-to-face

(F2F) interactions are resplendent with nonverbal information and cues (Knapp & Hall, 2010). Corporations are made up of people, and people always carry their ideas, prejudices and character traits with them all their lives. These in aggregate form the culture of the community and the organization in which they live and work.

Individuals naturally tend to reinforce their identity by forming groups of people with which they share one or more traits. Once these groups are formed inside the larger groups or in the community, the concept of “in-groups” and “out-groups” emerge (Turner, 1987; Byrne, 1971). The way most people are socialized: in their families, schools, communities, and other circles that influence cultural values of individuals; causes them to implicitly or explicitly feel some degree of unease facing people who are different from them (Fernandez & Barr, 1993). This difference is significant to this study as it can be a potential barrier to knowledge sharing (Riege, 2005) because it can hinder smooth communication and thus affect information flow, or knowledge sharing, negatively.

Some of the most prevalent differences distinguishable among human beings are race, ethnicity and language. These are some of the first factors people may utilize to differentiate themselves with someone else in a group (Tsui et al., 1992). These differences can be a base of social categorization that together with similarity-attraction paradigm form the basis of this study. Both these will be discussed later.

In the next parts of this article, we will introduce concepts of diversity and knowledge sharing, trying to find a relation between the effects of diversity in groups and the factors affecting knowledge sharing. The aim is to look for the diversity outcomes that can hinder knowledge sharing in groups.

## **2.0 DIVERSITY**

### **2.1 Diversity Concept**

It is noteworthy to enlighten an important issue here. As Miliken and Martins (1996) put, with diversity, the authors are not discussing or justifying racial discrimination, nationalism, or ethnocentrism. Here, diversity simply means difference among the people in the group with regard to their ethnicity and mother tongue. Work group diversity has been categorized into two types: surface-level diversity and deep-level diversity (Carte & Chidambaram, 2004) or covert and overt (Hall, 1959). Surface-level diversity is defined as those features that are clearly observable mostly in physical appearance of the individuals, or in a short interaction with them, are difficult to hide, and easy to compare between one individual and another.

Such characteristics can be age, gender, race/ethnicity and to a less degree language.

Deep-level diversity refers to differences in characteristics that are not easily noticeable, and need more time and verbal communication or non-verbal interaction between individuals to become identified (Carte & Chidambaram, 2004). Examples of deep-level diversity include: work ethic, job role, or political affiliations. Diversity dimensions have an important effect on the socialization process of individuals from an early age, and also affect their perception of their work capabilities and potential roles in the future (Moore, 1999). Diversity effects are usually described using the theory of Social Categorization (Tajfel, 1982) and Similarity/Attraction Paradigm (Byrne, 1971).

Some studies on the effect of diversity on the group performance suggest that while surface-level diversity can have a negative effect on the process of forming a group identity at the first stages of life of a group, by time passage these effects would shrink. Then, it is the deep-level diversity that affects the group outcome in a positive manner and lead to a wider variety of ideas and creativity. This fact implies that the research question we develop later is more meaningful in short-term and especially in groups with a typically short life time such as project groups (Koskinen et al., 2003; Alony et al., 2007). These effects will be reduced as time goes on if the group stays alive for an adequate time.

### **2.2 Social categorization and similarity/attraction**

Social Categorization Theory expresses that individuals seek to attain and preserve their desired self identity via forming groups or sub-groups based on surface-level characteristics and here is when the concept of in-groups and out-groups arise (Carte and Chidambaram, 2004). As a result, they will regard out-groups more negatively than in-groups, assuming them as less appealing to interact with, before having experienced any interaction (Messick & Massie, 1989; Loden & Rosener, 1991).

According to Similarity/Attraction Paradigm, individuals are drawn towards others whom they perceive as being similar to them in beliefs, ideas, experiences and values. Unlike the previously mentioned theory, this paradigm takes into account deep-level diversity factors. However, individuals may use a mixture of deep- and surface-level characteristics to find similarities (Tsui et al., 1992). Becerra-Fernandez and Sabherwal (2001) identify the importance of how deep-level diversity within organizations alters the KS mechanisms employed and subsequently how shared knowledge is applied.

Although these two concepts are not totally different, there is an important contradiction between the two. The Social Categorization Theory proposes that forming opinions takes place before interaction between individuals, whereas the Similarity/Attraction Paradigm suggests that individuals draw opinions on similarity or difference with others after interacting with them (Carte & Chidambaram, 2004). In this paper, the focus is on surface-level diversity, therefore, the Theory of Social Categorization is of greater importance here.

The relationship between two types of diversity and the two just mentioned theorems are shown in Table 1.

*Table 1: Types of diversity, Similarity/Attraction Paradigm and Social Categorization Theory (adopted from Carte and Chidambaram, 2004)*

Type	Definition	Example	Theory that applies
Surface-level	Characteristics that are overt (Typically reflected in features that are generally immutable, immediately observable, and clearly measurable)	Age Sex Race/ethnicity	Social Categorization
Deep-level	Characteristics that are not readily observable (typically emerge through extended verbal and nonverbal communication)	Individual values and attitudes Work experience Organizational tenure	Similarity/Attraction

Although there may be efforts to weaken and control the process of social categorization, research has shown that the process of social categorization is instinctive (Macrae & Bodenhausen, 2000). A clearer, less academic expression of this phenomenon can be found in sayings and idioms such as “birds of a feather flock together” or “like likes like”. Although excessive homogeneity has been recognized to have a negative effect on performance of organizations (Janis, 1972; Belbin, 1980), contradictory evidence indicates that homogeneous groups enjoy several positive group dynamics such as facilitated communication, behavior similarity, trust and

mutual interactions between individuals, with these effects not expected for heterogeneous groups (Stephenson and Lewin, 1996).

Related to the process of social categorization is the Faultlines Model of Lau and Murnighan (1998). According to this model, if the members of a group are diverse in several areas that go along each other and form a greater diversity area, then bigger faultlines can appear, multiple different characteristics may superimpose and lead to a stronger social categorization process in the group. This model makes it strongly relevant to study this phenomenon in Malaysia regarding its multi-ethnic, multi-religion and multilingual population. Hegde and Shapira (2007) demonstrate how Malaysian national and social cultures must be accounted for in measuring KM effectiveness in Malaysian organizations.

### 2.3 Communication, networks and diversity effects

It is needed to highlight the meaning of communication in this case. With communication, there is the implication of a two-way relationship. As the role of reciprocal relationships has been emphasized by Kanter (1977), Lincoln and Miller (1979); and Stephenson and Lewin (1996), it is also worthy to mention networks here. The sum of informal networks between individuals makes informal networks in a group or organization. Stephenson and Lewin (1996) define networks as a trust-based relationship containing communication and conversation on a reciprocal pattern, held in place by F2F frequent interactions. Knowledge sharing relies heavily on F2F communication and has trust as a facilitator. In fact the term “sneaker-net” is understood to mean individuals who prefer F2F interactions for KS over utilizing information technology.

In the organizational context, sometimes these networks can extend beyond the organization’s space and chrono-border. Stephenson and Lewin (1996), support this idea by identifying important work related knowledge that was regularly communicated between a superior and employee during golf outings. This research shows the importance of the informal relationships between individuals as the individuals’ recreational activities can provide extra time and context for them to share knowledge.

Moreover, it is not only organizational groups that exist in organizations. While organizational groups are formed on a basis of task performance in the organizational hierarchy, identity groups are formed as informal groups based on race, ethnicity, gender, or race (Thomas & Alderfer, 1989). Stephenson & Lewin (1996) also state that individuals generally

prefer to interact with individuals of the same gender or race. The importance of these networks is also highlighted in the concept of "Value Networks" (Allee, 2000). A value network is defined as "an interaction between people in different roles and relationships who create both intangible value (knowledge, ideas, feedback, etc) and tangible revenue" (Allee, 2000).

With the importance of communication and informal networks at hand, one comes across arguments in literature suggesting more negative outcomes for diverse groups because of communication errors, different perceptions and attributes among members, in-group favoritism, and prejudices against out-groups (Vodosek, 2007). Studies have shown that as a result of categorizing people, which can happen even based on little or unimportant features, makes group members think of out-groups more negatively than in-groups and as results would come discrediting, stereotyping and distancing of out-groups (Vodosek, 2007). Such effects are not one-way, as those out-groups naturally would show the same treatment reciprocally.

An interesting research by Timmerman (2000) reinforced the statement made by Thompson (1967) some 30 years earlier. This statement is regarding the effect of the nature of the task on the degree of diversity effect. There, it is proposed that the degree of interdependence of tasks rises, higher amount of cooperation and interaction is needed to complete the task. In his study on the effect of racial diversity on the outcomes of the teams in two different sports: basketball and baseball, Timmerman (2000) comes to the conclusion that "Relatively less required interaction and cooperation should decrease the salience and influence of demographic diversity", he then concludes that demographic diversity is more likely to cause conflict in highly interdependent activities such as basketball (versus baseball as more of an individualistic nature). Additionally, research on KM at NASA in the United States indicated that task type strongly affected methods of KS and knowledge application within teams (Becerra-Fernandez & Sabherwal, 2001).

So far one can conclude that naturally human beings tend to categorize socially. However, how strong this tendency is depends on the salience of categorizing attributes. Naturally, surface-level traits are more salient in individuals than deep-level traits. This implies that surface-level traits are stronger tools for social categorization and can lead to more problems of the types just discussed. Milliken and Martins (1996) describe diversity in groups as a double-edged sword as it can increase creativity potential while at the same time leading

to members' dissatisfaction and decreased group identity. Also, they suggest if the differences between individuals are observable, they are then more likely to give rise to ostracizing and condescending behaviors. Research has shown that individuals who are different from their group in terms of race or ethnicity, feel less psychologically committed to the group and show higher turnover tendency and absenteeism (Tsui et al., 1992).

### **3.0 KNOWLEDGE SHARING**

#### **3.1 Types of knowledge**

Nonaka (1994) has categorized knowledge in two types, namely explicit and tacit. Explicit knowledge is knowledge that is codified, formally documented and transmittable, and able to be shared and maintained using databases and IT facilities. Tacit knowledge, on the other hand, is mainly personal and context dependent, embedded in individuals' experience and character traits, and does not lend itself to formal communication and transmission means.

Whereas information systems can be effectively used to share and store explicit knowledge, tacit knowledge is more difficult to express in words and usually best presented by means of gestures, similes, and other methods which are not too formal (Koskinen et al., 2003). Yet there is another reason why tacit knowledge is important. Because of its subjective nature, tacit knowledge is difficult to duplicate and copy and hence it can be a source of organizational competitiveness (Liedtka, 1999).

#### **3.2 KM and KS**

In this paper, KM is defined in terms of identifying, sharing, creating, storing, and utilizing knowledge, seeking organizational learning (Becerra-Fernandez, Sabherwal, & Gonzalez, 2004; Rowley, 2000). At the heart of the KM, lies the need to transfer knowledge and information from one party to another, where these parties can be organizational divisions or individuals (Yang, 2007). Yang (2007) argues that without transfer of knowledge, KM efforts will end in just storing and accumulating knowledge without a particular actionable benefit.

This emphasizes the role of knowledge sharing (KS). KS is defined simply as the action of individuals in which they spread needed information to other individuals or units in an organization (Bartol and Srivastava, 2002). Actually, KS has been considered the most important task in KM (Bock and Kim, 2002). For the case of this paper, knowledge mainly refers to tacit knowledge and human aspects of knowledge sharing will be explored rather than technical solutions. As Bureš (2003) puts, the role of Information Technology (IT) in KS is not crucial

though important. Papoutsakis (2007) suggests that codified, explicit knowledge can be shared by means of an electronic database, less-explicit knowledge may be disseminated using email or electronic chat rooms, and when it comes to mainly tacit knowledge, F2F communication or its electronic simulation, which can be videoconferencing, is the most effective channel.

### 3.3 KS barriers and hindrances

In this section, some of the most relevant works on factors affecting KS are discussed and highlighted one by one, trying to draw points related to diversity.

Communication has an important effect on KS, also emotions play an influential role in the tendency of individuals to communicate and share knowledge with co-workers (Bureš, 2003). Bureš (2003) also argues that in an unfriendly and malicious atmosphere, knowledge sharing is hindered. In their work, Fahey and Prusak (1998) suggest a list of the eleven barriers to effective knowledge management. The two barriers related to our topic are failing to realize the importance of tacit knowledge and trying to replace human interaction with technological contact.

Disterer (2001) talks about the lack a common language easily understandable for all organizational members that can carry concepts and be a vehicle for knowledge to flow among individuals. He views such a language with all its metaphors, analogies and other aspects as necessary for externalizing tacit knowledge residing in individuals' brains. It is also emphasized that cultural issues are of greater importance for the success of knowledge management efforts than technical matters. The concept of communities of practice is suggested as a tool to foster and facilitate knowledge flow and sharing in the organizations. These communities are defined as informal networks of knowledge workers who are in touch with each other, have common interests and try to solve similar problems. In communities of practice, time is needed to establish trust which in turn leads to more open communication and knowledge transfer (Disterer, 2001).

In their study, Matzler et al.(2007) highlighted the effect of three personality traits on knowledge sharing, namely agreeableness, conscientiousness, and openness. The third trait, namely openness is relevant to the current study, as it is influenced by social categorization where individuals tend to be less open to out-groups, including people from other ethnicities. The agreeableness trait and consequent willingness to share knowledge may also be impacted by cultural diversity within and

between groups as indicated by Milliken and Martins (1996).

In their literature review work, Kimmerle et. al., (2008), identified an issue central to the current study. This issue is the effect of social identity on knowledge management. It is noted that individuals who do weakly identify themselves with the group or organization, exhibit lower levels of cooperation in their group and this in turn results in hindered flow of knowledge. This lack of attachment to the group and identification can be a result of diversity.

In his literature review paper, Riege (2005) provides a list of potential barriers to knowledge sharing. He categorizes these barriers into a triad: Individual, Organizational, and Technology barriers. Relevant to this study, social network dearth, not trusting other individuals, and differences in ethnicity, culture, values, and language are mentioned. Difference in verbal languages can make difficulty in knowledge transfer. The role of trust is indisputable in knowledge sharing. Trust directly affects relationships and may facilitate or hamper knowledge sharing.

In their recent work, Welch and Welch (2008) highlight the role of language as it influences several factors in knowledge transfer. A shared language would ease communication, building trust through increased frequency of interpersonal interaction, and exchange of information. According to their literature review, Welch and Welch (2008) point out that even when a common surface language is used in interactions, individuals would put meaning and comprehend meaning from communications in this common language using their own language. This can cause information to be remembered with different meanings and interpretations from what was intended, affecting the accuracy of the knowledge transferred. It gets more critical when the complexity level of the information communicated increases. Again in this work, the importance of social networks and F2F communication in transfer of knowledge, especially tacit knowledge sharing is stressed. F2F communication is still the strongest medium of knowledge transfer as it allows feedback which can help to reinforce the knowledge sharing completeness and accuracy. Language diversity affects socialization processes and thus has an impact on forming social networks. These networks, being mostly informal, are little influenced by formal guidelines and dictated strategies, but are primarily based on trust and communication. Trust in turn, needs a relationship there to be built. This relationship is the fruit of interaction and communication, which in turn is obviously affected by language diversity. A model

of International Knowledge Transfer is also proposed by Welch and Welch (2008) (Figure 1).

### 3.4 Concluding the relationship

With a comparative review of diversity outcomes and knowledge sharing influential factors, it is apparent that there are many common factors between the two, some of which are communication, trust, and interpersonal interaction.

As has been discussed so far, ethno/lingo diversity can cause formation of in-groups and out-groups, impede communication and reduce trust between individuals from different ethnicities. Thus, based on the above mentioned literature, a hypothesis is proposed as:

Hypothesis: As within group ethno/lingo diversity increases, knowledge sharing effectiveness within group will decrease.

In other words, all other factors considered the same, homogeneous groups have a better chance to share knowledge effectively than heterogeneous groups. It is to say the higher degree of diversity leads to less effective knowledge sharing.

The focus of the proposed research is on within group KS effectiveness. A possible future extension of this research would be to examine if the intra group ethno/lingo diversity effects may be generalized to out of group or inter group communications as well. It may be that a large project has several teams and each individual team is highly homogenous with respect to ethno/lingo diversity, but the project group as a whole is very heterogeneous and communications between groups may be effected depending on the level of ethno/lingo diversity.

### 4.0 PROPOSED TEST FOR FUTURE STUDIES

To study the proposition just made, it is recommended to take a semi-quantitative approach. Forming groups of different compositions (e.g., both homogeneous and heterogeneous groups) and having them perform knowledge-intensive tasks requiring discussion and knowledge sharing and then comparing the results between groups should provide new insights into the matter. Moreover, long-term qualitative study by observing group dynamics of real work groups in industrial firms would also be of great value.

Students studying at a Malaysian university will form the first study population. Three different ethno/lingo cultures exist and a full factorial study which examines the KS performance of the three homogeneous groups against the four other combinations of heterogeneous groups will be

performed. Should the results of the research confirm  $H_0$ , as is anticipated, then future research will attempt to confirm these results in real world workplace settings.

### 5.0 CONCLUSIONS

Social Categorization Theory and the Similarity/Attraction Paradigm indicate foundational mechanisms for establishment of trust and willingness to share knowledge. Additional sociological research has confirmed the positive influences of homogeneous group composition at least over the short term and conversely barriers to KS for diverse groups.

Given that these effects can be verified and  $H_0$  validated, then how may managers utilize this information advantageously? First, managers must account for the anticipated duration of the group. Short term groups should be composed of more homogenous ethno/lingo membership. While longer term groups may eventually be able to overcome barriers to KS caused by diversity, any initial negative outcome may be overcome through the institution of diversity training for potential team members. Diversity training may also help to overcome KS barriers for more short term partially heterogeneous groups.

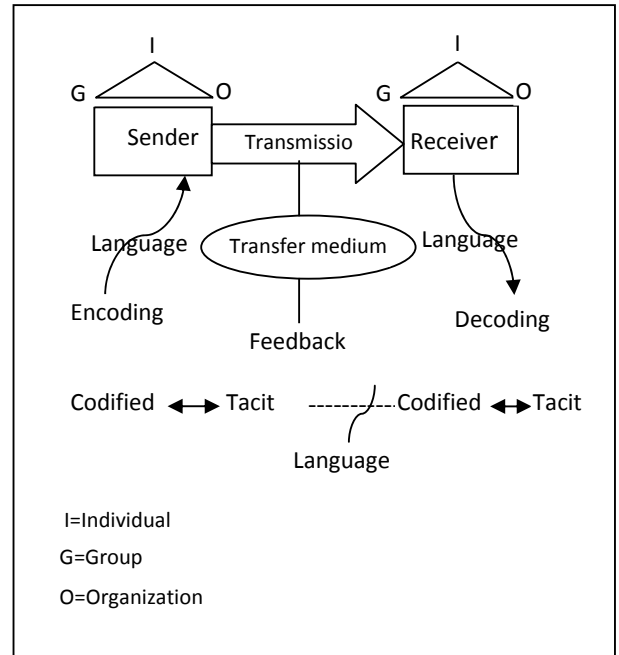


Figure 1: International Knowledge Transfer Model (Welch and Welch, 2008)

### REFERENCES

Allee, V. (2000). Reconfiguring the Value Network. *Journal of Business Strategy*, 36-39.

- Alony, I., Whymark, G. and Jones, M. (2007). Sharing Tacit Knowledge: A Case Study in the Australian Film Industry. *Informing Science Journal*, 10, 41-59.
- Baker, R.J.(2008). *Mind Over Matter, Why Intellectual Capital is the Chief Source of the Wealth*. Hoboken, N.J.: John Wiley & Sons, Inc.
- Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies*, 9(1), 64–76.
- Becerra-Fernandez, I., & Sabherwal, R. (2001). Organizational Knowledge Management: A contingency Perspective. *Journal of Management Information Systems*, 18(1), 23-55.
- Becerra-Fernandez, I., Sabherwal, R., & Gonzalez, A. J. (2004). *Knowledge Management: Challenges, Solutions, and Technologies*: Prentice Hall.
- Belbin, M. (1980). *Management Teams: Why they Succeed or Fail*. London: Heineman.
- Bock, G. W., & Kim, Y. G. (2002). Breaking the myths of rewards. *Information Resources Management Journal*, 15(2), 14–21.
- Bureš, V. (2003). Cultural Barriers in Knowledge Sharing. *E+M Economics and Management, Liberec*, 6, 57-62.
- Byrne, D. (1971). *The Attraction Paradigm*. NY: Academic Press.
- Chidambaram, L. & Carte, T. (2004). A Capabilities-Based Theory of Technology Deployment in Diverse Teams: Leapfrogging the Pitfalls of Diversity and Leveraging Its Potential with Collaborative Technology. *Journal of the Association for Information Systems*, 5 (11-12), 448-471.
- Disterer, G. (2001). Individual and social barriers to knowledge transfer. *Proceedings of the 34th Hawaii International Conference on System Sciences*.
- Fahey, L., & Prusak, L.(1998). The Eleven Deadliest Sins of Knowledge Management. *California Management Review*, 40 (3), 265-276.
- Fernandez, J.P. & Barr, M. (1993). *The Diversity Advantage*. New York: Lexington Books.
- Hall, E.T. (1959). *The silent language*. Garden City, NY: Doubleday.
- Hegde, D., & Shapira, P. (2007). Knowledge, technology trajectories, and innovation in a developing country context: evidence from a survey of Malaysian firms. *International Journal of Technology Management*, 40 (4), 349-370.
- Housel, T. & Bell, A.H. (2001). *Measuring and Managing Knowledge*. New York: McGraw-Hill/Irwin.
- Huysman, M. & De Witt, D. (2002). *Knowledge Sharing in Practice*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Janis, I. (1972). *Victims of Groupthink*. Boston, MA: Houghton-Mifflin.
- Kanter, R.M. (1977). *Men and Women of the Corporation, Basic Books*. New York, NY.
- Kimmerle, J., Wodzicki, K. & Cress, U. (2008).The social psychology of knowledge management. *Team Performance Management*, 14 (7/8), 381-401.
- Knapp, M. L., & Hall, J. A. (2010). *Nonverbal Communication in Human Interaction*. Wadsworth.
- Koskinen, K.U., Pekka, P. & Hannu, V.(2003). Tacit knowledge acquisition and sharing in a project work context. *International Journal of Project Management*, 21, 281-290.
- Lau, D. C. & Murnighan, J.K. (1998). Demographic Diversity and Faultlines: The Compositional Dynamics of Organizational Groups. *Academy of Management Review*, 23 (2), 325–340.
- Liedtka, J. (1999). Linking competitive advantage with communities of practice. *Journal of Management Inquiry*, 8 (1), 5-16.
- Lincoln, J.R. & Miller, J. (1979). Work and friendship ties in organization: a comparative analysis of relational networks. *Administrative Science Quarterly*, 24, 181-99.
- Loden, M. and Rosener, J. (1991). *Workforce America! Managing Employee Diversity as a Vital Resource*. Homewood, IL: Irwin.
- Macrae, C., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically about others. *Annual Review of Psychology*, 51, 93-120.
- Matzler, K., Renzl, B., Müller, J., Herting, S., & Mooradian, T.A. (2007). Personality traits and knowledge sharing. *Journal of Economic Psychology*, 29, 301-313.
- McDermott, R. & O'Dell, C. (2001). Overcoming cultural Barriers to sharing knowledge. *Journal of Knowledge Management*, 5 (1), 76-85.
- Messick, D. & Massie, D. (1989). Intergroup Relations. *Annual Review of Psychology*, 40, 45-81.
- Milliken, F.J. & Martins, L.L.(1996). Searching for common threads: understanding the multiple effect of diversity in organizational groups. *Academy of Management Review*, 21 (2), 402-433.
- Moore, S. (1999). Understanding and managing diversity among groups at work: key issues for organizational training and development. *Journal of European Industrial Training*, 23 (4/5), 208-217.
- Nonaka, I.(1994). A dynamic theory of organizational knowledge creation.

- Organizational Science (providence, R.I.)*, 5 (1), 14-37.
- Papoutsakis, H. (2007). Sharing Knowledge in the Organisation: a Retrospective Analysis and an Empirical Study. *The Electronic Journal of Knowledge Management*, 5(2), 231-244. Retrieved from online at www.ejkm.com.
- Riege, A. (2005). Three Dozen Knowledge-Sharing Barriers Managers Must Consider. *Journal of Knowledge Management*, 9 (3), 18-35.
- Rowley, J. (2000). From learning organization to knowledge entrepreneur. *Journal of Knowledge Management*, 4 (1), 7-15.
- Stapleton, J.J.(2003). *Executive's Guide to Knowledge Management, the Last Competitive Advantage*. Hoboken, N.J.: John Wiley & Sons, Inc.
- Stephenson, K. & Lewin, D. (1996), Managing workforce diversity: macro and micro level HR implications of network analysis. *International Journal of Manpower*, 17(4&5), 168-96.
- Tajfel, H. (1982). *Human Groups and Social Categories*. New York: Cambridge University Press.
- Timmerman, T.A. (2000). Racial Diversity, Age Diversity, Interdependence, and Team Performance. *Small Group Research*, 31 (5), 592-606.
- Thomas, D.A. & Alderfer, C.P. (1989). The influence of race on career dynamics: theory and research on minority career experience. In Authur, M.B., Hall, D.T. & Lawrence, B.S. (Eds), *Handbook of Career Theory* (pp. 133-58). Cambridge: Cambridge University Press.
- Thompson, J. D. (1967). *Organizations in action*. New York: McGraw-Hill.
- Tsui, A. S., Egan, T. D. & O'Reilly, C. A. (1992) . Being Different: Demography and Organizational Attachment. *Administrative Science Quarterly*, 37 (4), 549-579.
- Turner, J. (1987). *Rediscovering the Social Group: A Social Categorization Theory*. Oxford, UK: B. Blackwell.
- Vodosek, M. (2007). Intragroup conflict as a mediator between cultural diversity and work group outcomes. *International Journal of Conflict Management*, 18 (4), 345-375.
- Welch, D. E., & Welch, L. S. (2008). The Importance of Language in International Knowledge Transfer. *Management International Review*, 48 (3), 339-360.
- Yang, J.T (2007). Knowledge sharing: Investigating appropriate leadership roles and collaborative culture. *Journal of Tourism Management*, 28, 530-543.