

Understanding the Influence of National Culture on the Development of Shared Group Norms of Effective Communication: An Exploratory Study in Two Distinct Cultures

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Abstract

Motivated by the need to extend media richness theory and by the greater concerns regarding the influence of national culture on management practices, this study aims to test the impact of a dialogue technique, which incorporates the key moderator factor of national culture, on enhancing computer-mediated communication (CMC) use and group decision making performances in two distinct cultures. This paper proposes that if a shared basis of effective communication could be built up before group members work together, using CMC systems can also effectively improve group performance. Further, this paper proposes that the degree of such improvement may differ across cultures. One cultural dimension, individualism-collectivism, is used to account for the moderating role of culture on such shared group norm development processes. Australia and People's Republic of China (PRC) have been selected to represent two distinct cultures. Several propositions for empirical examination are proposed. Finally a research plan is presented.

Keywords

Media richness theory, computer-mediated communication (CMC), group decision making, national culture, comparative study

INTRODUCTION

With the growth of global organisations, virtual teams, and advances in networks and telecommunications, face-to-face meetings are no longer the sole communication medium used by organisations to discuss problems and make decisions. Various computer-mediated communication (CMC) systems that have emerged in recent years have revolutionised communication and made possible new and expanded forms of group work. CMC systems use computers to structure, manage and process information, images and electronic resources across telecommunications networks to facilitate its exchange. Examples include electronic mail, video-conferencing, voice mail. CMC systems have been shown to reduce delays in information exchange, improve maintenance of records and information received, increase coordination of geographic dispersed groups, and improving users' capabilities to process large amounts of information (King and Xia 1997). Not surprisingly, as national and local computer networks proliferate, CMC systems have become an integral component of organisational communication as they are more convenient and less expensive than travelling to meet face-to-face (Baltes et al. 2002).

However, according to Media Richness Theory (MRT) (Daft and Lengel 1984; 1986), which is the most influential theory in guiding managers for media choice and use for the last decade, CMC cannot be used to effectively convey rich information. Rich information is the key to solving many complicated equivocal organisational problems (Daft and Lengel 1986). According to MRT, CMC media are lean in media richness compared with face-to-face meetings and would therefore possess limited utility for interaction requiring complex communication. Daft et al. (1987) argue that each medium has a fixed feature of richness, and effective communication can only occur when the richness of the medium matches the equivocality of the task (i.e. multiple interpretation of information). Prior research has demonstrated that the face-to-face meeting is the richest medium and the most interactive. Asynchronous CMC media are leaner than synchronous CMC systems because of the feedback delay they exhibit (e.g. Chidambaram and Jones 1993).

The inconsistencies of research findings in the literature, however, have encouraged a reconsideration of the descriptive and predictive validity of MRT, especially for CMC systems. Some researchers (e.g. Fulk et al. 1990; Huang et al. 1996) contend that media richness is not a fixed feature of a medium, but could be changed by shared social constructions, which refers to an object that is, at least in part, socially constructed and subjectively generated, as defined by Huang et al. (1996). To choose and use CMC systems effectively for improving group performance, the key issue is thus how to build up a shared basis for communicators before they work together as a team to perform a task and communicate frequently. The decisions on choosing and using CMC systems usually involve an investment of millions of dollars in information technology infrastructure, which becomes an important strategic issue affecting an organisation's survival and competitiveness. Yet, there is a clear lack of research in this area.

In addition, the vast majority of CMC empirical studies are substantially based on North American organisations and subjects. Theories arising from such work may not apply in other cultures (Boyacigiller and Adler 1991). Culture is the collective programming of the mind which distinguishes the members of one group or category of people from another (Hofstede 1980). Since each culture has a unique set of values to guide human behaviour (Triandis 1995), national culture strongly affects management practices, including decision making (Earley 1993). In a world moving rapidly toward globalisation and corporate multinationalism, management theories must incorporate a cultural dimension to remain useful (Tan et al. 1998a). Unfortunately, few existing CMC studies have investigated explicitly cultural influence in the analyses of communication media (see Guo 2002, for review). In view of the significant developments in CMC and an increasing globalisation in organisations, this shortcoming in CMC research is clearly disappointing (Mejias et al. 1996-97).

In order to understand whether shared group norms of effective communication could be built up to enhance CMC use and group decision making performance, and to investigate if culture plays a moderating role for such group norm development process, researchers from two different cultures, Australia and People's Republic of China (PRC), have established a joint research project. Interest in understanding how communication practices in the Australia, compared with that in the PRC, is motivated by the development in the relations between these two different cultures in recent years. More and more Western-based multinationals have increased their business in the PRC and are struggling with the problems of how to implement and effectively use CMC in different cultural environments. Comparative research between Australia and PRC can provide preliminary guidance to multinational organisational managers about the effective use of CMC to improve group performance.

In the following discussion, we draw up two bodies of theory—dialogue technique and national culture—to develop a process model supporting the development of shared group norms of effective communication via CMC media in different cultural contexts. In presenting this model, our discussion is organised as follows: First, we describe how dialogue technology could be adopted to help organisational groups build up such a shared basis for effective communication by means of CMC. Second, we present theories of national culture as a moderating factor for understanding how people in different cultures are influenced to adopt ideas. Third, we present our research model, which integrates these two theoretical perspectives, a necessary step for describing development and influence of CMC use in group decision making. Finally, we close by discussing the research program underway.

DIALOGUE TECHNIQUE

Based on the mental model discipline (Senge 1992) and dialogue theory (Bohm 1990), Huang et al (1998b) proposed a dialogue theory-based technique to help organisational groups build up a shared basis for effective communication. The main premise of this technique is that through dialogue, group members may build a common mental model that facilitates shared understanding (Huang et al. 1998b). This model serves as a group norm to guide future interaction and activities of the group.

Effectiveness of group work depends on valid communication across group members (Schein 1995). Mental models encompass the ingrained frames of reference, generalisations, and images that reflect human understanding of the world (Tan et al. 2000). Differences in mental models among group members can cause vastly different tacit decision rules, such as different perceptions of communication media, inability of group members to understand each other, disagreements during group work, and decrease of group work outcomes. If a group mental model can be established, shared understanding of group members is possible. The more a group has achieved this, the easier it is for the group to reach a collective decision, and the more likely the decision will be implemented in the way the group wants (Isaacs 1993). Dialogue theory offers suggestions on how group mental models can be developed. Dialogue is a basic process for building common understanding and it is at the root of all effective group actions (Schein 1995). Through dialogue, group members will be able to determine whether or not the communication is valid and will be able to build sufficient common ground and mutual trust for future effective interaction.

This proposed dialogue technique comprises three stages: small talk, infinite container, and laser generation (see Huang et al. 1998b for details). Each of these stages leads the participants through a process of sharing past experiences of effective communication behaviour. Through the process of sharing an accepted group mental model of effective communication, practice is developed. Such a group mental model will guide communicators' future communication. Because this proposed dialogue technique can support the generation of shared group meanings, it can be made a part of CMC use to enhance group performance. Unfortunately, no existing empirical research has been conducted to explicitly examine the impact of this framework on CMC use and group decision outcomes. This proposed research is designed to fill this gap.

The proposed dialogue technique may help group members develop group mental models for further effective group communication and decision making. In other words, after a shared basis of effective communication is built up among group members, they are likely to have a positive perception of the media they use for group communication, and the ability to solve problems or make effective group decisions will increase. Prior research has demonstrated that when communicators possess shared experience or social constructions, a lean medium, such as synchronous CMC or asynchronous CMC, can be used as effectively as face-to-face meetings for rich information, which could enhance work performance for solving a complicated equivocal problem (e.g. Dennis and Kinney 1998; Huang et al. 1998a). Therefore, the following hypotheses are developed to test the ability of this proposed technique in enhancing CMC use and group outcomes:

Hypothesis 1: After dialogue, there will be no differences in media perceptions among groups using face-to-face, synchronous and asynchronous CMC media.

Hypothesis 2: After dialogue, there will be no differences in communication satisfaction among groups using face-to-face, synchronous and asynchronous CMC media.

Hypothesis 3: After dialogue, synchronous and asynchronous CMC media can be used as effectively as the face-to-face medium in group decision making.

Hypothesis 4: After dialogue, there will be no differences in satisfaction with group decision making process between groups using the face-to-face medium and groups using synchronous or asynchronous CMC media.

Hypothesis 5: After dialogue, there will be no differences in satisfaction with group decision making between groups using the face-to-face medium and groups using synchronous or asynchronous CMC media.

MODERATING ROLE OF NATIONAL CULTURE

Culture is the collective programming of the mind which distinguishes the members of one group or category of people from another (Hofstede 1980). Cultural differences between people of different nations and societies have existed for many centuries and are stable over the long term (Tan et al. 1998b). Since each culture has unique values to guide human behaviour (Triandis 1995), national culture strongly affects management practices, including communication (e.g. Earley 1993, 1994; Gudykunst et al. 1996; Gudykunst and Kim 1997; Guo et al. 2001; Hofstede 1980; Rice et al. 1998; Straub 1994). Based on surveys involving more than 120,000 respondents from more than 50 countries, Hofstede (1991) offers a model of national culture with five dimensions: individualism-collectivism, power distance, uncertainty avoidance, masculinity-femininity, and time orientation. Other studies have lent support to the stability of these dimensions (e.g. Ronen and Shenkar 1985). Scholars in the field of information systems have also successfully used Hofstede's model to account for empirical observations (Guo et al. 2001; Rice et al. 1998; Straub 1994; Tan et al. 1998a; Tan et al. 1998b; Watson et al. 1994). Thus, Hofstede's model is adopted as a theoretical framework for this study.

Individualism-collectivism, the most important dimension of cross-cultural psychology to date (Smith et al. 1996; Triandis 1995), has been well researched both in communication literature and in other disciplines (e.g. Erez and Early 1993; Gudykunst et al. 1996; Gudykunst 1997; Guo et al. 2001; Hofstede 1991; Rice et al. 1998; Singelis and Brown 1995; Triandis 1995). According to Hofstede (1980), individualism-collectivism dimension is a conglomeration of values concerning the relation of an individual to his or her collectivity in society. Individualism stands for a preference for a loosely knit social framework in society wherein individuals are supposed to take care of themselves and their immediate families only. Its opposite, collectivism, represents a preference for a tightly knit social framework in which individuals can expect their relatives, clan, or other in-group to look after them in exchange for unquestioning loyalty. The relationship between the individual and the collectivist in human society has been described by Hofstede (1980) as: "not only a matter of ways of living together, but intimately linked with societal norms (in the sense of value systems of major groups of the population). It therefore affects both people's mental programming and the structure and functioning of many other types of institutions besides the family: educational, religious, political, and utilitarian" (p.214). In an individualistic culture, people base their self-understanding on their own actions, which are usually taken independently of what others think (Earley, 1994). In collectivistic countries, people are integrated into strong

cohesive groups (Bond and Leung 1982) so that they base their self-understanding on the reactions of others around them (Earley 1994).

The dialogue technique can potentially facilitate shared understanding in group members. Yet the impact of this technique may be moderated by group members' national cultures. The differences between individualistic and collectivistic cultures discussed above assist in anticipating the moderating effect of the national culture on the dialogue technique in building up a group shared basis for effective communication. In an individualistic culture, people are perceived to be self-oriented and self-centred. They are more likely to follow personal desires (Wheeler et al. 1989). In contrast, the people in a collectivistic culture are considered to be socially-oriented and situational-oriented (Yang 1981). They are able to protect their social selves and functions as an integral part of the social network. As a result, instructing a group to reach a group shared basis for effective communication may be interpreted differently in different societies. In a collectivistic culture, group members act in accordance with external expectations or social norms. The needs of in-groups supersede individual aspirations and their fulfilment (Martinsons and Westwood 1997). Therefore, people are more likely to conform to group norms for effective communication. They are more likely to express higher satisfaction with group effective communication and generate higher group decision outcomes than those in an individualistic culture. Accordingly,

Hypothesis 6: Media perceptions will be higher in dialogue groups of a collectivistic culture than those in an individualistic culture among groups using face-to-face, synchronous and asynchronous CMC media.

Hypothesis 7: Communication satisfaction perceptions will be higher in dialogue groups of a collectivistic culture than those in an individualistic culture among groups using face-to-face, synchronous and asynchronous CMC media.

Hypothesis 8: Group effectiveness will be higher in dialogue groups of a collectivistic culture than those in individualistic culture among groups using face-to-face, synchronous and asynchronous CMC media.

Hypothesis 9: Satisfaction with group decision making process will be higher in dialogue groups of a collectivistic culture than those in an individualistic culture among groups using face-to-face, synchronous and asynchronous CMC media.

Hypothesis 10: Satisfaction with group decision making will be higher in dialogue groups of a collectivistic culture than those in individualistic culture among groups using face-to-face, synchronous and asynchronous CMC media.

RESEARCH PLAN

Research Model:

Figure 1 illustrates the relationships of interesting variables discussed above. To examine the above issues, this research adopts an input-process-output model of group interaction (Chidambaram 1996). The two input variables of interest are (a) media type, i.e., face-to-face communication, synchronous CMC, and asynchronous CMC, and (b) national culture. Other input variables of interest, such as individual differences, media experience, group size, task characteristics, and group composition, are controlled in this study. The research framework suggests that, as the input variables interact with each other, members of the group will develop perceptions about the medium with which they are working. These perceptions include media richness and communication satisfaction for the task at hand. The research model explicitly incorporates a dialogue technique into the group's interaction process. Examination of this research model will reveal whether, after groups build up their shared basis for effective communication, their perceptions about different media are likely to change, and whether CMC systems can be perceived as rich as face-to-face medium. The end result of this process is the group's outcomes, i.e., group effectiveness, satisfaction of participants in the group decision making process, and satisfaction of participants in group decision making. These dependent variables are believed to be critical for understanding and predicting the use and usefulness of CMC in organisational settings (Baltes et al. 2002).

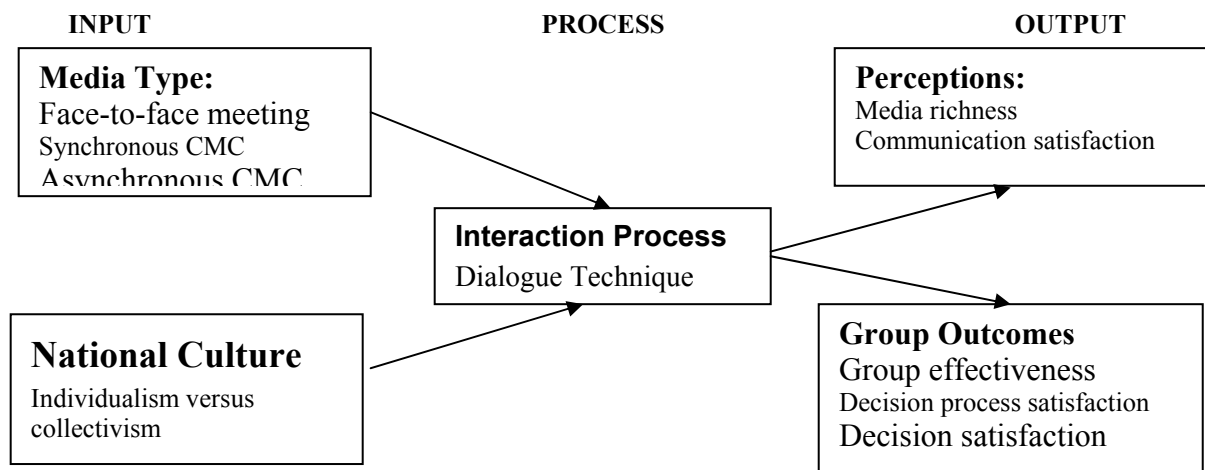


Figure 1: Research Model

Research Methodology:

The key objective of this research is to test the impact of the dialogue technique, which incorporates the key moderator factor of national culture, on enhancing CMC use and group decision making performances in two distinct cultures. Since internal validity is a critical concern when testing theories, laboratory experiments are used to attain precision of measurement and control over extraneous variables (Bailey 1987).

A 3 x 2 x 2 factorial design is adopted with media type (face-to-face, synchronous CMC, and asynchronous CMC media), presence or absence of theoretical framework (with or without the dialogue technique), and national culture (Individualism/collectivism) as the three independent variables to test all hypotheses.

Matching laboratory experiments will be carried out in Australia and People's Republic of China, which represent two distinct cultures. University students are used for laboratory experiments, in groups of three. Subjects will be randomly assigned into groups and each of the experimental treatments in Table 1. All groups will have a short Small Talk (ST) section. Communicators get to know each other, which normally forms a basis for further interactions.

	Face-to-face meeting	Synchronous CMC	Asynchronous CMC
With framework	10 groups	10 groups	10 groups
Without framework	10 groups	10 groups	10 groups

Table 1: Research Design (for both cultures)

Email is used as an asynchronous CMC medium, which supports text-based different time and different location interaction. For synchronous CMC groups, an audio-conferencing system will be used, which supports audio-based real-time and different location interaction. Subjects will meet at the same time but in three different rooms containing networked PCs. Microsoft NetMeeting Audio-conferencing system will be used for communication. For face-to-face groups, subjects will have a normal face-to-face talk and discussion, without the support of technology. Table 2 below shows the formal experimental procedures conducted in both cultures. A pilot study will be conducted with both cultural subjects before the formal experiments.

The English version of the questionnaire will be translated into Chinese, and then translated back to ensure that the Chinese version of the questionnaire represents the intent and spirit of each item in the questionnaire and is not merely a literal translation.

Steps	Description
1	All participants complete a pre-session questionnaire.
2	15 minutes for each group to engage in face-to-face small talk.
3	For groups with the framework, one hour to go through dialogue steps as described in the Dialogue Technique section, in face-to-face, synchronous and asynchronous CMC groups.
4	Face-to-face group and synchronous CMC group will perform a task within one hour; asynchronous CMC groups will perform a task within a week.
5	All participants complete a post-session questionnaire

Table 2: Formal Experiment Procedure

Task, Independent/Dependent Variables and Measures:

An intellectual task is adapted from Zigurs et al. (1988). This task asks subjects to work together to choose, from an applicant pool, a given number of individuals to be admitted to an international studies program.

Cultural individualism/collectivism dimension will be measured using Hofstede's scale (2001). Media perceptions will be measured with D'Ambra's media richness scale (D'Ambra 1995). Communication satisfaction will be measured using the Communication Satisfaction Inventory (Hecht 1978).

Group effectiveness will be measured using Gouran et al's (1978) scale and decision process satisfaction and decision satisfaction will be measured using Green and Taber's (1980) questions.

All multi-item scales will be tested for their reliability using Cronbach's alpha and factor analysis. ANOVA and F-test are the two main methods that are used to analyse the collected data.

CONCLUSION

This research in progress paper recognises the need to fill the gap that exists in the theoretical approaches explaining media choice. The major contribution is the extension of media richness theory by including and measuring the influence of a shared social construction on communication behaviour. The expected results of this research project have significant implications for both IS researchers and organisations regarding CMC adoption and diffusion, as well as group decision making performance via CMC systems. The proposed research model for this project could help communicators to develop a shared basis for further effective communication and decision making. In other words, after a shared basis of effective communication is built up among group members, CMC systems can be used as effectively as face-to-face meetings to solve problems or make effective group decisions. Further, this proposed model also recognizes the moderating role culture plays on such shared basis development processes. In other words, theories applied in one culture do not necessarily apply in another culture. Researchers must consider cultural impact when applying theories in different cultural contexts. In particular, many organisations adopt CMC systems for international virtual team communication in order to trim cost and time needed for team member travel. Although the dialogue technique adopted by this project can potentially help organisational virtual teams develop shared understanding quickly, such assistance to international virtual team members may differ across cultures because mental models are shaped by cultural background to a great extent (Tan et al. 1998a). Team members from collectivistic cultures may be more likely to conform to group norms than those from individualistic cultures. Within today's global market environment, understanding cultural influence on employees' behaviour will provide managers with a guideline for effectively improving organisational performance. Organisations which take into account their cultural diversity may improve their performing (Watson et al. 1993).

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