CAIS Paper: Towards Understanding of Contextual Factors in Information Sharing Behaviors of Inter-Team Activities

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Abstract: Activities involving two or more teams to share information and make collective decisions are increasingly common. However, little has been investigated about these behaviors. We have been studying two engineering teams of different national culture to understand the contextual factors that affect the teams' interactions and information sharing behaviors.

1. INTRODUCTION

With the increasing number of outsourcing initiatives in international businesses in our globalizing workplaces, it is increasingly common that teams located in different regions need to share information and make collective decisions in company projects. These information sharing behaviors are expected to be different from those between subgroups, because a subgroup is distinctively different from a group or a team. Subgroup is a collective entity that characterizes itself by a form or degree of interdependence and that is unique when compared to that of other members, and has to be a subset of members of the same work team whose membership and tasks formally recognized by the organization (Kozlowski and Bell, 2003). Although there have been a number of studies about subgroup in teamwork (e.g., Carton and Cummings, 2012), there are much fewer studies investigating activities which involve two or more teams.

In a case study of two engineering teams, we became interested in exploring the contextual factors that affect the information sharing behaviors of two or more collaborating/cooperating teams. The teams belong to a Canadian company and are located in two countries: one is at the company's home location in a major Canadian city (N = 5), and the other is at a branch office in a major Chinese city (N = 5). Interestingly, in our meetings and communication with the company's top managers prior to the start of we were explained that the study would be about two sub-teams. However, as the study started, it was clear to us that they were two teams working on two projects, e.g., members of either team always referred to the other team as "the XX team" and team identity was clear to the members.

During the five months period, we interviewed all the team members three times in a semi-structure fashion to understand the team members' background, work history and experiences, and the role in the activities; the teams' communication and work practices, and the teams' conflict management and decision making styles. We also conducted a total of over 70 hours of field observations at two teams' workplace, attended five team meetings and three between-team video conferencing meetings. Moreover, we administered two online questionnaires to understand team members' intercultural sensitivity and personality; and collected 108 electronic mails between the teams. We report here our preliminary findings, specifically, the teams' intercultural sensitivity and members' personality, and their communication pattern in electronic mails.

2. RELATED WORK

Information scientists are interested in how and why group members share information (Veinot, 2009; Oh, 2012; Huang, Barbour, Su, and Contractor, 2013) and the factors of information sharing (Tsikerdekis, 2013), the use of shared information (Gazan, 2011), and the information practices and cultures that members develop (Choo, Bergeron, Detlor, and Heaton, 2008; Nathan, 2012). The scientists also study the impact of shared information from different perspectives, such as the relationships between trust and information sharing (Hassan Ibrahim and Allen, 2012), the role of shared information in decision-making process of the group work (O'Connor, 2013), and the practices of sharing rationales in group brainstorming (Xiao, 2011) and the effects of shared rationales in the activities (Xiao and Carroll, 2013).

3. RESEARCH METHODOLOGY

We adopted McGrath's (1984) classical conceptual model about small groups to guide our data collection plan. This model depicts the influencing variables of a group activity and serves as a "general map" helping researchers collect data to study complex group behaviors. In this study, we focused on variables that reflect the key characteristics of the two teams' activities: inter-cultural and remote communication. More particularly, we surveyed the members' intercultural sensitivity and personality through an online questionnaire, conducted semi-structured interviews to understand the teams' composition, communication structure, roles, interpersonal relationship, and power structure; and their conflict resolution and shared practices on communication and meeting. We also explored the teams' communication means including the technologies that they used and the frequency of using these technologies. We hoped to analyze the company's policies regarding teamwork and communication between the remote sites but were told that such documentations were not available.

4. PRELIMINARY FINDINGS

4.1. Questionnaire -Intercultural Sensitivity

Chen and Starosta (1998) conceptualized that intercultural sensitivity is part of Intercultural communication competence (ICC) which is about an individual's ability to effectively and appropriately negotiate others of different cultures and to achieve his/her communication goal. The authors developed and validated an Intercultural Sensitivity measure (Chen and Starosta, 2000). Fritz, Möllenberg and Chen (2002) tested the validity of this measurement in a different cultural context and the confirmatory factor analysis shows that overall the instrument holds satisfactorily. The instrument as a whole is a valid one through which a culture-free scale for measuring intercultural sensitivity can be developed. We believed that a measure of members' intercultural sensitivity provide an indicator of the team's comfort level of working in cross-cultural communication context.We used existing questionnaires to measure intercultural sensitivity (Chen and Starosta, 2000). The questionnaire measures five factors: Interaction Engagement, Respect for Cultural Differences, Interaction Confidence, Interaction Enjoyment, and Interaction Attentiveness.

The completed responses include three Canadian team members and five Chinese team members. The responses of all the questionnaire items under one factor were averaged as the value for the factor. We compared the results at the team level. The difference between two teams' responses is between 0.3 and 0.8 for a factor. The two factors that had biggest differences were interaction engagement and interaction confidence, which suggested that the Chinese team had lower confidence and participation in intercultural communication.

4.2. Questionnaire - Personal Characteristics

We revised a personal characteristics questionnaire from FEIL study (2012) in our study. In that study, the questionnaire had two parts with 16 questionnaire items in each part and the items were scaled from 1 to 5.The members who recently visited a different country were asked to self-rate how they perceive themselves in their own culture (the first part) and how they felt that their hosts of the visited country perceived them (the second part). In ours, we asked members to self-report how their own team and the other team perceived their personality characteristics: the first part asked the respondent to rate how his/her own team perceives his/her personal characteristics; and the second part asked the respondent to rate how the other team perceives the same personal characteristics.

The data indicated that the Chinese team members felt that their characteristics were perceived differently by their own team and by the Canadian team, whereas the Canadian team members felt that the perception was consistent within their team and by the Chinese team. The biggest difference was open-mindedness: the Chinese team members felt that they were perceived less open-minded than they really were.

It is also evident that the Canadian team has higher scores than the Chinese team in all the items: at the team level, the lowest score is 2.5 for the Chinese and 4 for the Canadians; the highest score is 4.25 for the Chinese and 5 for the Canadians. One explanation of this difference is the different response style of the survey method in Chinese and Western culture as observed by Harzing, Brown, Köster, and Zhao (2012). They found that Chinese (Asian) people tend to give middle responses, whereas Westerners tend to have higher number of extreme responses. In our study, the Chinese responses had about 5% of fives (6 out of 130 ratings), compared to the Canadian ones which had about 44% (27 out of 61 ratings).

4.3. Document Analysis – Emails

Emails between the two teams provide data about communication and interaction "in the moment". We were able to collect 108 emails forwarded by a team member (52 from the Canadian team and 56 from the Chinese team). We identified six discussion threads of these emails. At this stage, we have analyzed one discussion thread that had the largest number of emails of the six. Specifically, we analyzed 27 emails that showed how two teams communicated while working on a solution for an incident in a factory site in China. In that incident, the Chinese team identified the root cause of the incident and presented its solution to the Canadian team. The Canadian team disagreed and suggested different ways of identifying the root cause.

A large amount of work on global virtual teams has relied on an open coding approach for dealing with concerns around intercultural communication and group dynamics (Pauleen andYoong, 2001; Panggabean, Murniati, and Tjitra, 2013; Shachaf, 2008). We also used open coding in analyzing the email content. The codes included designations such as "offer task suggestion," "offer opinion suggestion," and "recognize contribution of the team". We found that our codes are similar to the classic coding schema developed by Bales (1950) for studying small group interactions. Comparing to Bales' expected percentage ranges for different communication patterns in group interaction, we noted that both teams offered a lot of clarification in their email communication: there were 45.5 percent of the coded interactions about offering clarification and information, whereas the expected percentage of this kind of interaction was between 14 and 30 percent (Bales, 1950). We also found that the percentage of asking for clarification and information was within Bales' expected range. To us, this suggested that two teams spent more

than expected effort on offering information to each other and likely beyond what was requested from the other team.

One noticeable difference between the two teams is seen around offering task suggestions. 16 percent of the coded interactions within the Canadian team were about offering particular suggestions. In contrast, the Chinese team did not propose any suggestions. Both teams' percentages were outside Bales' codes expected limits (2 – 11 percent) for team communication. Finally, analysis also indicates that through email communication individuals are inclined to recognize both individual and team contributions. 6.9 percent of coded interactions between the teams were focused on offering this kind of explicit recognition, higher than the expected percentage according to Bales' work (1950).

5. DISCUSSIONS AND NEXT STEP

The results from our email analysis and the measures of members' intercultural sensitivity and personality suggest that the Chinese team members seemed to be less confident in the process of two-team activities so offered no suggestions in the process, which gave the Canadian team an impression that the Chinese team members were not open-minded. These findings implied that cultural differences could affect how members share information in between-team work and the lack of this awareness might cause misinterpretation of the team's information sharing behavior.

On the other hand, compared to interactions among team members, the between team communication spent higher effort on offering clarification and information. Moreover, people were inclined to offer more complimentary recognition to the other team and its members than its own team. It is worth noting here that the two teams were not satisfied with each other and did not enjoy the process of working together, as was told by the company's vice president from the company's survey. These findings indicated that between-team remote communication could introduce more process cost and more explicit positive comments would be needed as social glue for two teams. These could also affect the information sharing behaviors of the between-team activities that shifted the purpose of the information sharing behavior from purely for the benefit of the task to for the social need.

We will continue to analyze the rest communication threads in the emails, the meeting transcripts, and the interview and field observation data. One expected contribution of our work to Information Science is to help the research community better understand the contextual factors of information sharing behaviors in between-team communities.

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