Understanding Information Sharing from a Cross-cultural Perspective

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Abstract
We are examining how Chinese and Americans share positive and negative information online and offline in different types of relationships. In this paper, we present results of a pilot study used to refine our methods and get some insight into this question. The pilot study, as hoped, confirmed that a scenario-based study of cross-cultural differences may be a viable way to understand potential technology use. We also found preliminary evidence that Chinese and Americans had different perspectives on how and when information should be shared. In the next phase of our work, we will deploy a scenario-based survey to a large sample of employees at a single company in China and the US.

Keywords
Information sharing, online, culture

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms
Human Factors

Introduction
Information sharing is a process by which team members collectively utilize their available resources [4]. Understanding information sharing is a significant challenge to modern organizations and continues to be a hot research topic. Previous studies on information

sharing focused on the influences of two main factors: the technology factor which plays an important role in promoting information sharing in contemporary society and the socio-cultural factor which essentially examines the way that people's different preferences for information sharing are embedded in the social and cultural environment in which they are situated.

Modern electronic communication tools (e.g., instant messaging, email) and communication oriented internet sites (e.g., blogs, social networking sites, and bulletin board system sites) provide people with multiple channels through which to share information. According to the theory of communicative action [2], which refers to the interaction between speech and actions as they relate to the establishment of interpersonal relationships, information sharing can be explained in terms of three domains: person, culture, and society [1, 3, 7]. Key classes of information recipients (e.g., trusted coworker, family members, spouse, etc.) and information (e.g., health issues, phone numbers, etc.) have been identified as affecting what information and with whom people are willing to share information [5,6]. Furthermore, cultural differences have been detected in information sharing patterns. Chinese participants, for example, were found to be more willing to share personal information with an American stranger (out-group) than a Chinese stranger (in-group), while American participants showed no such difference [8].

Many questions, however, remain unanswered in research on cross-cultural differences in information sharing. Our work investigates three of these questions: (1) To what extent does the information shared vary based on the type of relationship and the communication medium? (2) When people share information, how explicit are they and does this vary based on the type of relationship and/or the medium being used? i.e. one person may share information with his co-workers in direct and clear language online, but use indirect and obscure language when face-to-face with his family; (3) To what extent does national culture background affect the information sharing behaviors described above?

We report here on a pilot study using a scenario-based method to explore interpersonal relationships, medium use, and information sharing from a cross-cultural perspective. We posit that a scenario-based approach, consistent with previous research in cross-cultural psychology [8], is an effective way to understand preferences independent of the technology participants currently had available or were using. As our work continues, we will further develop a 2 x 2 x 2 x 5 scenario-based study, including national culture (China vs. US), medium (online vs. face-to-face), scenario valence (positive vs. negative), and type of relationship (stranger, co-worker, co-worker who is also a friend, close friend, and family member) as dimensions. We will recruit participants from a global IT company who grew up in China or America and identify strongly with their own culture.

Pilot Study Method

In Phase 1, the pilot study, we observed the effectiveness of a scenario-based study and evaluated some of our questions and assumptions related to testing our hypotheses. In phase 2, we will investigate our hypotheses more systematically through a longer, more detailed survey sent to hundreds of respondents. We report the pilot study here.

Method

In a survey, participants answered demographic questions, responded to two scenarios, and answered

questions about how they think about different types of relationships.

Participants
Participants included 13 American (6 male, 7 female, age M=41), 13 Chinese (7 male, 6 female, age M=26) volunteers. All American participants were born, grew up and lived in USA. All Chinese participants were born, grew up and lived in China.

Materials
The pilot survey included three parts. For Chinese participants, all materials were translated into Chinese by professional translators and the names in the scenarios were also Chinese names. For American participants, all materials were in English. The first part requested demographic information to discern their national culture background, such as countries where they were raised, what language(s) they spoke fluently before the age of 10, and to what extent they identified with their own culture. In the second part, we provided participants two scenarios. Each of the two scenarios consisted of a short paragraph that was manipulated as positive vs. negative. For the "positive" condition, for example, participants read the following:

John is a project manager for a large company. He was recently put in charge of a very important project. John worked extremely hard on the project. Today, it paid off. John's boss called him into the office and praised him for his good work. He received a promotion and a large pay raise. That evening, John was at an event and was talking with people.

Respondents were then asked to write out what they thought John might say about his day. After that, we asked respondents to use a 7-point scale to rate the directness and appropriateness of the following statements.

A: I had a great day today. My boss called me into his office and told me that I was doing a great job on the project. He rewarded me with a big promotion and a large pay raise.
B: I'm going to be so busy at work now. My position has changed. It is challenging having so much responsibility.
C: I have had some good luck. Nothing big, just a small promotion, as well as a small salary increase. Not a big deal, just so so.

For the negative scenario, participants read the following:

Bill is a project manager for a big company. He was recently put in charge of a very important project. Today, Bill was called into his boss's office and was told that his work on the project was unsatisfactory. He is being taken off of the project, and he is being demoted. That evening, Bill was at an event and was talking with people.

The statements to be evaluated for the negative scenario (after providing an open-ended response) were:

A: I had terrible day today. My boss called me into his office and told me that my work on this project is unsatisfactory. As a result, not only did he take me off of the project, but he also demoted me.
B: I am in trouble with my boss. I am too tired and need to change my position so that I can relax.

The third part of our pilot was designed to evaluate

how people thought about relationships. In this part, participants were asked to evaluate five interpersonal relationships (stranger, co-worker, co-worker who is also a good friend, close friend, close family member) on three dimensions: closeness, openness and importance in their life (on a 7-point scale with 7 equal to more closeness, more openness, and more importance on each of these scales).

Pilot Study Results

Scenario: Prediction of information sharing

Our pilot study results indicated that respondents in both cultures understood the scenarios and were able to answer questions about what John and Bill (Jian and Min, in Chinese) might be expected to do in these scenarios. We detected differences, as hypothesized, in response to the positive and negative scenarios, suggesting that respondents were able to differentiate these scenarios and propose different responses of the actor based on the valence of the scenario.

Eleven American participants and eight Chinese participants answered the open-ended questions about what the actors would do. We coded participants' answers to the open-ended questions. If participants mentioned directly what happened following the events at work, their answers were coded as direct statements. If participants did not explicitly mention the events at work but couched the content in implicit language, their answers were coded as indirect statements. As anticipated, the results show that American participants tended to use direct statement to share information while Chinese participants tended to use a more indirect form. Both American and Chinese participants were inclined to use more indirect statements to share negative information as compared with positive information (see table 1).

Cultural group	*Positive scenario*		*Negative scenario*	
	Direct	*Indirect*	*Direct*	*Indirect*
American (n=11)	10(90.91%)	1(9.09%)	6(54.55%)	5(45.45%)
Chinese (n=8)	4(50.00%)	4(50.00%)	2(25.00%)	6(75.00%)

Table 1. The numbers & percentage (in parentheses) of participants' direct and indirect statements

Statement A in both positive and negative scenarios were considered to be direct statements, while statements B and C in the positive scenario and B in negative scenario were considered to be indirect statements by the researchers. We did not, however, know the extent to which each would be seen as direct vs. indirect, the extent to which they would be seen as appropriate, or how directness and appropriateness would vary by culture. The results in table 2 show that participants consistently confirmed that the direct statements were perceived by both cultural groups as more direct. There were, however, differences between the American and Chinese perceptions about the directness of statement C. Although American's found it to be the most indirect, Chinese found it to be relatively direct. As a result of this ambiguity, we have eliminated this phrasing from our final survey.

Cultural group		*Positive scenario*			*Negative scenario*	
		Statement A	*Statement B*	*Statement C*	*Statement A*	*Statement B*
American (n=13)	Directness	6.08(1.00)	3.08(1.08)	2.50(1.17)	6.54(0.66)	3.46(1.27)
	Appropriateness	3.75(1.82)	5.08(1.51)	4.58(1.73)	4.08(1.66)	3.83(1.53)
Chinese (n=13)	Directness	6.15(1.72)	3.00(1.68)	4.62(1.33)	6.00(2.24)	2.46(1.51)
	Appropriateness	3.77(1.64)	3.62(1.76)	3.69(1.70)	4.46(1.90)	4.08(1.85)

Table2. Means and standard deviations (in parentheses) of directness (7-"extremely direct") and appropriateness (7-"extremely appropriate")

The results in table 2 also show how appropriate participants thought it was that the actors used them to share the information about the events at work. As is evident in table2, Chinese and American respondents were in relative agreement about the use of the direct statements, but held different views about the use of indirect statements in the positive scenarios. Contrary to our predictions, Americans were much more comfortable with the indirect statements for sharing positive information as compared with the Chinese respondents. In discussion with respondents, it appears that Americans thought that the more direct statements about their accomplishments showed a lack of humility. We will collect additional data on this in phase 2 and particularly explore a) how this varies by type of relationship and b) the underlying mechanisms that explain when, why, and how Chinese and Americans share information differently.

Evaluation of relationship types

Figures 1, 2 and 3 show that American and Chinese participants clearly distinguished the five interpersonal relationships, with closeness, openness, and importance increasing, as expected, as the relationship moved from stranger to close friend/family. Closeness, for example, followed this pattern exactly (see figure 1). There were also some interesting differences in perspectives on interpersonal relationships between American and Chinese participants in terms of openness and importance.

Although American participants and Chinese participants shared the same view of closeness with strangers, Chinese participants indicated higher openness to strangers than did American participants. What is more, while American participants reported the same openness with close friends and close family, Chinese participants displayed lower openness to their close family than their close friends, and than that of American participants' openness to their family (see figure 2).

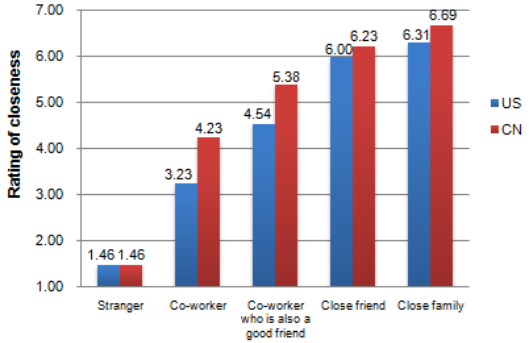

Figure 1. Evaluation of closeness by relationship type.

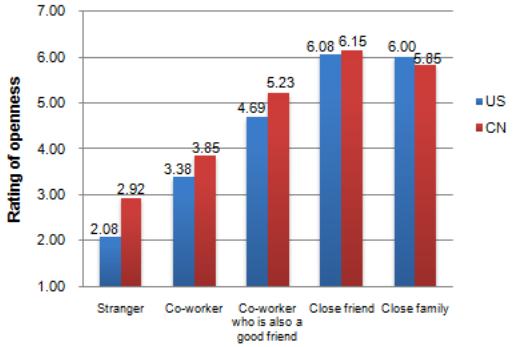

Figure 2. Evaluation of openness by relationship type.

For importance of these relationships, the same pattern as for closeness was observed. American and Chinese participants ranked family members as most important and strangers as least important. Chinese participants, however, showed special importance to their family, while we did not see such a priority for American

participants (see figure 3). Based on these results, it is clear for phase 2 of our study that we can differentiate types of relationships based on closeness, openness, and importance and that these differences will generally hold across cultural groups (Chinese and US).

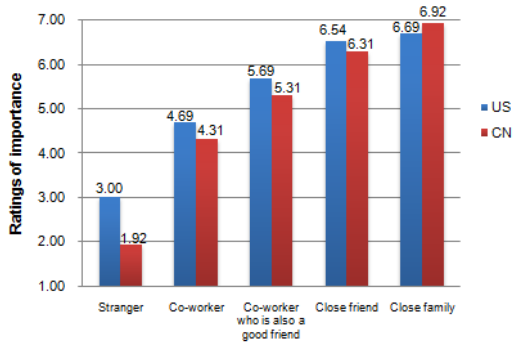

Figure 3. Evaluation of importance by relationship type.

Conclusion

Our pilot study results have provided valuable insights for our continuing research: (1) Scenarios were understandable and sensitive enough to detect American and Chinese participants' different information sharing preferences and therefore provide a useful method, particularly for cross-cultural studies where the available technologies may differ; (2) Our manipulation of directness indicated differences between Chinese and Americans in how information is shared; (3) Chinese and American participants all viewed closer relationships as being more open and more important.

This research (phases 1 & 2) is aimed at understanding how information sharing behavior may vary by culture, medium, valence (positive vs. negative), and relationship type. With insights from this research, we hope to contribute to the design of information sharing systems and interfaces that are culturally sensitive.

Citations

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