An Examination of Chinese Employees' use of Technologies

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Marshall McLuhan (1964), widely quoted for his observation that "the medium is the message," emphasized studies of the media themselves rather than the content the media carry. The characteristics of the media play an important role in connecting people in the globalized world. Through an online survey of 154 Chinese employees of multinational companies in China, this study examines how different technologies are used for organizational communication among Chinese employees in China branches of multinational companies. Comparisons were made between those with some degree of overseas living experience and those without any overseas living experience. Chinese employees' use of different technologies was analyzed in relation to their levels of intercultural sensitivity and organizational satisfaction, and their frequencies of using different conflict management styles. This study provides new perspectives to understand how media usage relates to employees' organizational experience in Asian context, thus enriching the literature on Asian communication studies.

Introduction

WITH the dramatic globalization of the world, more and more organizations have begun to develop overseas businesses in China. Because of different cultural backgrounds, markets, and social morés, those multinational organizations are facing many challenges and trying to adjust themselves to new social settings. Communication is very complex in multinational companies due to the diverse body of employees with different social, cultural, and educational backgrounds. Difficulties in cross-cultural communication create problems in decision-making, human resource management practices, supervisor-subordinate relationships, and other organizational arenas.

In multinational companies, employees need to use a diversity of technologies to communicate with their colleagues in different areas all over the world. Communication technology, a common communication channel among organizational members, is a key variable investigated in this study, as technology-mediated communication has proven to play an important role in achieving effective communication across geographic boundaries. Akkirman and Harris (2005) used the Communication Satisfaction Questionnaire in a survey of virtual office and traditional office workers from a single firm. Virtual office workers were found to be more satisfied with their organizational communication than were traditional office workers when the firm took the following steps for virtual office workers: provided upper level support, provided appropriate technology and technological support, provided cultural and technical training, restructured work to support a virtual workplace, and provided extra social support systems to reduce alienation.

Marshall McLuhan (1964), widely quoted for his observation that "the media is the message," emphasized studies of the media themselves rather than the content the media carry. The characteristics of the media play an important role in connecting people in the globalized world. This study examines how different technologies are used for organizational communication among Chinese employees in China branches of multinational companies. Comparisons were made between those with some degree of overseas living experience and those without any overseas living experience. Chinese employees' use of different technologies was analyzed in relation to their levels of intercultural sensitivity and organizational satisfaction, and their frequencies of using different conflict management styles.

An online survey was conducted with 154 Chinese employees of multinational companies. The survey included the Intercultural Communication Sensitivity Scale (ISS) (Chen & Starosta, 2000), a re-

vised version of the Technology Usage Scale (TUS) (Scott & Timmerman, 2005), the Organizational Communication Conflict Instrument (OCCI) (Putnam & Wilson, 1982), and the Communication Satisfaction Questionnaire (CSQ) (Downs & Hazen, 1977).

Taking an Asiacentric approach, the key findings are discussed within Chinese organizational contexts. The characteristics of different technologies and how those characteristics influence Chinese employees' use of those technologies were also discussed. The investigation of media usage among Chinese in organizational contexts provides new perspectives to understand how media usage relates to employees' organizational experience in Asian context, thus enriching the literature on Asian communication studies.

Literature Review

DIFFERENT communication technologies, such as telephone and computer mediated communication, have become a powerful force in the ongoing globalization process, and have strong effects on the development of multinational companies by helping them to achieve efficiency, coordination, and communication. One important benefit of using communication-related technologies is that they can enable organizational members to effectively communicate and collaborate across organizational and geographical boundaries. Specifically, research has proven that the use of technology can facilitate communication among managers across functional and geographical boundaries in multinational companies, and thusly enhance coordination of multinational activities in the development of strategic opportunities (Anderson & Foss, 2005). Anderson and Foss pointed out that multinationality in itself does not guarantee multinational companies can develop a satisfactory level of strategic opportunity. Rather, the internal use of information and communication technology enhances computer-mediated communication among managers in different organizational units, which facilitates the development of new business opportunities across a multinational company and compensates for the complexities of the multinational structure of the organization.

Furthermore, scholars agree that the ability to exploit local opportunities through effective integration of multinational activities is a key factor influencing the performance of multinational companies (Bartlett & Ghoshal, 1998; Prahalad & Doz, 1987). Information technology can be used as a tool to serve the dual objectives of exploring local opportunities across different national markets and integrating those local opportunities effectively across multinational branches in the company, thus maximizing the economic benefits and improving the functional performance of multinational companies. Advances in communication related technologies have helped multinational companies to "increase their economic efficiencies by learning about and then obtaining inputs of managerial, human power, and capital from more cost-effective sources around the globe" (Doktor, Tung & Glinow, 1991, p. 259). Therefore, how to effectively use communication technologies becomes an important research topic that can provide multinational companies new insights to improve their management.

The use of technology is essential for organizational communication in multinational companies. Technology adoption influences how certain technology is used by employees and its effects. In adopting and implementing certain technologies, decision makers have to consider three elements in producing an integrated communication package: atmosphere, process, and methods (Foreman, 1997). Organizations need to consider both potential benefits as well as the problems associated with any technology under consideration, and create an appropriate atmosphere and process to adopt that technology so as to maximize the positive benefits of the technology. Other factors can also influence technology adoption (Flanagin, 2000). First, organizational features, such as age, size, and culture, influence new technology adoption. Usually, younger, larger firms with higher levels of technology are the early adopters. Second, perceived organizational advantages, such as increased communication and increased information flow, influence technology adoption at both organizational and interpersonal levels. Third, social pressures, such as the self-image an organization presents in society, can push an organization to adopt technologies that have been adopted by many other organizations. O'Kane, Hargie and Tourish (2004) summarized factors that influence employee adoption of technology as follows: "staff [members] are more likely to embrace new

technology if it is user friendly, readily accessible (for example, on their desk), employed by colleagues, seems to be effective, and has fringe benefits (for example, can be used for personal matters)" (p. 76). Bansler and Havn (2004) emphasized the importance of adapting new technology to the organizational context and establishing appropriate conventions for use, or the technology is likely to be underutilized, misused or rejected.

Research has been conducted to examine the relationship between technology and organizing of multinational firms. Jarvenpaa and Ives (1993) gathered mail survey data from information technology managers in 109 multinationals and discovered that multinational firms used different ways of organizing their global information technology activities. In nearly half of those organizations, the way information technology activities were organized was inconsistent with the way the organization was reportedly structured. Group performance was not guaranteed by the usage of new technology as a way of communication. Groups using new technology as their means for communicating shared less information and reached poorer decisions compared with groups interacting face-to-face (Hollingshead, 1996).

Goodbody (2005) argued that team communication, along with team formation, trust, and collaboration, are the factors that determine the success or failure of global virtual teams. Furthermore, selecting appropriate technology can ensure team communication. Usually, multiple technologies can be chosen by employees in multinational companies for work-related communication. Due to complexity level, accessibility, communication habits and other factors, employees might have different preferences for technology use. However, research shows there is no strong relationship between the level of information technology sophistication and the tightness of coordination of dispersed and specialized corporate units (Reddy, 1994). Therefore, technological sophistication is not the focus of the present study. Rather, this research focuses on the frequency of using certain technologies for work-related communication in relation to some other communication phenomena such as conflict management styles, intercultural communication sensitivity, and organizational communication satisfaction.

In the existing literature, communication technology has been examined not only at the organizational and small group level, but also at interpersonal level. Cohen (2000) clearly stated the important role that technology plays in employee communication: "electronic media has come to the forefront of human resources to solve critical challenges in employee communication" (p. 12). Technology has had an effect on traditional organizational hierarchy. Employees can have instant and direct contact with senior managers via e-mail. Customers and stakeholders can easily reach anyone in the organization as well. The free information flow can evoke a sense of staff empowerment as Phaneuf (2000) explained that employees feel more in control of their communication and individual working environment, and more valued in the organization.

Today, traditional approaches to communication, such as face-to-face communication and snail mail, are often replaced by new technologies, such as the Internet, e-mail and other technologies, including intranets and/or extranets. Those changes have significantly influenced internal and external organizational communication. An intranet connects all the members of an organization and flattens organizational structure. An extranet extends the intranet to the external stakeholders of an organization. The connectivity and the collaborative opportunities provided by an intranet and/or an extranet can lead to improved decision making and innovation. E-mail, one of the most frequently used technologies, enables the "instant transfer of messages and documents world-wide between people on the same private network, or with access to the same public network" (Samuels, 1997, p. 35). The asynchronous nature of e-mail provides customers with the choice of responding to a message at their convenience which reduces the pressure of face-to-face communication and telephone communication. Not surprisingly, according to DMNews, two-thirds of U.S. companies reported that using e-mail marketing increased their sales in 2001 (as cited by O'Kane et al., 2004). Compared with snail mail, e-mail greatly reduces communication time and cost. Those advantages of e-mail have made it a widely used tool for employees to communicate with their customers and their co-workers.

Meanwhile, it is also important to recognize that the limited time individuals spend on writing an e-mail could create some misunderstandings and sometimes even conflicts among people due to spelling, grammatical errors, and the wrong communication tone in the e-mail. McCarthy (2000) pointed out that,

for confidential and important information, organizations still prefer delivering messages through traditional mail; e-mail is used more for routine administration because, compared with traditional mail, the privacy and security levels of e-mail is lower. Therefore, e-mail can be a very powerful and convenient communication tool in organizations only when it is used appropriately. Gattiker (2001) clearly stated the importance of using technology appropriately: "with every opportunity for positive outcomes, we also have a chance to have negative results instead. It is not so much the technology as the way we use the technology that will shape our information future" (p. 185).

Technology affects organizational communication at both the micro- and the macro-level. Employees spend a lot of working time using technology, and their use of technology is related to their job satisfaction in different ways (O'Kane et al., 2004). First, technology helps employees to complete their tasks more easily and increases their confidence in their abilities, thus enhancing self identity as an effective employee. Second, the wide collaboration and greater communication enabled by technology help employees to develop interpersonal relationships with their colleagues. Third, technology supports information and knowledge sharing among organizational members which can lead to increases in organizational innovation.

However, managers might perceive technology negatively. Research shows that new technology can become a threat to management jobs as decisions are increasingly becoming the collective product of employees (Langnau, 2000). Therefore, managers might perceive new technological innovations in the organization as associated with employee mistrust of the management team. The management fear of new technology could become an obstacle to the adoption and diffusion of certain new technologies in the organization (Harrington & Ruppel, 1999). Employees have higher expectations for sharing information and participating in decision making through technologically facilitated communication, while managers fear that new technologies could threaten their power. Therefore, O'Kane et al. (2004) suggested that organizations need to consider the different perceptions of and opinions toward new technology, and "must be sensitive to management fears when implementing new technology, and instigate procedures, such as retraining and open discussion, to overcome them" (p. 87).

Technology has brought many positive changes to the workplace, but organizations need to be aware of the negative side of technology. Technologies can sometimes create interpersonal distance. Employees might tend to rely on communicating through mediated channels, such as e-mail, text message, etc., instead of meeting each other face to face, even when it is easy and convenient to get together. Reliance on new technologies for workplace communication has the potential for eventually affecting interpersonal relationship building. Technology makes it possible for some employees to work away from the office, which could be a better balance between the demands of work and life for those employees, but there might be an "isolation effect," causing such employees to feel distant from the organization and decreasing their job satisfaction (Gainey, Kelley & Hill, 1999).

Based on the above discussion of the multiple roles that technologies play in the global working environment, it is hard to draw a clear conclusion as to whether certain technologies should be adopted by multinational companies or not. Organizations should conduct further research on the relationships among certain technologies and other organizational factors, and make careful decisions as to whether and how to adopt certain technologies in multinational companies. As O'Kane et al. (2004) argued, "the extra choices generated by technology have added a layer of complexity to the management decision making process" (p. 89).

This research compares the frequencies of the use of different technologies of Chinese employees without overseas experience and Chinese employees with overseas experience, and investigates whether the frequencies associated with using certain technologies are related to the level of employee organizational communication satisfaction, intercultural communication sensitivity, and conflict management styles. So, the following research questions were investigated in this study:

RQ 1: Does the use of organizational communication technologies among mainland Chinese employees without overseas experience differ from that of mainland Chinese employees with overseas experience?

RQ 2: Is there a correlation between the level of intercultural sensitivity and the frequency of using certain technologies for organizational communication for multinational companies' mainland Chinese employees?

RQ 3: Is there a correlation between the frequency of using different technologies in organizational communication and the level of organizational communication satisfaction for multinational companies' mainland Chinese employees?

RQ 4: Is there a correlation between the frequency of using certain technologies in organizational communication and the frequency of using different conflict management styles for multinational companies' mainland Chinese employees?

Method

ONLINE surveys were administered to Chinese employees in China branches of several multinational companies whose headquarters were in a country other than China. Snowball technique was applied to collect data. The online survey was administered through the Remark Web Survey® system.

Participants

In total, 154 Chinese employees in China branches of multinational companies responded to the survey. Slightly more male employees (n=87, 56.49%) responded to the survey than female employees (n=66, 43.86%). The respondents' age ranged from 22 to 45, with an average age of 30.58.

More respondents without overseas experience (n=100, 64.94%) responded to the survey than those with overseas experience (n=53, 34.42%). Although the number of respondents with overseas experience and those without was not balanced, this situation reflects the reality of human resources in China branches of multinational corporations in that the majority of the employees are domestic and do not have any overseas experience (Fan, 2006). Overall, the respondents showed a moderate level of desire to go to other countries, with a mean of 3.07 on a 1-5 point Likert scale (SD=.97).

Almost all of the respondents had achieved a higher education: 23 respondents (14.94%) had associate's/vocational degrees; 89 respondents (57.79%) held a Bachelor's degree; 38 respondents (24.68%) held a Master's degree or above. Only 1 respondent (.65%) was limited to a high school diploma. The respondents had worked for their current multinational employer for periods of time that ranged from 1 month to 15 years, with the average length of stay being 42.68 months (SD=34.79). The respondents were at different positions in their companies including 22 (14.29%) first-entry staff, 78 (50.65%) experienced staff, 41 (26.62%) managers/supervisors, and 10 (6.49%) executives. The respondents worked for 57 different multinational companies with headquarters across the world, including the U.S., Canada, Great Britain, France, Germany, Italy, Switzerland, and Japan among other countries.

Instruments

The online survey contained five parts: demographic questions; the Intercultural Communication Sensitivity Scale (ISS) (Chen & Starosta, 2000), the Organizational Communication Conflict Instrument (OCCI) (Putnam & Wilson, 1982), a revised version of the Technology Usage Scale (TUS) (Scott & Timmerman, 2005), and the Communication Satisfaction Questionnaire (CSQ) (Downs & Hazen, 1977). Because the four existing scales (ISS, OCCI, TUS, and CSQ) were developed in English, the researcher applied the translation and back translation technique to translate the above instruments into Chinese. Both the English and the translated Chinese versions of the whole survey were sent to a Chinese professor in communication who is fluent in both Chinese and English for revision suggestions. Both the English and Chinese surveys were available to the participants through the online link, so the participants could choose to fill out the survey in either English or Chinese.

Intercultural Sensitivity Scale. The ISS (Chen & Starosta, 2000) is a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). There are five factors in the ISS: Interaction Engagement (7 items), Respect for Cultural Differences (6 items), Interaction Confidence (5 items), Interaction Enjoyment (3 items), and Interaction Attentiveness (3 items). Chen and Starosta (2000) reported Cronbach's alpha reliability for the ISS as .86. Concurrent validity was supported by moderate correlations with other measures: a 7-item Interaction Attentiveness Scale (Cegala, 1981), a 10-item Impression Rewarding Scale (Wheeless & Duran, 1982), a 10-item Self-Esteem Scale (Rosenberg, 1965), a 13-item Self-monitoring Scale (Lennox & Wolfe, 1984), and a 14-item Perspective Taking Scale (Davis, 1996).

Although the ISS was developed in a Western context, it has been successfully applied in Asian contexts with both Chinese and Thai nationals. Peng (2006) employed the ISS in an investigation of the intercultural sensitivity of English major students, non-English major students, and multinational employees in China, reporting an overall Cronbach's alpha on all 24 items of the ISS as .80. In this study, Cronbach's alpha reliability estimate showed strong internal consistency for the scale ($\alpha = .82$).

Organizational Communication Conflict Instrument. Putnam and Wilson (1982) developed the Organizational Communication Conflict Instrument (OCCI) to measure how individuals apply different verbal and nonverbal communication strategies to manage conflicts across organizational contexts. There are 30 items in the OCCI. Respondents indicate how often they use a particular conflict management strategy on a 7-point Likert scale (with 1 standing for "always," and 7 standing for "never"). The OCCI measures three conflict management styles: nonconfrontation strategies (avoid disagreements, downplay controversies, or approach conflict indirectly, thus to move away from the opposition, 12 items), solution-oriented strategies (use compromise and collaboration to move toward the opposition, 11 items), and control strategies (use verbal and nonverbal communication to insist on positions and emphasize demands, move against the opposition, 7 items) (Downs, 1994a).

According to Womack (1988), using Cronbach's alpha statistic, the OCCI is the more reliable measurement when compared with other frequently used conflict management instruments, including the Thomas-Kilmann MODE Survey, Hall's Conflict Management Survey, the Ross-DeWine Conflict Management Message Style, and Rahim's Organizational Conflict Inventory-II. Wilson and Waltman (1988) summarized the alpha coefficients of the OCCI from three different studies (see Table 1). Wilson and Waltman also reported test-retest coefficients for the OCCI strategies across four situations (resident assistant, office manager, group project, and teaching evaluation): Solution-Orientation, .54; Control, .70; and Nonconfrontation, .75. In this study,Cronbach's alpha reliability estimate showed strong internal consistency for the OCCI ($\alpha = .79$).

Womack (1988) reported that half of the testing population of the OCCI consisted of organizational members. The OCCI has been successfully applied to study the differences between/among various cultural groups' tendency to select specific conflict management strategies. For instance, Chua and Gudykunst (1987) administered the OCCI to 355 undergraduates from 37 different nations classified as high- or low- context cultures. The research reported in this paper was conducted with Chinese employees in multinational companies who were influenced by both low-context and high-context cultures. The previous use of OCCI in different cultures and organizational members suggest that this instrument is applicable in this study.

Technology Usage Scale. Scott and Timmerman (2005) developed the Technology Usage Scale (TUS) to measure the frequency of employee use of certain technologies to communicate at work. The original TUS had 17 items with 6 options ranging from "never" to "very regularly" (resulting in a possible range of 0 to 5). Information concerning the reliability and validity of the TUS was not provided by Scott and Timmerman. The researcher revised the TUS by eliminating some items relevant to technologies that are rarely used by multinational companies in China and adding some other items to make the list more comprehensive. The revision was based on the researcher's consultation with several friends who work for or have worked for China branches of multinational companies. The revised version of the TUS contains 13 items, and was validated by them as well. Because the frequency of using each technol-

ogy will be analyzed separately, a factor analysis was not conducted with this instrument nor, given the nature of the instrument, was Cronbach's alpha reliability estimate considered appropriate.

Communication Satisfaction Questionnaire. The Communication Satisfaction Questionnaire (CSQ) was developed by Downs and Hazen (1977) to assess how employees evaluate an organization's communication system. The CSQ has 40 items and is a Likert-type scale ranging from very dissatisfied (1) to very satisfied (7). The CSQ is composed of eight factors: Communication Climate, Relationship to Supervisors, Organizational Integration, Media Quality, Horizontal and Informal Communication, Organizational Perspective, Relationship with Subordinates, and Personal Feedback (Downs & Hazen, 1977). Downs and Hazen reported that the reliability of the CSQ as .94. Coefficient alpha reliabilities for the eight factors range from .72 to .96 in studies in the U.S. (Potvin, 1991/1992) and Australia (Downs, 1991).

Factor analysis has shown different construct structures of the CSQ (e.g. Clampitt & Girard, 1988; DeConinck, Johnson, Busbin, & Lockwood, 2008; Gray & Laidlaw, 2004). In this study, a Principal Component Factor Analysis procedure with Varimax rotation was performed on the 148 cases to determine the underlying factor structure. The 5 items filled out only by supervisors (as these items dealt with subordinate communication) were not included in the factor analysis. Based on the Scree Plot (a visual test of identifying factors) and the Kaiser-Guttman retention criterion of Eigen values greater than 1.0, a five-factor solution provided the clearest extraction. A liberal 60/40 criteria was applied for factor loadings, which means the primary loading for an item should be at least .60 with no secondary loading of .40 or higher. Based on the rotated factor matrix, 17 items were retained. The first factor is Corporate Information (Eigen value= 18.57), accounting for 53.07% of the variance, including 7 items; the second factor is Relationship to Supervisor (Eigen value=3.18), accounting for 7.09% of the variance, including 5 items; the third factor is Coworker Communication (Eigen value=1.35), accounting for 3.85% of the variance, including 3 items; the fourth factor is Evaluation Criteria (Eigen value=1.22), accounting for 3.49% of the variance, including one item; the fifth factor is Work Progress Feedback (Eigen value=1.06), accounting for 3.02% of the variance, including one item. Every question for each of the above five retained factors was analyzed to determine an overall reliability estimate for the scale; that procedure resulted in a Cronbach's alpha of .93.

The CSQ has been applied in different cultural contexts, for instance, the U.S., Nigeria, Mexico, Guatemala, and Australia among other cultures (Downs, 1994b). Importantly, the CSQ has also been applied in studies in Chinese cultural contexts (Lee, 1989, 1994). Therefore, the CSQ was deemed suitable for this research.

Data Analysis

Version 17 of the Statistical Package for the Social Sciences was applied to analyze the data in this study. As a result of deleting 6 respondents with more than 10 missing values, a total of 148 cases were available for further data analysis. Independent-samples t-tests and Pearson product-moment correlations were conducted to analyze the data.

Results

Research Question One

An independent-samples t-test was conducted to determine whether Chinese employees with overseas experience and Chinese employees without overseas experience differ significantly in their use of organizational communication technologies. The results revealed no significant differences. The descriptive statistics concerning the frequency of using organizational communication technologies by the two groups of participants are displayed in Table 2.

The ranking based on the frequency of using different organizational communication technologies by both Chinese employees with and without overseas experience was the same with the descending order

as follows: E-mail, face-to-face, cell phone, landline telephone, online chat tool, text message, instant message, audio conference, room video conference, fax, postal mail, and voice mail. One interesting finding is that cell phones were used frequently by Chinese employees with overseas experience for organizational communication because cell phones are perceived more as a tool for communication within personal social networks such as friends and family members in Western cultures. Furthermore, it is also interesting that Chinese employees with overseas experience used voice mail the least often among the listed technologies because this is a common organizational communication tool in companies in Western countries. For Chinese employees with overseas experience, Pearson product moment correlations were used to decide whether the length of stay in other countries correlated with the frequency of using certain technologies for organizational communication. The only significant finding was that the longer a Chinese employee had stayed in a foreign country, the more frequently he/she used voice mail for organizational communication ($r=.38$, $p<.05$) in his/her current employment.

Research Question Two

Pearson product moment correlations were calculated to analyze the relationship between the level of intercultural sensitivity and the frequency of using certain technologies for organizational communication. Overall, Chinese employees with a higher level of intercultural sensitivity preferred the following means of organizational communication: face-to-face ($r = .32$, $p < .01$), landline telephone ($r = .32$, $p < .01$), cell phone ($r = .29$, $p < .01$), voice mail ($r = .20$, $p < .05$), E-mail ($r = .21$, $p < .05$), instant message ($r = .21$, $p < .05$), and audio conference ($r = .18$, $p < .05$).

Further analysis of the relationships among different factors composing the ISS and the frequency reported for using different technologies for organizational communication were also conducted using Pearson product moment correlations. The key results are provided in Table 3. The degrees of freedom ranged from 117 to 142 for the correlations reported in this table. Chinese employees who scored as being more engaged in their interactions with people from other cultures tended to report communicating more frequently with others face-to-face, through landline telephones, cell phones, and E-mails when at the workplace. Chinese employees who scored as more respectful for cultural differences reported preferring communicating with colleagues face-to-face. Chinese employees who scored as more confident in their interactions with individuals from different cultures tended to report using landline telephones, cell phones, voice mail, E-mail, instant message, and audio conference technology more frequently for organizational communication purposes. Chinese employees reported enjoying their interactions with individuals from different cultures more in face-to-face communication situations. Chinese employees who scored as more attentive in their interactions with individuals from different cultures reported using landline telephones and cell phones more frequently for organizational communication. In addition, the frequencies of using the following five technologies were not correlated with any of the intercultural sensitivity factors assessed by the ISS: fax, text message, room video conference, online chat tools, and postal mail.

Research Question Three

Pearson product moment correlations were used to examine whether Chinese employees with higher levels of organizational communication satisfaction tended to or tended not to use certain technologies for organizational communication. The results showed that Chinese employees who expressed more satisfaction with their organizational communication reported using the following forms of workplace communication more frequently: face-to-face ($r = .27$, $p < .01$), landline telephone ($r = .22$, $p < .05$), E-mail ($r = .29$, $p < .01$), instant message ($r = .23$, $p < .01$), audio conference ($r = .22$, $p < .05$), and room videoconference ($r = .24$, $p <.01$).

Pearson product moment correlations were also conducted to further analyze the relationships among different factors of organizational communication satisfaction and reported frequency of using different technologies for organizational communication. The key results are provided in Table 4. The degrees of freedom ranged from 46 to 146 for the correlations reported in this table.

Research Question Four

Pearson product moment correlations were conducted to examine the relationships between Chinese employees' frequency of using certain conflict management styles and their reported frequency of using different technologies for organizational communication. The key results are demonstrated in Table 5. The degrees of freedom ranged from 126 to 143 for the correlations reported in this table.

Discussion

Discussion of Research Question One

The research results showed that Chinese employees with overseas experience and those without overseas experience used different technologies in similar ways for organizational communication. This is understandable since, within one company, employees need to communicate with colleagues who have and colleagues who do not have overseas experience. It is more likely that the use of any technology depends more on the availability of that technology and the organizational culture, not really the subtle and minor cultural differences existing between Chinese employees with overseas experience and those without overseas experience. Katz and Aakhus's (2002) theory of Apparatgeist also helps to understand the similar ways that Chinese employees with and without overseas experience use technologies in similar ways for organizational communication. In the Apparatgeist theory, Katz and Aakhus emphasized that technologies have universal features that cross cultural divisions; those features are independent of time and place. Furthermore, many technologies operate in a networked environment. Chinese employees with and without overseas experience use technologies to connect with other organizational members who are part of the same technical network, and the universal features of those technologies lead to similar ways of using them for organizational communication.

It is an important finding that Chinese employees reported using E-mail more often than face-to-face communication. E-mail can better meet the communication needs of employees in different geographic locations with low cost and instant information exchange. The asynchronous nature of e-mail also leaves employees living in different time zones the flexibility to respond to work-related issues during their work time. The rich feature of attaching a scanned document file to an e-mail also allows for exchange of documents in a convenient and inexpensive way. Additionally, exchange of E-mails provides a record of work progress and opinion exchange that can be easily traced if employees need to go back to previous discussions of a particular issue. The above advantages of E-mail largely meet a multinational company's unique communication needs caused by dispersed geographic work locations in different time zones across the world. Therefore, E-mail becomes the most frequently used communication channel by Chinese employees in multinational companies, replacing the traditional face-to-face communication that can be expensive and difficult to arrange when employees are working far away from each other.

It is interesting that Chinese employees in multinational companies reported using cell phones for organizational communication more frequently than landline telephones. In China, cell phones are used for both work and social purposes. It is quite normal that employees share their cell phone numbers with their coworkers and supervisors in most companies. The China branches of multinational companies seem to have been localized by the Chinese way of using cell phones for work-related communication.

Voice mail is a common form of communication used in local companies in Western countries, but Chinese employees in China branches of multinational companies reported rarely using it, which coincides with Chinese people's communication habit of preferring to call again rather than leaving a message and waiting for a return phone call. Although the research results showed the longer the Chinese employees stayed overseas, the more frequently they used voice mail for organizational communication, overall, voice mail was not reported by Chinese employees as a popular organizational communication tool. This study showed that Chinese employees with overseas experience chose the more "Chinese" style

of using technologies in multinational companies' China branches, so they tended not to leave a voice mail while they might choose to do so when they were in overseas.

Discussion of Research Question Two

Chinese employees with more respect for cultural differences and who had more positive reactions to intercultural communication tended to communicate with colleagues face-to-face. Compared with technology-mediated communication channels, face-to-face communication can provide the richest communication environment in terms of contextual cues, and nonverbal and verbal cues, all of which is important information, helping interactants to adjust their communication styles according to the observed cultural differences in order to enjoy the interaction. The correlation between respect for cultural differences and face-to-face communication might indicate that face-to-face communication is a good way for one communicator to show respect for the cultural differences of his/her fellow interactants. In a workplace with employees from different cultures, the organization might try to facilitate more face-to-face communication opportunities among employees to build respectful and pleasant relationships.

Faxing, text messages, participating in video conferences, using online chat tools, and using postal mail were not found to be correlated with any factors of intercultural sensitivity. This implies that the use of those technologies does not have a significant effect on Chinese employees' intercultural sensitivity. For multinational companies that want to increase their Chinese employees' intercultural sensitivity levels, the companies might encourage their employees to use technologies that are positively correlated with intercultural sensitivity instead of the above technologies which, at least in this research, did not correlate with any factor of intercultural sensitivity. The following ways of communicating were found to be positively correlated with one or more factors of intercultural sensitivity and could be helpful for improving employee intercultural sensitivity: face-to-face, landline telephone, cell phone, voice mail, E-mail, instant message, and audio conference.

Discussion of Research Question Three

Among those technologies examined in this study, E-mail was significantly and positively correlated with the following five factors of organizational communication satisfaction: corporate information, relationship to supervisor, coworker communication, evaluation criteria, and work progress feedback, but not correlated with subordinate communication. Face-to-face communication was significantly and positively correlated with all the factors of organizational communication satisfaction except corporate information. This indicates that, in general, face-to-face and E-mail are likely to be the most effective ways of communication to improve Chinese employees' organizational communication experiences. As such, multinational companies might want to encourage their Chinese employees to use those two forms of communication for day-to-day work-related communication.

Chinese employees' level of satisfaction with corporate information was significantly and positively correlated with their reported frequency of using voice mail, E-mail, instant message, audio conferencing, and video conferencing. This suggests that China branches of multinational companies can consider using the above technologies to disseminate corporate information effectively to their Chinese employees.

Discussion of Research Question Four

Solution-oriented strategies were most frequently used to manage organizational conflicts as reported by Chinese employees in this study. The more frequently Chinese employees used solution-oriented strategies, the more frequently they used the following modes to communicate with their colleagues: face-to-face, landline telephone, E-mail, instant message, and audio conference. Among the above ways of communication, all of them are synchronous in nature except E-mail. Solution-oriented strategies might be more likely to be applied successfully in synchronous communication as the two par-

ties of the conflicts can exchange their opinions and discuss their solutions simultaneously, which might be more possible to lead to compromise and innovative ways that can satisfy both parties.

Nonconfrontation strategies were least frequently used by Chinese employees to manage organizational conflicts, and the frequency of using nonconfrontation strategies only correlates with face-to-face communication. Chinese employees in this study reported that the more frequently they used nonconfrontation strategies to manage conflicts, the less frequently they communicated with their colleagues through face-to-face communication. In face-to-face communication, interactants can exchange information through both verbal and nonverbal channels. The richness of communicating face-to-face might make interatants work together to solve a conflict instead of shying away from it.

This study also showed that the more frequently Chinese employees used control strategies to manage conflicts, the more frequently they used the following modes to communicate with their colleagues: instant message, audio conferencing, video conferencing, and online chat tools. This indicates that Chinese employees tend to insist on their own opinions and fight against the opposite party using the above synchronous and technology-mediated ways of communication.

Conclusion

NO significant differences were found between Chinese employees with overseas experience and those without overseas experience in their use of technologies for organizational communication. The ranking based on the frequency of using different organizational communication technologies by both Chinese employees with and without overseas experience was the same with the descending order as follows: E-mail, face-to-face, cell phone, landline telephone, online chat tool, text message, instant message, audio conference, room video conference, fax, postal mail, and voice mail. Chinese employees with a higher level of intercultural sensitivity preferred the following means of organizational communication: face-to-face, landline telephone, cell phone, voice mail, E-mail, instant message, and audio conference. Chinese employees who expressed more satisfaction with their organizational communication reported using the following forms of workplace communication more frequently: face-to-face, landline telephone, E-mail, instant message, audio conference, and room videoconference.

Correlations were found between the frequencies of using various technologies and different conflict management styles for Chinese employees. Chinese employees who preferred nonconfrontation strategies reported engaging in less face-to-face communication with colleagues. Chinese employees who scored as using control strategies for conflict management more frequently reported using instant message, audio conference, room video conference, and online chat tool more often in organizational communication. Chinese employees who scored as preferring solution-oriented strategies reported communicating with colleagues more often face-to-face, through landline telephone, E-mail, instant message, and audio conference modes.

This study shows that Chinese employees' use of technologies closely relates to various aspects of their organizational experience. The investigation of media usage among Chinese in organizational contexts provides new perspectives to understand how media usage relates to employees' organizational experience in Asian context, thus enriching the literature on Asian communication studies.

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Table 1. Alpha Coefficients for OCCI Strategies in Prior Research

Studies	Solution-orientation	Control	Nonconfrontation
Chua & Gudykunst(1987) N=355	.83	.71	.83
Putman & Wilson(1982) N=360	.88	.82	.93
Weber(1987) N=203	.79	.84	.87
Mean	.83	.79	.88

Table 2. Frequency of the Use of Different Organizational Communication Technologies by Chinese Employees with Overseas Experience and those without Overseas Experience

Organizational communication technologies	Chinese employees with overseas experience		Chinese employees without overseas experience	
	M	*SD*	*M*	*SD*
E-mail	4.27	1.02	4.17	0.95
Face-to-face	4.14	.89	3.95	1.17
Cell phone	3.40	1.01	3.15	1.32
Landline telephone	3.22	1.35	3.06	1.42
Online chat tool	2.59	1.65	3.01	1.67
Text message	2.47	1.32	2.94	1.42
Instant message	2.14	1.61	2.23	1.63
Audio conference	2.02	1.77	1.93	1.52
Room video conference	1.34	1.57	1.23	1.31
Fax	1.12	1.15	1.10	1.13
Postal mail	.84	1.26	.93	1.32
Voice mail	.73	1.00	.82	1.05

Table 3. Correlation Coefficients for Intercultural Sensitivity Variables and Frequency of Using Technologies for Organizational Communication

	Interaction engagement	Respect for cultural differences	Interaction confidence	Interaction Enjoyment	Interaction attentiveness
Face-to-face	.37**	.29**	.15	.24**	.12
Landline telephone	.30**	.16	.25**	.14	.19*
Cell phone	.22**	.13	.29**	.10	.38**
Fax	.00	.11	.11	-.01	-.02
Voice mail	-.10	-.03	.28**	.05	.04
Text message	.15	.05	.08	.06	.02
E-mail	.19*	.16	.23**	.14	.02
Instant message	.11	.13	.28**	-.03	-.01
Audio conference	.03	.07	.31**	.11	-.08

Table 3: continued

	Interaction engagement	Respect for cultural differences	Interaction confidence	Interaction Enjoyment	Interaction attentiveness
Room video conference	.01	.11	.15	-.06	-.12
Online chat tool	.11	-.01	.14	-.07	.03
Postal mail	-.09	-.12	.02	-.03	-.01

* Correlation significant at .05 level (2-tailed).
** Correlation significant at .01 level (2-tailed).

Table 4. Correlation Coefficients for Organizational Communication Satisfaction Variables and Frequency of Using Technologies for Organizational Communication

	Corporate information	Relationship to supervisor	Coworker communicatio	Evaluation criteria	Work progress feedback	Subordinate communication
Face-to-face	.09	.32**	.29**	.24**	.26**	.53**
Landline telephone	.10	.27**	.12	.12	.16*	.32*
Cell phone	.11	.04	.08	.14	.04	.27
Fax	-.01	.10	.04	.02	-.07	.27
Voice mail	.23**	.09	-.00	.10	.02	.06
Text message	.10	.12	.05	.16	.03	-.01
E-mail	.26**	.28**	.16*	.20*	.29**	.07

Table 4: continued

	Corporate information	Relationship to supervisor	Coworker communicatio	Evaluation criteria	Work progress feedback	Subordinate communication
Instant message	.21*	.19*	.15	.14	.10	.08
Audio conference	.32**	.25	.09	.14	.17*	.08
Room video conference	.27**	.26**	.07	.16	.13	.14
Online chat tool	.09	.01	-.04	.00	-.07	-.23
Postal mail	-.03	-.06	-.05	.05	-.08	.04

* Correlation significant at .05 level (2-tailed).
** Correlation significant at .01 level (2-tailed).

Table 5. Correlation Coefficients for Conflict Management Styles and Frequency of Using Technologies for Organizational Communication

	Nonconfrontation	Control	Solution-oriented
Face-to-face	.21*	-.05	-.20*
Landline telephone	-.07	.00	-.32**
Cell phone	-.01	-.10	-.13
Fax	-.04	.02	-.09
Voice mail	.03	-.08	-.11
Text message	.01	-.06	-.12
E-mail	-.13	-.16	-.44**
Instant message	.15	-.23**	-.19*
Audio conference	.00	-.21*	-.35**

Table 5: continued

	Nonconfrontation	Control	Solution-oriented
Room video conference	.06	-.21*	-.09
Online chat tool	-.03	-.21*	-.10
Postal mail	-.03	-.12	-.03

* Correlation significant at .05 level (2-tailed).

** Correlation significant at .01 level (2-tailed).