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CULTURAL IMPLICATIONS OF ELECTRONIC COMMUNICATION USAGE: A THEORY-BASED EMPIRICAL ANALYSIS

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Abstract

Based on two popular theoretical frameworks regarding media choices of rational choice and social influence (Markus 1987; Trevino et al. 2000) the main theme of this paper is to investigate applicability of these frameworks on a case where the pattern in usage and collective meaning of a medium is shaped in the cultural context. Focusing on the phenomenon of many Asians preferring not to send electronic mail to their supervisors, we compared media choice behaviors in the upward channel between a U.S. and a Korean organization. The empirical results suggest that the theories based on those frameworks are not sufficient to explain the phenomenon of individuals not sending electronic mail to their supervisors in the Korean organization. As a result of the study, we reconsider and refine those previous theories in such a way that we ask questions like (1) when is the rational choice model more pronounced than social influences in choosing a medium, and (2) how do rational choices and social influences interact through social symbolisms constructed in one particular organization? We believe that this research plays an important role in further extending our knowledge on media choice, and thus managers' communication issues.

Keywords: E-mail usage, rational model of media choice, social influence theory, cross-cultural IT acceptance, computer-mediated communication

Introduction

While information systems (IS) have been widely accepted and implemented across different nations, it has been the main interest of IS research to investigate how we can apply and extend the IS-related models developed in one place to different contexts (Hunter and Beck 2000; Straub 1994). Not only does understanding cultural adaptation and interpretation become a prerequisite to the comparative knowledge of national and international management practices, but the results of why certain models are well-suited while other theories require a total modification will help us identify boundary conditions of the theories, providing a further opportunity to refine them (Karlene and Boyacigiller 1984).

Many studies have focused on when and why people prefer certain medium to others under different conditions (e.g., Trevino et al. 2000, Webster and Trevino 1995). While there are many theories and frameworks predicting media choices, two popular theoretical frameworks regarding media choice are rational choice and social influences (Kraut et al. 1999; Markus 1987; Trevino et al. 2000; Webster and Trevino 1995). The first framework asserts that each medium has its own objective characteristics and people try to fit the characteristics to task characteristics. While the first framework is more concerned with individual rational choice based on properties pertaining to a certain medium, the latter takes the choice problem from a contextual perspective and focuses more on social meanings of media choice.

Many studies have shown that electronic mail has not been as popularly used in Asian countries as in the western countries (Martinsons 1997; Rice et al. 1998; Straub 1994). While the low adoption rate might be an interesting topic, in this study we focus on the media choice based on communication channels. In certain Asian countries such as Korea and China, media choice often demonstrates a peculiar behavior that cannot be easily explained by existing media-choice theories. Although using electronic mail is typically the best choice in terms of matching contingencies of medium and task characteristics and people widely use the medium with a favorable attitude toward the medium, in certain Asian countries, the use of electronic mail is reserved and richer communication media such as face-to-face are preferred for communication with supervisors. The main theme of this paper is to investigate the role of culture on media choice by studying applicability of the two existing frameworks on a case where the pattern in usage and collective meaning of a medium is shaped in the cultural context. Focusing on the phenomenon of individuals in Korea being reluctant to send electronic mail to their supervisors, we will compare media choice behaviors in the upward channel between a U.S. and a Korean organization, and show that the choice of medium is deeply embedded in the cultural context.

Theoretical Frameworks

Many theoretical frameworks have been suggested to investigate factors that predict media choices. We will discuss two popular frameworks: the rational model and the social influences model of media choice. Since one of the main purposes of this study is to investigate the applicability of these frameworks on our focal problem, we will first try to explain the focal problem using the theories from the frameworks, and generate hypotheses that could rule out the possibility of the applicability if the hypotheses are not rejected. Note that the "rule out" framework we setup here is not denying the predictive power of those theories in media choice in general but on explaining our focal problem.

Rational Model of Media Choice

Under the rational framework, studies explain media choice based on objective media characteristics and the individual's rational choice of medium, considering task and media characteristics fit (Trevino et al. 2000). One of the most popular theories using objective characteristics is the media richness theory (MRT). The key premise of the MRT is that each communication medium has different richness characteristics of information processing. The term *richness* refers to the ability of information and media to change human understanding, to overcome conceptual frames of reference, or to clarify ambiguous issues in a timely manner (Daft and Lengel 1986). Therefore, a rich medium provides characteristics such as the ability to give immediate feedback, the variety of communication cues, the personalization of the medium, and the amount of language variety attainable. Many empirical studies have found that there are certain characteristics of richness for each medium (Daft et al. 1987; El-Shinnawy and Markus 1992). These studies measured and ranked the medium as face-to-face, telephone, personal documents such as letters or memos, and impersonal written documents, which were placed along a richness scale. Face-to-face communication is considered to be the richest medium as it provides more cues (Rice 1993), interaction (Chidambaram and Jones 1993; Zigurs et al. 1988), and broader bandwidth (Chidambaram and Jones 1993) than any other media. Recently developed electronic media, such as electronic mail and the Internet, are reported to be relatively lean media compared to conventional media such as telephone and fax (Kydd and Ferry 1994; Rice and Shook 1990).

Based on the richness characteristics, MRT predicts that richer media is used in highly uncertain and equivocal situations, and leaner media is used in more certain and unequivocal situations (Daft and Lengel 1986). The theory proposes that users can understand equivocal messages via rich media more easily since rich media are characterized by more cues, interaction, language variety, and personal focus. As a result, the richer media fit for equivocal tasks and the leaner media fit for unequivocal tasks since they provide users with a more efficient way to communicate.

How do we use MRT to explain our focal phenomenon of individuals in Korea being reluctant to send electronic mail for their upper-channel communication? Certainly, the theory posits that if the nature of communication is perceived as highly equivocal, then it is predicted that individuals are expected to use richer media since electronic mail is reported to be a relatively leaner media than face-to-face and telephone. Thus, the explanation given by the theory is that individuals will use relatively richer media such as face-to-face or telephone instead of electronic mail because upper-channel communication is typically perceived as more highly equivocal in Korean organizations.

Since the prediction is based on the assumption that individuals will behave as MRT predicts, i.e., they will use rich media for ambiguous tasks and lean media for uncertain tasks, we can rebuke the prediction from the theory if individuals in Korea are still using relatively richer media such as face-to-face or telephone for relatively simple tasks. So, we generate a hypothesis that individuals in Korean organizations are using electronic mail in seemingly uncertain contexts that can be resolved by simple information exchange for their upper-channel communication. Since we have to test the hypothesis by comparing with other countries where no such phenomenon exist, we hypothesize that

> **H1-A:** Individuals in Korean organizations will prefer face-to-face or telephone for upper-channel communication even with seemingly nonambiguous information exchange. The percentage of individuals who do so in Korea is greater than in the United States.

Another explanation of this phenomenon is given based on an extended theory of MRT. Recent studies in communication theories have indicated that appropriateness of media depends on factors other than the material characteristics of media (Fulk et al. 1987; Goodman and Darr 1998; King and Xia 1997; Lee 1994; Markus 1994; Yoo and Alavi 2001). Taking the results, an extended MRT accepts the difference of perceived media richness for each individual. Trevino et al. (2000) assert that "in addition to the objective properties of media, individuals have perceptions of a medium's capabilities" (p. 168). Therefore, the extended theory acknowledges that each individual might have different richness on the same medium. One way to see the validation of the theory on the focal problem from the extended MRT perspective is to see whether individuals use the same medium for upper- and lateral-channel communication. That is, without information regarding what perception of richness each individual possesses toward electronic mail, the prediction from MRT is also rebutted when electronic mail is used for lateral communication but richer medium is used for the upper channel in the same type of communication context.

> **H1-B:** For the same type of communication, individuals in Korean organizations will often choose a different medium for upper-channel communication than for lateral communication. The percentage of individuals who change medium for the same task depending on the channel direction in Korea is greater than the percentage in the United States.

Social Influence Theory of Media Choice

Studies in social media choice have argued that individuals in social systems share meaning and attitudes toward a medium, and the social meaning and attitude determine choice of media. Social construction theorists point out that interactions with social agents control the technologies and their effects and that attitudes toward and uses of technologies converge in social systems (Contractor and Eisenberg 1990, Fulk et al., 1990, Pool and DeSanctis 1990, Rice and Aydin 1991, Rice et al., 1990, Schmitz and Fulk 1991). One of the most popular theories of this kind, the SIT (social influence theory), argues that perceived social context influences the choice of communication medium through cognitive interpretations and behavior (Fulk 1993) and that media perceptions are subjective and socially constructed (Fulk et al. 1990).

How is the social construction toward a certain medium developed? Social learning and social information processing theories are often used for the process of social influence. Social learning theories argued that one learns and uses behaviors based upon what one sees modeled within social groupings (Bandura 1977). Observed behaviors of others influence the observer to emulate those behaviors. Fulk (1993) points out that technology-related behavior and attitudes, including media choice, may result from processes of social learning in the work place. Similarly, social information process theory (Salancik and Pfeffer 1978) provides mechanisms by which peers influence behavior and attitudes. Social information consists of comments and observations made by people whose views an individual considers relevant. Thus, a coworker's overt statements may influence media choice. In summary, an individual's choice of media is shaped by observed behaviors or in the process of social information exchange among group members.

Based on the arguments of social learning and social information processing, SIT in media choice often predicts the attitude toward medium or medium use behaviors based on what others perceive and the medium they use. In testing social influence theories of media choice, studies have measured attitude or behaviors of workgroups, coworkers, or supervisors to see how those attitudes and behaviors affect others' attitude and media use behavior (Fulk 1993; Trevino et al. 2000; Webster and Trevino 1995). The results of those studies have generally shown that positive attitude or the frequent use of a specific medium by work groups has a positive effect on individuals (Fulk 1993). Therefore, if we suggest an explanation of the focal problem using the SIT theory, it is that the negative attitude toward not using electronic mail by senior managers makes users reluctant to employ electronmic mail for upper-channel communication.

A direct alternative hypothesis is to show that people generally have positive attitude toward e-mail. Especially if we can show in the cross-cultural comparison that there is no significant difference toward e-mail usage and attitude between Korea and other countries where individuals do not show a problem with sending e-mail to their supervisors, we can rebuke the applicability of those social influence theories on the focal phenomenon.

> **H2-A:** The perception of electronic mail in Korean organizations is not different across hierarchy from the perception in U.S. organizations.

In applying the SIT to media choice, sometimes it becomes more important to think about how the communicators perceive the attitude or use of media rather than actual attitude or usage. For precisely this reason, Trevino et al. (2000) tested the relationship between the expectation of perception on supervisors' attitude toward an electronic mail system by communicators and the communicators' use of the system, and found the positive effect. Therefore, alternatively, if we can show that the perception is not related to their behavior, we can also rebuke the prediction from the SIT on this focal problem.

> **H2-B:** There is no relationship between communicator's expected perception of supervisor's attitude toward electronic mail systems and their use of the system to communicate with supervisors in Korea.

Research Method

A comparative cross-cultural study is designed through a survey. First, we selected one organization from Korea and one from the United States. In order to control other variables, we tried to match the two organizations: both organizations are from the same industry (e.g., telecommunication) and the size of the organizations is very comparable. Both of them are among the top three communication companies in their respective country. We also surveyed for the same functional units (e.g., accounting and finance units) to minimize variance due to tasks related to each individual. Both organizations have more than 10 years of electronic mail system experience and it is one of the most popular media members of each organization use.

A questionnaire was first developed in English and translated to Korean, and then translated back into English. Two researchers who are versed in both languages compared the translations, and a slight modification was done. A total of 68 usable responses were collected from the Korean organization (a response rate 51 percent) and 52 usable responses were collected from the U.S. organization (a response rate 31 percent).

For the testing of the first hypothesis, we developed six incidents of communication referring to Trevino et al. (1987) and to Rice et al. (1998). We took the three least-ambiguous and the three most-ambiguous situations from the communication incidents from the other studies to contrast the situations. The three least-ambiguous situations include communications asking for phone numbers of customers, last year's sales data, and names of computer vendors. The three most-ambiguous tasks involve questions about the progress of a project, ideas for a project, and the desirability of choosing one computer vendor. Since the geographic dispersion of communication partners (Straub and Karahanna 1998; Trevino et al. 1987) and recipient availability of a medium (Markus 1987) is reported to affect media choice, we controlled the factor through the incidents by developing a scenario in which the communicators are in the same building and the communicators receive electronic mail from their communication partners.

Results

Initial Statistics

Table 1 compares the responses of the Korean and U.S. organizations. No diffference is shown for work experience and age between the two countries; however, the Korean organization has more male respondents, representing a typical Korean organization. Organizational level represented by the reporting levels to top management shows a slightly different structure.

Table 2 shows the direction of e-mail usage based on channel of communication. Respondents from the two countries show different patterns of electronic mail usage depending on channel direction. The numbers indicated that individuals in the Korean organization use electronic mail more often with people outside of the organization, while it is mostly used to communicate with colleagues in the U.S. organization.

Table 1. Respondents' Demographic Information between the Two Organizations

Mean and Standard Deviation		Korean Organization	U.S. Organization	Mean Difference (Korea-U.S.)
Work Experience (years)		9.52 (7.94)	7.36 (7.17)	2.16
Age		35.3 (6.5)	37.7 (8.9)	-2.54
Gender		83% Male	52% Male	0.51***
Organization Level (# of levels to top management)	1 ~ 2	5.9%	5.8%	
	3 ~ 4	27.9%	40.4%	
	5 ~6	57.4%	30.8%	
	7 or More	7.4%	13.5%	

Significance: * 0.1, **0.05, ***0.01

Table 2. Direction of Electronic Mail between the Two Organizations
(Standard Deviation in parenthesis)

E-Mail	Destination	Korea	U.S.
Send To (%)	Superior	**10.5 (9.98)**	**17.6 (11.9)**
	Subordinate	15.6 (17.8)	16.0 (19.8)
	Colleagues	26.7 (18.4)	48.2 (24.0)
	Outside	47.2 (28.6)	18.2 (15.4)
Receive From (%)	Superior	19.6 (18.6)	20.0 (1.49)
	Subordinate	**8.75 (10.2)**	**15.7 (20.7)**
	Colleagues	21.2 (17.1)	45.6 (23.6)
	Outside	50.5 (26.5)	18.7 (16.5)

The communication pattern of electronic mail use in vertical communication shows an interesting pattern ,as we expected. In the Korean organization, individuals send to their supervisors only 10.5 percent of all their electronic mail, but received 19.6 percent from them. The number is sharply contrasted with electronic mail use in the U.S. organization, where the numbers are balanced (17.6 percent and 20 percent). The difference in the percentages of receiving from their subordinates also indicates the same pattern. While individuals in the Korean organization receive only 8.8 percent of their electronic mail from their subordinates, the number is 15.7 percent in the U.S. organization. Therefore, our focal phenomenon of being reluctant to send electronic mail to their supervisors in Korean organizations is comparably confirmed.

Testing Rational Model of Media Choice in the Context of the Phenomenon (HA-1 and HA-2)

In a series of scenarios given to individuals, we asked what media they will use for their communication. We used six scenarios of three ambiguous tasks (tasks 1, 2, and 3) and three simple tasks (tasks 4, 5, and 6). Subjects choose their media choice from electronic mail, telephone, direct face-to-face, and indirect face-to-face (e.g., sending a courier). The subjects in both countries answered their media choice for both communication with their supervisor and their colleague. Table 3 shows the scenario and the percentage of people who answered that they would use electronic mail under the scenario in each of the two organizations.

The percentage of individuals who use electronic mail ranges from 22 percent to 31 percent for the more ambiguous tasks, and ranges from 33 percent to 49 percent for the less ambiguous tasks in the Korean organization, indicating that the difference in the degree of ambiguity in tasks causes changes in media choice and that the number increased for less ambiguous tasks. However, the difference in the percentage of individuals who choose electronic mail for different degrees of ambiguous tasks is much larger in the United States. While the percentage of individuals using electronic mail for the more ambiguous tasks ranges from 50 per-

Table 3. Selection of Electronic Mail under Different Scenarios

Scenario: Percent of respondent to use electronic mail	Supervisors		Colleague	
Your office is on the first floor and your supervisor (or colleague) is on the second floor of the same building.	Korea (%)	U.S. (%)	Korea (%)	U.S. (%)
1. You have received a request from your supervisor (or colleague) asking about the progress of the project you are working on now	22.1	53.8	52.9	65.4
2. You have received an electronic mail from your supervisor (or colleague) asking your ideas and plan for a new project you will work on.	20.6	57.7	45.6	55.8
3. You have just come from a meeting with your supervisor (or colleague) and a computer vendor. You have received an electronic mail from your supervisor asking about the desirability of using that vendor.	30.9	50.0	50.0	62.7
4. You have received an electronic mail from your supervisor (or colleague) asking for a list of names and phone numbers of your major customers.	48.5	98.0	88.2	100.0
5. You have received an electronic mail from your supervisor (or colleague) asking about last year's total sales.	39.7	86.0	77.9	96.2
6. You have just come from a meeting with your supervisor (or colleague) and a computer vendor. You have received an electronic mail from your supervisors asking the name of the computer vendor.	33.8	84.6	68.7	92.3

cent to 58 percent, it ranges from 84 percent to 98 percent for the less ambiguous tasks. In sum, the results indicate that in both countries, the use of electronic mail for less ambiguous tasks was highly favored as MRT predicted. Furthermore, the change in electronic mail use for different degrees of ambiguity is more significant in the U.S. organization.

For the further investigation, we use a multivariate test of repeated measures of ANOVA with two within-subject treatments (task and channel) and one between-subject factor (Korean vs. U.S. organization). We use the Hyunh-Feldt test as it is the most popular method to adjust the degree of freedom. The results (which are not reported here due to space limitations) indicate that country, country and task interaction, and country and channel interaction are all significant, suggesting that there is a significant difference in the patterns of factors affecting individuals' use of electronic mail in the two countries. The results also show that communicators choose electronic mail based on the ambiguity of the task, and channel is also a significant factor in media choice.

Since the results show that different factors interact with country factor, we run a separate within-subject analysis for each country (Table 4 and 5).

Table 4. ANOVA (Within-Subject) in the Korean Organization

Source	SS	DF	Adjusted DF	MS	F
Task	12.0	5	4.6	2.6	17.79***
Error(task)	44.5	330	304.0	.146	
Chnl	20.4	1	1	20.4	42.3***
Error(Chnl)	31.8	66	66	.482	
Task*Chnl	1.11	5	4.27	.261	2.32
Error (Task*Chnl)	31.72	330	281.7	.113	

*Task: Task Equivocality, Chnl: Communication Direction

**Table 5. ANOVA (Within-Subject) in the U.S. Organization**

Source	SS	DF	Adjusted DF	MS	F
Task	22.27	5	3.94	5.15	18.4***
Error(task)	52.8	240	188.9	.280	
Chnl	.750	1	1.0	.750	10.8***
Error(Chnl)	3.33	48	48.0	0.07	
Task*Chnl	.587	5	4.58	.128	2.04
Error (Task*Chnl)	13.83	240	219.8	.006	

*Task: Task Equivocality, Chnl: Communication Direction

In both countries, channel and task are significant factors determining media choice, and there is no significant interaction effect of task and channel. Although the two factors are significant for both countries, the (within) variance explained by the two countries shows a very different result. Ambiguity of tasks explains 6.3 percent and 18.1 percent of variances for the Korean organization and the U.S. organization, respectively. The variance explained for channel is 10.8 percent and 0.67 percent for the Korean organization and the U.S. organization, respectively.

> *H1-A:*   *Do Korean communications use electronic mail even for very simple tasks, compared to U.S. communicators in their upper communication?*

A simple comparison based on the percentage of electronic mail usage shows that Korean communicators use electronic mail less frequently than U.S. users for simple tasks. For tasks 4 (phone number), 5 (last year's sales), and 6 (vendors name), the percentages are 48.5 percent, 39.7 percent, and 33.8 percent, respectively which are far less than 98 percent, 86 percent, and 84.6 percent of the U.S. organization (see Figure 2).
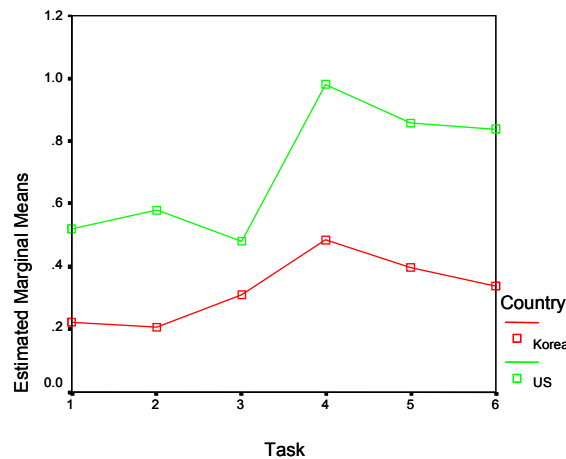

Figure 1. E-Mail Use (Percent) for Upper Communication in Two Countries

Figure 1 shows that even after considering relatively lower use of electronic mail for all tasks in Korea, the gap between the United States and the Korean organization is much larger for upper-channel communication in simple tasks (tasks 4, 5, and 6). Therefore, we safely concluded that H1-A is not rejected, as individuals in Korean organizations will prefer face-to-face or telephone for upper-channel communication even with seemingly nonambiguous information exchange.

> *H1-B:*   *For the same type of communication, individuals in Korean organizations will often choose different medium for upper-channel communication than for lateral communication. The percentage of individuals who change medium for the same task depending on the channel direction in Korea is greater than in the United States.*

Now the question becomes whether the individuals will change their choice of medium depending upon individuals with whom they will exchange information. Figure 2 shows that individuals in the Korean organization increase their use of electronic mail for lateral communication. Especially for the three relatively nonambiguous tasks, the percentage of individuals using electronic mail to communicate with colleagues reached from 68 percent to 88 percent although it was all below 50 percent when sending to their supervisors. Paired t-tests show that for each of the six different cases, the difference was significant at the 99 percent level in the Korean organization. The same test shows that the number of electronic mail users also increased in the U.S. organization, but it is not as high as in the Korean organization and the increase is not significant at the 95 percent level (although they also showed an increase in electronic mail use and tasks 1, 3, 5, and 6 are significant at the 95 percent level as suggested from Table 5, which shows the significant effect of channel). Therefore, we also conclude that hypothesis H1-B is not rejected, and each of the two alternative hypotheses tell us that theories related to the rational choice model fail to explain the phenomenon of not sending electronic mail to their supervisor in the Korean organization.
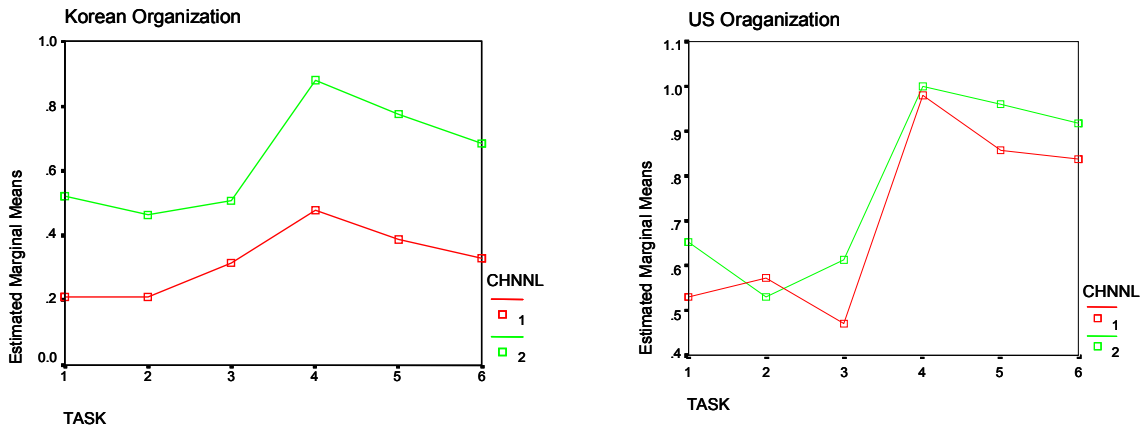
*l: Lateral-Channel Communication; 2: Upper-Channel Communication

Figure 2. E-Mail Use for Upper-Channel and Lateral-Channel Communication in the Two Countries

Testing Social Influence Theory in the Context of the Phenomenon (H2-A and H2-B)

> H2-A: *The perception of electronic mail in Korean organizations is not different across hierarchy from the perception in U.S. organizations.*

H2-A states the perception of electronic mail in Korean organizations is not different across hierarchy from the perception in U.S. organizations. Since in most of the previous studies of media choice, attitude toward a medium is measured based on perceived usefulness (Fulk 1993; Trevino et al. 2000), perceived usefulness (PU) from the technology acceptance model (Davis 1989) is used. Three items used for PU are "Using e-mail in my job would enable me to accomplish tasks more quickly," "Using e-mail in my job would increase my productivity," and "I would find e-mail useful in my job."

Table 6. Attitude toward E-Mail for the Two Organizations by Organizational Level

Organizational Level (# of levels to top management)	Korea Attitude	U.S. Attitude
1 ~2	14.00 (6.78)	16.33 (1.52)
3 ~4	19.05 (2.59)	17.63 (3.61)
5 ~6	17.58 (3.14)	18.43 (4.03)
7 or more	17.8 (4.08)	20.29 (1.25)
Total	17.81 (3.46)	18.23 (3.47)

Table 6 shows the mean of attitude toward electronic mail per organizational level for each organization. The result shows that individuals in both countries generally possess positive attitudes toward electronic mail. In both organizations, the positive attitude decreases as the organizational hierarchy goes up.

A simple ANOVA test shows that there is no significant difference in electronic mail perception across different organizational hierarchy for both countries (F = 2.67, p = 0.55 for the Korean organization and F = 0.56, p = 0.65 for the U.S. organization). Knowing that there is no significant difference in perception of usefulness across organizational hierarchy, we applied the χ^2 test to determine whether the two countries show a different pattern of structures and found that there is no significant difference. Thus, H2-A is not rejected, confirming that the theory that individuals are not sending their electronic mail to their supervisors due to perceived negative attitude toward electronic mail is not substantiated.

> *H2-B:* *There is no relationship between communicator's expected perception of supervisor's attitude toward electronic mail systems and their use of the system to communicate with supervisors in Korea.*

We also test whether the communicator's expectation of perception of his/her supervisor's attitude toward electronic mail systems affects the communicator's electronic mail usage. We asked two questions of channel accessibility (Zmud et al. 1990) on the expectation of perception and behaviors of supervisors. The questions asked (1) if the supervisor possessed enough skill to use e-mail and (2) the frequency of use of e-mail by the supervisor. The questions are based on one to seven scale ranging from strongly disagree to strongly agree. The two questions show a high reliability of Cronbach's alpha of 0.93.

We run the within-variance analysis as we did for testing hypotheses 1, but this time we used expectation of perception as covariant variable. In this analysis, we are testing whether the between-subject analysis of expectation or the interaction of expectation with task is significant. The result shows that neither the expectation of perception (F = 0.2, p = 0.88) nor the interaction of task and expectation (F = 1.97, p = 0.67) is a significant factor in explaining the percentage of electronic mail usage although task and channel are significant. Therefore, we cannot reject the hypothesis.

Discussion

Using two popular theoretical frameworks regarding media choice, we tried to explain one particular phenomenon regarding individual media choice. The empirical results suggest that the theories based on those two frameworks are not sufficient to explain the phenomenon of individuals' reluctance in sending electronic mail to their supervisors in Korean organizations. In general, individuals in Korea have a tendency to use richer media for more ambiguous tasks, but they also show the seemingly irrational behavior of using richer communication for very simple tasks and of using different media depending on with whom they are communicating. The fact that there is no significant difference in perception toward electronic mail across the organizational hierarchies of the two organizations leads us to believe that the perception that high-ranking officers react negatively to electronic mail is also not a plausible explanation.

Although we have taken out some specific aspects of those theories, our results do not mean that those theories are not useful in predicting media choice problems in our context. The task characteristic, for instance, is continuously a significant factor in predicting communicators' media choice regardless of channel direction and country. The moderating effect of country also strongly suggests that there is a certain social meaning associated with one medium as is argued from social influence theory of media choice.

The existence of moderating effect and revelation of social meaning has led us to reconsider the boundaries of both theories and provide room to extend the theories. First, we found that the applicability of MRT is culturally bounded. Above all, we found that the moderating effect of culture is from the *task-media fit* not from either culturally different media perception or from task perception in this case. According to MRT, there are three different ways culture moderates the media-task fit relationship: through task perception, media perception, and fit. If communicators in different cultures perceive media richness differently or task ambiguity differently, they may choose different media for a certain task. In their cross-cultural media comparison, Rice et al. (1998) tested the differences in media perception and task perception, and found that there is little evidence of cultural differences in perceptions of media. Nor did they find differences in task perception between individualistic and collectivistic cultures. Our results are consistent with theirs in that the moderating effect of culture is not either from task perception differences or from e-mail perception differences, but from fit difference. We found that the perception on electronic mail is not different between the two countries. We also indirectly showed, from the results that individuals in the Korean organization do not use

electronic mail even for very simple tasks, suggesting that the task perception difference is not a significant factor in explaining our focal phenomenon. Our results, then, suggest that the applicability of MRT is moderated by culture.

In line with the above argument, recent studies about media choice have argued that rational and social theoretical framework of media choice is not necessarily competing but should be complementary (Carlson and Zmud 1999; Kraut et al. 1999; Trevino et al. 2000; Webster and Trevino 1995). In line with the argument, current empirical studies have begun to identify factors that determine when one theory is more pronounced than another. Webster and Trevino tested whether the types of media, especially whether they are more traditional or newer media, determine that social explanations will be more important (or less important) than rational explanation. Our results add the current endeavor that rational explanations might be more important under individualistic cultures than over collectivistic culture.

The second extension and boundary for theories is from media symbolism. The extended rational media choice theory has long argued that there are symbolic meanings attached to media (Trevino et al. 1987; Trevino et al. 2000). Under this view, letters are, for instance, thought to be associated with formality and e-mail with low priority. Although there have been few empirical studies on media symbolism, the study by Trevino et al. (1987) tested whether media symbolism played a role in explaining media choice, and it turned out that it is one of the most significant factors.

Although it is argued that media symbolism can be different from one organization to another or even from one individual to another, there is no empirical evidence (Webster and Trevino 1995). Our results suggest that the symbolic meaning in fact is attached to electronic mail, and more importantly the symbolic meaning is socially constructed in the Korean organization as was suggested by researchers in the SIT. Therefore, we think that media symbolism can be a bridge in connecting the two theories.

The notion of applying media symbolism, however, needs to be reconsidered in light of our research. Previous studies about media symbolism are based on rational choice of media selection and, therefore, the communicators discreetly choose one media depending on media symbols they want to convey. For instance, if a sender wants to deliver a symbol of authority, a formal written medium will be used. Our results, however, suggest that a certain medium is deliberately *not* chosen. In this case, the general notion of the medium is the message (McLuhan 1964) is still applied, but only through a social inhibitor in a certain case.

Finally, our results also tell us the boundary and possible extension of social theory of media choice. The findings of reluctance to send electronic e-mail to supervisors suggest that the general assumption of social theory of media choice still applies: there are certain social meanings and attitudes attached to a medium, and the social meaning and attitude determine choice of media. But the way that people construct the social meanings to a certain medium and how their attitude and behaviors are governed through the social process need to be refined in light of our results. First our results suggest that it is not just the observed behavior of others or the perception of attitude of usefulness that guide one's media choice behavior. There was no difference in attitude of usefulness and behavior toward electronic mail between two countries, and the expectation was not a significant factor in media choice. We believe that the social meanings of media, at least in our case, is from the historical background (similar media used in the past) and interaction of media symbolism and culture (e.g., high respect for their seniors and intention to not put them in a situation of having to use difficult systems or receive trivial communications). However, why symbolic meanings are attached to electronic mail in Korean organizations such that there is a social consensus against sending electronic mail to one's supervisors is still an open question. Future studies on adaptive structuation theories (DeSanctis and Poole 1994; Poole and DeSanctis 1990) or symbolic interactionism (Blumer 1969) are warranted to better understand this cultural phenomenon.

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