Does AVATAR EMAIL IMPROVE COMMUNICATION?

Seeking to enhance communication systems by adding expressive cues.

As the business environment has become distributed, fast-paced, and dependent on information and communication technology, email continues to be an effective and efficient communication medium for interpersonal and interorganizational communication. Despite the expected prolific usage, email remains underutilized within many organizations, especially for conducting highly ambiguous tasks and upward communication. Possible reasons for this underutilization are that email has poor capabilities with respect to availability of communication cues, language variety, and personalization of the medium. Therefore, organizations still overuse relatively expensive methods (such as telephone or travel for face-to-face meetings) for communication tasks [2]. Other media should be available to complement face-to-face meetings when possible and desirable rather than be seen as substitutions [5].
Emergence of Avatars

To supplement the leaness of traditional email, a number of email systems with advanced communication features have emerged during the last decade, with avatar email systems representing the latest development. Avatar email provides senders with several rich features to enhance their communication. For example, senders can select an avatar (virtual human) that best presents themselves to their communication partners, and they can personalize the avatar by changing its color, clothing, and facial expression based on their preferences and emotional status. Basic dynamic features, such as simple body movement and the sender’s recorded voice, are also provided by current versions of avatar email systems (see the figure here). These enhanced systems are emerging as alternatives to traditional email because of their capability for accomplishing the same tasks with additional communication cues.

Organizations have developed and applied avatars for communication with customers. For example, LifeFX provides Facemail, an avatar email system for interpersonal communication. Facemail uses a biologically based modeling system to deliver email messages through virtual people (photorealistic digital faces) that read the content of email aloud to the recipient with accompanying facial movements such as a nod, a wink, a kiss, or a grimace. First Direct, a mobile phone and Web bank, has developed an avatar called Cara to interact with users through their mobile phones. Researchers focusing on computer graphics and virtual reality have attempted to develop better avatars for e-commerce, virtual reality, and 3D games. For instance, two groups at the MIT Media Lab (the Affective Computing Research Group and the Gesture and Narrative Language Group) have looked at “ways to make communication, mediated through avatars, more lifelike and natural through appropriate and meaningful animation of the avatar’s body and face…an avatar can represent suitably large amounts of information, and can operate as meaningful rhetorical devices” [6]. Plantec [9] provides a step-by-step guide to assist in building a virtual human. Although avatar email is not yet widespread in the U.S. and other Western countries, it shows promise as a next-generation email system, considering its advanced richness features and successful adoptions in several countries, including South Korea and Japan.

Communication Challenges

In contemporary organizations, more than 75% of knowledge workers’ time is spent on communication, and appropriate media selection clearly affects the quality of communication and business performance [3]. Thus, examination of the effects of newly developed communication media and their implementations should be a top priority of management [10]. In that context, it is imperative to understand the effects of avatar email compared to traditional email and to determine what factors lead to its usage.

To provide directions for knowledge users and management, this study examined the differences in usage patterns between avatar email users and traditional email users as well as the factors affecting use of avatar email. The study included a survey of 937 South Korean business professionals with a median age of 31–35. In South Korea, avatar email is widely dispersed as an interpersonal communication medium, and more than 10 million people use it. South Korea’s avatar market was valued at more than

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1This study adopted several theoretical frameworks, including Triandis’ theory of interpersonal behavior, media richness, and social interaction theory. Instruments were initially developed based on these theoretical models, and validated through a pretest and a pilot test. Online questionnaires were used to gather the data. Data was analyzed using LISREL, a structural equation modeling tool, and ANOVA.
$100 million in 2002, and in 2003, Microsoft started offering an avatar MSN messenger service in the market. Within two months, one million people had subscribed to the service. South Korea is clearly an early adopter in avatar email usage, and while we hesitate to generalize to Western countries, the lessons derived from South Korea’s experiences raise important questions for avatar email use in the rest of the world.

**Discoveries**

A comparison between traditional email and avatar email usage to examine different communication direction (upward versus lateral) and different levels of task ambiguity (low versus high) showed that South Korean knowledge workers did not use traditional email for upward communication and for highly ambiguous tasks. Traditional email users were reluctant to use email for upward communication because upward communication is often filtered and mainly related to complex tasks such as problem solving, forecasting, and decision-making support [8]. They also hesitate to use email for highly ambiguous tasks because such tasks require multiple cues (voice, emotion, body movement) to prevent misunderstandings and confusion, and traditional email has not provided these features [1]. The low usage problem of email worsens in East Asia. The Confucian culture in this area leads to infrequent use of email for upward communication to superiors because it is seen as a sign of lacking respect. Further, due to the highly contextual nature of communication in the Confucian cultures, email is infrequently used for ambiguous communication [7].

Surprisingly, for upward communication, avatar email users were more inclined to send email to superiors than were traditional email users, whereas for lateral communication, no difference was found in the usage of avatar and traditional email. Meanwhile, as expected, a significant difference was revealed in traditional email usage between lateral and upward communication.

For avatar email users, no significant difference in email usage was found between low and highly ambiguous tasks, whereas a significant difference was found in usage between these tasks for traditional email users. In addition, for highly ambiguous tasks, the use of avatar email is significantly greater than that of traditional email. Further, for low ambiguity tasks, the use of avatar email was slightly higher than that of traditional email.

The difference between avatar and traditional email usage for upward communication is an interesting finding. It demonstrates that if email is equipped with rich communication features, it will be used as a rich communication alternative for upward communication much like face-to-face or telephone interaction.

The finding that there is no significant difference in avatar email usage for high and low ambiguity tasks is quite interesting. The common perception of email use is that rich media (face-to-face or telephone) would be used more for highly ambiguous tasks, whereas lean media (email) would be widely used for
low ambiguity tasks [3]. However, these findings clearly show avatar email as a rich communication alternative that has uses for both low and high ambiguity tasks.

The higher usage of avatar email compared to traditional email for low ambiguity tasks is also an interesting finding. The finding contradicts media richness theory’s postulation that managers prefer lean media for conducting low ambiguity tasks because rich media entail relatively high costs [4]. One possible explanation is that costs related to the use of avatar email are not much higher than the costs associated with traditional email when compared to its huge benefits [3].

What triggers avatar email usage? Social factors have the most significant effect on the use of avatar email. That is, the attitude toward avatar email and social norms by important others was the most significant factor of avatar email usage. Affect was also found to be a key factor for avatar email usage, indicating that the amusement or pleasure features of avatar email positively influence its usage. Related to affect, a survey participant commented: “I love to use avatar email. It is fun, easy, and very effective. While it requires more time to complete a message than text-only email, it is always enjoyable to select an avatar, customize it, and put my emotion into it. I definitely use it more for conducting any type of task compared to traditional email.”

Self-efficacy also significantly affects avatar use, suggesting that when users gain strong confidence in their ability to use avatar email, they are more inclined to use it. However, perceived cost—the additional cost to use avatars (monthly fees and avatar customization cost)—and perceived effort—the additional time and effort to complete avatar email—were found to be strong inhibitors of avatar usage.

**Implications**

There are several implications for organizations that consider adopting avatar email. First, avatar email can be used as a rich communication alternative. As organizational structures become more distributed and globalized, and the dominant use of face-to-face communication changes, management will shift some communications from traditional high-cost communication media to lower-cost rich communication options. Avatar email can be used for both rich and lean communications, which is good news for management because avatar email can provide inexpensive but effective communication.

Second, useful information is available for Western companies with subsidiaries in East Asia (China, Japan, Korea, Hong Kong). Past studies found that email was not frequently used for upward communication nor for conducting highly ambiguous tasks in East Asia due to the Confucian cultural tradition. However, this was not found to be true for avatar email users. These users showed a higher intention than traditional email users to send email for upward communication and for performing highly ambigu-

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2 Media richness theory assumes there are objective characteristics that distinguish rich and lean media. These characteristics are immediate feedback, the variety of communication cues, the personalization of the medium, and acquireable language variety. According to this theory, face-to-face is the richest medium and email is the leanest medium.
ous tasks. A senior manager who participated in the study stated that: “Traditional email has very restricted bandwidth. However, avatar email is different. I believe that I can send avatar email to my colleagues, friends, and family for both personal and professional purposes. In addition, I often send avatar email to parents, superiors, and unfamiliar others. Avatar email users like me have different perceptions of traditional email users. I know about that since I was a traditional email user. In these days, use of avatar email is booming among email users. We avatar email users share the same belief that it is fun, fancy, and highly understandable. Even exchanging avatar email for resolving difficult tasks is perceived as cool. I, as a senior [-level employee], think that it is natural when I get avatar email from subordinates. There is no insult and no respect issue any more. I prioritize responding to the avatar email as quickly as I can.”

Therefore, companies may want to examine opportunities for implementing avatar email or other advanced forms of email systems as communication alternatives in their regional subsidiaries.

Third, this study found that both technological factors and human factors are important. Many technology implementations fail because the developers and implementers consider only technology factors at the exclusion of human factors. The success of avatar email was facilitated by a focus on both factors. The developers and implementers of avatar email systems attempted to develop the systems armed with the latest information and communication technologies. They announced avatar email through newspapers, technical magazines, Comdex, and other broadcasting media to change preconceptions of email systems, and provided a one year free trial period. These efforts resulted in the huge success of avatar email implementations and the result teaches us that both technical factors and human factors should be concurrently considered when implementing new email technologies.

Fourth, considering the fact that social influences from employees and superiors appear to govern important aspects of avatar email usage, human resource experts and information systems departments should devote efforts to develop a common norm for avatar email usage as a useful organizational communication medium.

Finally, the strong effect of self-efficacy on avatar email usage also provides useful information to human resource managers, suggesting the programs that provide self-confidence in using avatar email should be considered part of an overall organizational information technology training program.

In summary, organizations spend much time finding and implementing cost-effective communication solutions to enhance communication quality and business performance. The use of avatar email systems—the newest and most advanced type of email—is found to provide higher levels of usage compared to traditional email, and our study identifies factors that affect its adoption. Although current implementations of avatar email are crude compared to the promise of the technology, avatar email is expected to be a first-rate communication alternative in organizational environments of the future.

### References


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