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Americas Conference on Information Systems (AMCIS)

8-15-1997

A Framework for the Exploration of The Evolution of Electronic Meeting Systems in Multinational Corporations

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Abstract

The purpose of this paper is to identify an important development in videoconferencing and present a framework for future research and understanding of this technology. Video-conferencing is a rich medium that provides multiple cues through reoccurring channels of communication with immediate feedback capabilities supporting different languages and a high degree of personalization. The Information Technology (IT) infrastructure necessary to support the large bandwidth for video-conferencing is being expanded around the globe. Organizations dealing across national boundaries will be faced with additional equivocality in making decisions because of diverse cultural perspectives. Equivocality is reduced by allowing decision makers to communicate their individual understanding to each other in an attempt to develop a shared vision or interpretation of the circumstance. Desktop video-conferencing has the potential to be an important new tool for the coordination of multinational corporations.

Introduction

Room based video-conferencing became available in the 1960's as a possible corporate solution to corporate travel, improving coordination with remote sites and to meet the growing demand for meetings between business partners. This traditional video-conferencing was defined as dedicated conference rooms that are supported by telecommunication assets to connect the dispersed groups. The acceptance of this type of video-conferencing was hampered by high cost, space requirements and technological limitations.

Advances in technology and international competition are spurring the evolution and growth of video-conferencing. Some of these developments include the availability of broad band communication channels (e.g. ISDN, fiber optics), video hardware like small video cameras, add-on circuit boards, and international telecommunication and compression standards (e.g. JPEP, MPEG). This paper will present a framework for the study of the role of electronic meeting systems in reducing equivocality in multinational corporations. It will also suggest an evaluation system for selecting appropriate meeting technology.

Background

Information processing theory suggests that video-conferencing should be a fairly rich communication medium. A rich medium that provides multiple cues through reoccurring channels of communication with immediate feedback capabilities supporting different languages and a high degree of personalization. It has been suggested that the richness of a communication medium is associated with the reduction of equivocality.

Equivocality is defined as "the existence of multiple and conflicting interpretations about an organizational situation" (Daft, Lengel et al. 1987 p.556). Organizations dealing across national bounties will be faced with additional equivocality in making decisions because of diverse cultural perspectives. For example, a manager from a Texas subsidiary might perceive the action of an individual as commendable initiative while his Japanese counterpart might find the same actions inappropriate. The equivocality is reduced by allowing decision makers to communicate their individual understanding to each other in an attempt to develop a shared vision or interpretation of the circumstance. Because the incongruence of their perceptions may be subtle, understanding can be facilitated by indirect social queues such as facial expression or body language. Equivocality is contrasted with the concept of uncertainty which is defined as the absence of information. In this case, the meeting participants may have a shared understanding of the situation however, they must work in concert to obtain enough information to reduce the uncertainty.

Studies have suggested that room based video-conferencing is more effective at communicating information associated with planned agendas, little controversy and structured decisions. These studies have also found that the ability of local conference leaders to coordinate and support the technology are critical elements of a successful meeting (Gowan and Downs 1994; Kydd and Ferry 1994)

Currently, organizations are discovering another option to the traditional room based video-conference with the availability of desktop based video connections. Room based video-conferencing is characterized by large conference rooms containing groups of individuals that are connected through a telecommunication infrastructure to other dispersed groups. This requires participants to attend a local face-to-face meeting which is then electronically connected to other physically separated meeting rooms.

Desktop based video conferencing is a promising new technology that has been projected to have a potential impact to the organization greater than email. Desktop based videoconferencing is characterized by the availability of an individual to communicate facial expression, voice and data to each meeting member in isolated offices. The technology uses video cameras and high speed network connections to provide personal contact between participants. These connections are more convenient to the participants who can choose to attend the meeting without having to move to a designated conference room or travel to a remote location for a face-to-face meeting.

Currently, both the cost and limitations of the technology are decreasing at dramatic rates. At the same time, corporations are increasingly pressured by international competition to both lower costs and increase dispersed group decision making. The limited availability of digital communications infrastructures capable of supporting the data intensive flow of information required for desktop based videoconferencing is its most significant inhibitor. However, it has been predicted that current advances in data compression and transmission infrastructure will address many of the technical issues required to integrate audio, video and data transmission in desktop based conferencing in advanced, developing and under-developed countries.

Model Development

Room based video conferencing and desktop video-conferencing can be viewed along a continuum of communication channels, basic telephone at one end and face-to-face meetings at the other, that managers select based on the degree of equivocality in the meeting situation as shown in Figure One (Chidambaram and Jones 1993)(Palvia, Palvia et al. 1992). Managers select a communication channel trading off convenience with media richness. This selection process is confounded in the global arena when infrastructure limitations restrict the availability of technology intensive options.

Implications

The IT infrastructure necessary to support the large bandwidth for video-conferencing is being expanded around the globe. Video-conferencing can now be integrated as part of a desktop PC with capabilities similar to large scale meeting rooms. The global nature of the world economy makes video-conferencing an ideal problem solving tool over long distances when travel is infeasible. Workgroups within different organizations can exist in different places and work at different times (Sharma, Palvia et al. 1996). Figure 2 is a graphical representation of this relationship.

As technological barriers and operating limitations dissolve, information processing is no longer limited to a single country or time zone. Managers must now realize that workgroups can operate effectively across multiple countries, time zones and cultures. Culture and time, may only be a few of the possible variables impacting video-conferencing in the coming years. Organizational structure (reflected in the type of information processing), technology types and National IT infrastructures may all interrelate to effect efficient global video-conferencing.

Organizations are buying foreign firms, forming strategic alliances and building partnerships. No one communication method is going to solve or coordinate the myriad of problems associated with such

ventures. However, the continuing evolution of video-conferencing technology could be the bridge that allows firms to communicate internationally in near real time across national boundaries, time zones and within troublesome national infrastructures.

Conclusion

The Potential of Desktop based videoconferencing to revolutionize organizational communication has been widely reported in the popular press. It is anticipated that rapid technological improvements and expansion of technological infrastructures will allow desktop video-conferencing to become common place with an expectant shift in how managers relate to distant workers and colleagues in developed nations by the turn of the century.

Expected to be widely available in the next few years in advanced countries. Dispersion of desktop video conferencing in Developing and Under-developed countries is being slowed because of cost, international consensus on standards and lack of national telecommunication infrastructure. Being able to anticipate problems within developing infrastructures both within and outside the firm will aid mangers transitioning to a much improved and capable technology.

As desktop videoconferencing becomes available, exploratory research will be needed to determine how it differs from traditional room based videoconferencing. Research will need to be carried out to understand how pioneer adopters of this technology are using it to support meetings and reduce equivocality and uncertainty. This technology could also be examined using controlled laboratory and field experiments. As the technology is adopted by a critical mass of users (Markus 1987), large scale cross sectional surveys may be attempted to increase global understanding.

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