

# Chapter 1

## Communicative Changes Associated with Repeated Use of Electronic Meeting Systems for Decision-Making Tasks

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### **ABSTRACT**

*Although various technologies are widely used to support decision-making teams, we know relatively little about the use of specialized Electronic Meeting Systems (EMSs) and their use over time during ongoing projects. This study addresses that gap by examining how communication affordances (anonymous communication, participation equality, and influence equality) of some EMSs may change with repeated usage of the system for multiple decision-making meetings. Based on an EMS process model and related theories, the authors hypothesize that communicative benefits will decline after initial team interaction. Data from 14 intact decision-making teams (using an EMS for 3 separate meetings) provide strong support for most of the anonymity hypotheses, as perceptions of self and other anonymity decline and confidence in source attributions increases with repeated usage. There was partial support for the predicted changes in participation equality and influence equality. The authors conclude with practical implications and future research directions based on these findings.*

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## INTRODUCTION

In the contemporary organizational landscape, teams as well as information and communication technologies (ICTs) are fairly ubiquitous. A variety of tools can be used to help both virtual and face-to-face teams and their members engage in routine information sharing, discussion of ideas, coordination of tasks, and other forms of collaboration. A different set of technologies may be utilized when these teams engage in less routine decision-making surrounding strategic or scenario planning, crisis management, major assessments, product design, project management, or other complex meeting processes. One set of technologies that may support these more specialized decision making tasks is electronic meeting systems (EMSs). EMSs have been described as an information technology-based environment that supports meetings for groups, which may be distributed geographically and temporally (Turban, Sharda, & Delen, 2010). One of the most widely studied EMSs used for decision making is known as a group decision support system (GDSS), which we will examine here. In general, GDSSs are believed to promote team effectiveness as a result of their key communicative affordances, which include anonymity, equal participation, and equal influence.

These specialized GDSSs may not be commonly used technologies (see D'Urso & Pierce, 2009), but they continue to be used by a wide-range of organizations. GroupSystems, which is one of the most widely-studied of all GDSSs, notes on its website ([www.groupsystems.com](http://www.groupsystems.com)) that "Today over 25% of the world's most innovative organizations [based on BusinessWeek rankings] rely on our software to tap the wisdom around them, enhance innovation and accelerate decisions." They list Boeing, the CIA, IBM, Intel, PricewaterhouseCoopers, NASA, Homeland Security, Chevron, Hewlett-Packard, Cigna Systems, British Airways, Accenture, the Department of Defense, and Proctor & Gamble among their clients. Facilitate.com, another provider of GDSS

services, provides an equally impressive list of clients on their website ([www.facilitate.com](http://www.facilitate.com)), having worked with large and small corporations (such as: Aetna, Disney Parks and Resorts, Dyson, GMAC, Horizon Blue Shield of New Jersey, Lockheed Martin, Navteq, Sony Ericsson, Thomson Reuters, T Rowe Price, and Unisys), higher education institutions (such as Arizona State University, Broward Community College, University of North Carolina Greensboro, Johns Hopkins, Morehead State University, Rutgers University, University of Toronto, and several schools in the U.K.), military/federal/state agencies (such as the Defense Logistics Agency, Fort Leavenworth Mission Command Battle Lab, Federal Reserve Bank, Joint Warfare Analysis Center, NASA Langley Research Center, NASA Office of the CIO, Social Security Administration, U.S. Army Special Operations Ft Bragg, U.S. Joint Forces Command, and U.S. Special Operations Command), as well as several international organizations and nonprofits.

These tools can be of crucial importance for key decision-making activities and ongoing projects. For groups engaged in these more significant efforts, GDSSs may be used in repeated meetings as teams attempt to work through the various phases of major projects that often require a variety of decisions. Yet, we have very little research addressing the use of specialized GDSSs over time during ongoing projects. Although a handful of longitudinal GDSS studies exist (see Batenburg & Bongers, 2001; Chidambaram, Bostrom, & Wynne, 1991; Contractor, Seibold, & Heller, 1996; Gopal & Prasad, 2000; Hollingshead, McGrath, & O'Connor, 1993; Marsden & Mathiyalakan, 2003; Reinig & Shin, 2002; Ziguers, DeSanctis, & Billingsley, 1991), the body of work addressing this specific form of EMS has not yet established if key aspects of electronic meetings will persist with repeated use of the system. More typically, the research tends to "employ a one-shot methodology with ad hoc groups, completely ignoring the effects of time and history..." (Reinig & Shin, 2002, p. 305). Although "the majority of natural groups

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