Chapter 15

Decision–Making in Organizations:
A Case Study of the Use of GDSS in University Planning

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ABSTRACT

The use of a collaborative decision-making model has been shown to produce more creative solutions and to increase the size of the stakeholder pool, as well as increase the commitment of stakeholders to final decisions. This study combines the research in group decision-making using the functional theory and the bona fide group perspective along with the large body of research on Group Decision Support Systems (GDSS). The purpose is to assist organizations in both making decisions and understanding the processes used and individuals involved in those decisions. This longitudinal study of one university's collaboration process presents their multiple planning efforts in accreditation and creating civility. Two participant-observers discuss several bona fide decision making groups across a five-year period along with the application of a GDSS that uses Saaty's Analytic Hierarchy Process (AHP) to assist in that decision-making. The usefulness of GDSS is discussed and its future applications are suggested.

INTRODUCTION

Group Decision Support Systems have been the subject of study for over 25 years. DeSanctis & Gallupe (1987) lay the foundation for this research and organizations have adopted and used various forms of these systems for Business Process Management (BPM).

We offer a suggestion that comes from the group communication literature and also uses Group Decision Support Systems (GDSS) to assist in the process. We argue that we need to think about the factors impacting the decision process that may have nothing to do with the technology itself.

One outcome of our discussion will be to suggest research strategies to enhance our understanding of groups that make decisions in their day-to-day work and to suggest better ways to enhance adoption, use, and inherently, organizational outcomes with the use of technology such as GDSS.

BACKGROUND

The introduction of technology and the Internet age in the 1990's created new organizational forms (Fulk & Collins-Jarvis, 2001). E-mail increased the level of access of all workers to one another, and tended to democratize the workplace (Deetz, 1992). In this model, rich collaboration was possible, and formalism dissipated. Vastly improved productivity levels in the late 1990's were associated with this increase in communication applied at every level. Thus, a collaborative decision making model has been increasingly embraced throughout the last decade as a way to bring more complete information to bear on decisions, and to increase ownership of decisions within the organization.

Most research studies of group decision-making have been done using zero-history student laboratory groups meeting for a single time period to solve an artificial problem assigned by the researcher (Frey, 1994). The studies done using various groupware techniques (GDSS or GSS) have reported improvements of 16% in the quality of decision-making. There have been few studies conducted to date, however, on natural groups, termed *bona fide groups* (Putnam & Stohl, 1990, 1996), but studies that have been conducted demonstrate improvements in the 85% range (Fjermestad & Hiltz, 1998-1999; Rains, 2005). Although these few results are encouraging, there is a need to test these findings by conducting longitudinal studies of *bona fide* groups and systematically testing the effects of a variety of promising group support tools. Studies of this kind have often not been done because they are costly and require a long-term commitment, as well as long-term access to the studied environment.

The use of a collaborative decision-making model has been shown to produce more creative solutions and to increase the size of the stakeholder pool, as well as increase the commitment of stakeholders to final decisions (Gallupe & DeSanctis, 1988).

Functional Theory

Group scholars over the past 50 years have wrestled with the problem of what methods yield the best group decision-making results. Two lines of research are especially relevant to this suggested research: functional theory (Gouran & Hirokawa, 1983, 1996; Gouran, Hirokawa, Julian, & Leatham, 1993) and the *bona fide* group perspective (Putnam & Stohl, 1990, 1996).

According to the functional perspective, the quality of group decision-making performance is related to a group's ability to meet five functions during interaction:

1. Developing a thorough and accurate understanding of the problem (*problem analysis*). Given the information available to it, a group needs to arrive at an accurate (i.e. reasonable) understanding of (a) the nature of the

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