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Using group support systems for strategic planning with the United States Air Force

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Abstract

Strategic planning is a critical part of establishing an organization's direction. Although strategic planning is utilized throughout the United States Air Force today in various forms, group sessions can become time-consuming without structured planning and a focus on group communication. Computer-supported strategic planning, making effective use of technology, is one way to improve the strategic planning process. This research implements a group support system (GSS) as a communication tool to facilitate the strategic planning process. The researchers investigate effects of a facilitator's using technology to structure verbal and electronic communication, with the goal of increasing quality output and improving group member satisfaction. This project was completed at Mountain Home Air Force Base with the support of the 366th Wing. As predicted, a GSS facilitator's structuring verbal and electronic communication improved the quality of the strategic plan, reduced time to complete a strategic plan, and increased satisfaction with the strategic planning process. The results did not indicate increased commitment to implement the strategic plans developed by a group using GSS facilitation.

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In the new millennium, the work of an organization often occurs within groups or teams [21,150]. Consequently, cooperation and collaboration within groups is critical to an organization's effectiveness [22]. Group work offers a multitude of advantages to an organization through sharing information, generating ideas, making decisions, and reviewing the effects of decisions [137]. Decision-making groups are social entities that require effective coordination of time and resources [170]. Generally, the goal of such groups is to determine an optimal solution to an issue. Ideally, the group will reach a "better" decision than an

individual because the collective knowledge and skill of the group is typically greater than an individual's knowledge or skill [119,122,179]. Also, making a decision in a group disperses individual accountability associated with decision-making.

The goal of much research on group interaction is to improve the group's ability to make quality decisions. According to Johanson and Swigart [107,p.92], the issue of quality is increasingly important in organizations, yet the specific definition is elusive. The authors claim that "quality used to mean something well-made, crafted with the attention of a master. . . something fitted closely to its purpose, or something deliciously apt". Current organizations invert the traditional relation of time to quality and no longer support the concept that the longer one works on something the

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higher the quality. According to Beehtell [19], quality means continuous improvement in fundamental processes. In this study, quality is how close actual output meets the intended purpose. The objective is to analyze the strategic action plans against a criteria for what an ideal plan looks like to judge “quality” of the output from the strategic planning sessions.

Researchers have followed two general paths to meet this challenge [60]. One path is descriptive, investigating what groups do when making decisions. Specific variables associated with this type of analysis are communication behavior, group size, meeting length, participants’ gender, and room arrangement [149,160]. Descriptive research provides knowledge claims that indicate how decision-making groups interact. For example, Bales [14] and Bales and Strodtbeck [17] found that successful decision-making groups went through three interaction stages or phases: orientation, evaluation, and control. Hence, several decades of researchers analyzed group interaction and described different phases of this interaction in varying detail [9,16,113,158,159,163,164].

A second path is prescriptive group research. This path uses knowledge claims from descriptive research plus logic to develop theories on how groups ought to interact when they are making a decision [53]. An implicit assumption of prescriptive theories is that decision-making is rational. Prescriptive theories suggest steps to reach a quality decision [41,44,167,168]. These steps are based on a rational approach to decision-making [157]. Hirokawa [90,91] reports that groups that follow rational decision-making approaches produce higher-quality group decisions than groups that do not follow decision-making prescriptions. Prescriptive theories are criticized because group members are assumed to behave rationally, and the standard structure of a prescriptive approach may limit creativity [12,179].

Both descriptive and prescriptive approaches to group decision-making are helpful in developing methods that can improve the quality of group decision-making [60,93,95,96,140–142]. For example, descriptive research has shown that successful groups critically analyze assertions presented, while prescriptive theories often provide a structured process for critical analysis of the problem, as well as a process to generate alternative solutions. This study uses a systematic integration of these two lines of research to

explain how a group support system (GSS) can be used to improve group decision-making quality and satisfaction with the group decision-making process.

The investigation is designed to achieve the following goals: (1) to conceptualize the various roles within structured communication when GSSs are used to improve a group’s ability to make high-quality decisions; (2) to conceptualize the functions of a group facilitator’s potential intervention strategies in managing groups using GSSs; and (3) to establish a context in which to investigate the impact on decision quality and satisfaction when a facilitator uses a GSS.

1. Group decision-making communication

Groups are not static entities; they are processes that exist in and through members’ activities [24]. Communication is a principal activity for groups, and argument is an important regulatory function in group interaction. Willard [176] argues that society has mixed feelings about conformity, dissent, innovation, and rebellion. On the one hand, conformity leads to harmony, yet dissent and rebellion can lead to innovation [119,121]. MacRae [118] argues that when public policy analysts engage in discourse with public leaders and citizens, the interaction should include both distinct adversarial and consensual discourse. Disagreement is desirable when it becomes a vehicle that produces innovative alternatives; yet, is unacceptable when it becomes a vehicle that slows the group down, creates disharmony, or drives the group to dissolve without reaching acceptable closure [119,120].

1.1. Ideal model of group decision-making

Adkins [5] developed an ideal model of group decision-making derived from van Eemeren et al.’s [169] ideal model of argumentative discourse. Used as a comparative set of standards, this ideal decision-making model is a set of decision rules and “higher order” conditions that represent a subject as it *could be* [99,100]. One use of an idealized model is identifying mismatches between actual and ideal; these mismatches may suggest structures or techniques to diminish that gap [82]. MacRae [118] used the construct of comparing what *is* to what *ought* to be when he noticed that policy-making groups focused much

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