

## CHAPTER 8

# Group Facilitation and Group Support Systems

Robert P. Bostrom  
*University of Georgia*

Robert Anson  
*Boise State University*

Vikki K Clawson  
*Walden University*

### INTRODUCTION

Numerous studies have documented widespread dissatisfaction with the process and outcomes of group meetings (e.g., Mosvick & Nelson, 1987). In an effort to improve meetings, Group Support Systems (GSS) have been developed and have become commercially available in the last three years. The field research evidence on the effectiveness of these commercial systems has been very positive. For example, IBM has documented, through a cumulative comparison of person-hours expended, a 56 percent savings attributable to GSS use (Grohowski et al., 1990). However, it is unlikely that a GSS, in and of itself, is sufficient to turn meetings into satisfying, productive events. McGoff and Ambrose (1991), describing IBM's application of GSS to over 900 group sessions, note that,

although the technology has matured to the point where it is very easy to use by almost anyone, our experience continues to confirm that the quality of the group session is predominantly dependent on the facilitator. (p. 807)

The implication is clear: The success of a GSS supported meeting is not a given, but depends on how the GSS is applied! There is still much to be learned about how to best apply a GSS. A significant question is how to effectively plan, coordinate, and direct-to "facilitate" -the work of group members who are using a GSS. The technology itself provides some facilitation, such as the activity structuring provided through a particular software tool. Nevertheless, GSS must be used appropriately to take advantage of these capabilities. In addition, the GSS does not address other areas of group functioning, such as meeting design or managing verbal communications. These and other facilitation activities must come from people. An integration of good computer tools with effective human facilitation can lead to a more effective meeting than either by itself.

Facilitation is viewed as a set of functions or activities carried out before, during, and after a meeting to help the group achieve its own outcomes. The essential characteristic of facilitation is to help make an outcome easier to achieve. Facilitative functions may be accomplished by group members or leaders or by an external facilitation specialist. Although one person usually has the formal responsibility of being the primary facilitator for a particular meeting, facilitation must be shared by all attendees. (Throughout this chapter, we use the term facilitator to designate this primary facilitator.) All other participants and the GSS are viewed as secondary facilitators.

One cannot understand or manage GSS sessions without focusing on facilitation. One of our basic assumptions is that the facilitator shapes and guides the meeting process and the use of the GSS, rather than the GSS driving the process. The GSS is basically a set of tools that is used by the facilitator and the group to accomplish meeting outcomes. Facilitation, on the other hand, is a dynamic process that involves managing relationships between people, tasks, and technology, as well as structuring tasks and contributing to the effective accomplishment of the meeting's outcomes. The purpose of this chapter is to provide a solid foundation for those interested in understanding and studying facilitation in a GSS environment. This foundation is provided by accomplishing the following:

- By providing a framework for researching and understanding facilitation in GSS environments
- By summarizing relevant facilitation research in both GSS and non-GSS settings
- By addressing relevant issues that have been raised in this area (e.g., need for facilitator, training, etc.)
- By suggesting directions for future research in this area

The chapter begins with the development of a conceptual model of a meeting including the role of facilitation and GSS within it. This is followed by a summary of prior research in the area. Next, a general meeting facilitation framework. is presented. Finally, future research directions are outlined through a discussion of key GSS facilitation issues.

# MEETING MODEL

## What Is a Meeting?

We view a meeting as a goal- or outcome-directed interaction between two or more people (teams, groups) that can take place in any of four environments (same time/same place, same time/different place, different time/same place, and different time/different place). Each of these environments creates different conditions that affect GSS design and usage and facilitative interventions. Most GSS facilitation research and discussion has focused on face-to-face environments (same time/same place).

Our model of a meeting, presented in Figure 8.1, is outcome-focused. It depicts a meeting as a sociotechnical systems change process. In other words,

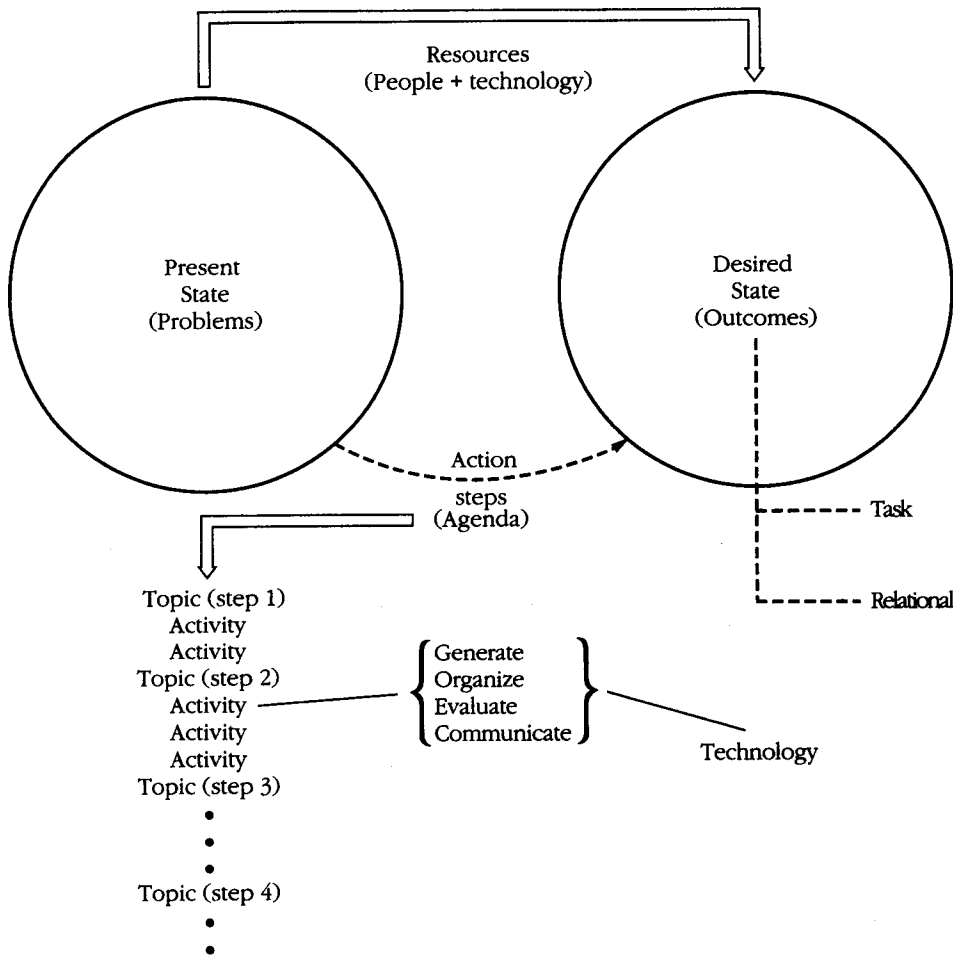


FIGURE 8.1 Goal/outcome-directed meeting.

a meeting is an interaction that utilizes a set of resources (people, technology) to transform the group's present problem state into its desired future state (accomplishing specific meeting outcomes) through a series of action steps (agenda).

Action steps can be described in terms of a core set of generic activities. That is, an agenda or agenda topic can be broken down into a number of basic information-processing activities used to accomplish that agenda or topic (see Figure 8. 1 ). For example, to accomplish a particular topic, a group might *generate* information; *organize* the information into alternatives; *evaluate and select* alternatives; and discuss (*communicate*) their actions. These generic activities can be used to describe an agenda for any meeting task. GSS tools and other meeting technology can also be classified in terms of the activities they support, for example, generate. Thus, the facilitator can use this classification framework to help select appropriate GSS tools and other meeting techniques to be used in the meeting. (Bostrom & Anson, 1988, 1991)

Our meeting model (Figure 8. 1) also depicts two general types of meeting outcomes that a facilitator helps a group accomplish: task and relational. From a task outcome perspective, a meeting brings together a set of resources (primarily people) to accomplish a task. The task provides the "content" or "what people will be interacting about" in the meeting. There are many tasks that can be accomplished in a meeting: creating a strategic plan, solving a problem, making a decision, sharing information, resolving a dispute, negotiating a contract, and so on. This fact has led some authors to develop task- (McGrath, 1984) and meeting-type taxonomies (Mosvick & Nelson, 1987) .

Thus, a set of specific task outcomes is developed for a meeting. Individuals, often with very different perspectives or frames of reference about the task, are then invited to the meeting to accomplish these outcomes. From a task perspective, the meeting is used to integrate these various individual perspectives into a group frame or perspective that best represents the groups' shared understanding of the task situation and the meeting outcomes.

From a relational outcome perspective, a meeting is a relationship between people. This relationship can be broken into four subrelationships, based primarily on how participants feel about or react to certain aspects of the meeting. The first of these aspects concerns the content of interactions (*the task*). Each participant has various ways of reacting to actual products, that is, the plans, decisions, and so on, being created. The second aspect concerns the feelings that group members have toward each other (*interpersonal*); these feelings are often reflected in the amount of rapport, openness, trust, and cohesiveness in the group. The third aspect concerns the interactions going on (*process*), for example, how participants react to the agenda, activities, and GSS. The last aspect concerns how participants react to themselves and their contributors (*self*). How a person reacts to himself or herself can affect that person's self-esteem or self-efficacy and can produce certain feelings.

Each of these subrelationships (task, interpersonal, process, and self) provides a source of emotions in a meeting, and, in return, the feelings created

in a meeting will influence the development and quality of these relationships. The maintenance of positive relationship in areas 1 and 2 is usually referred to as a maintenance outcome in organizational behavioral literature. We will use the term **relational** to denote outcomes in all four areas. Affect or emotions are temporary phenomena that are brought into meetings, where they are created, reinforced, or altered, and this in turn leads to more permanent or longer-term effect relationships. Relationships are characterized by a variety of constructs such as cohesiveness, satisfaction, rapport, commitment, acceptance, comfort, and self-esteem. These relationships are obviously interrelated, (e.g., an atmosphere of interpersonal respect is conducive to positive self-esteem). Relationships also affect the achievement of task outcomes (e.g., positive self-esteem is conducive to members contributing ideas and getting involved in discussions).

The relational outcome of a meeting is to create and maintain positive emotions that will lead to constructive relationships that promote working together effectively. Thus, in an effective meeting, negative affect is not avoided but instead refocused in a positive direction. In fact, many facilitators comment that no affect (i.e., no energy) is their biggest problem.

Practicing facilitators in both GSS (e.g., L. D. Phillips & Phillips, 1990; Bostrom, et al., 1991) and non-GSS environments (e.g., Kayser, 1990; Doyle and Straus, 1976) emphasize the importance of positive affect and relationships. However, little GSS research has focused on relational outcomes especially at the affect or emotional level. O'Reilly (1991) makes a similar comment about the organizational behavior field in general. Given the importance of relational outcomes, more GSS research is needed in this area.

In most meetings, there is some combination of both task and relational outcomes to achieve. Even in cases in which task outcomes are strongly emphasized, good relationships need to be developed and maintained in order for the group to work effectively (Chidambaram et al., 1990-91; Johansen et al., 1990-1991). In other cases, the group development outcome is paramount, regardless of whether or not task outcomes are present.

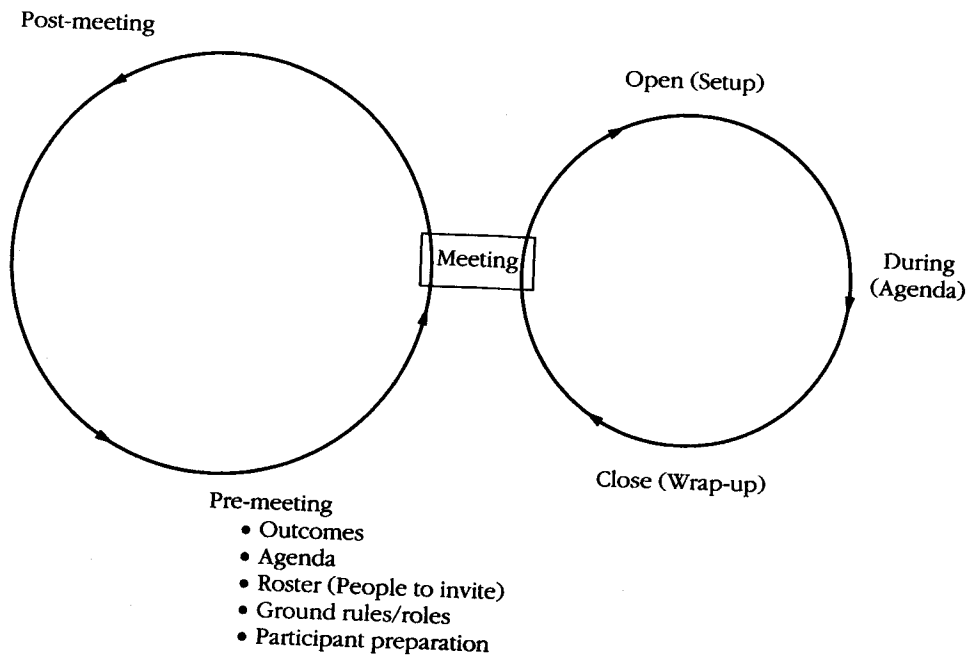
### **Facilitation Activities by Meeting Stage**

Meetings rarely die—they just keep rolling along in a cycle of premeeting, meeting, and postmeeting activities (Oppenheim, 1987). The actual meeting is but one phase of a three-phase cycle of activities that constitute a meeting (see Figure 8.2). One cycle of activity frequently sets the scene for the next cycle. What happens in the meeting phase is strongly influenced by premeeting activities, which in turn is affected by postmeeting activities of the previous meeting. These phases provide a useful means of categorizing important facilitation-related activities (Bostrom, 1989; Mosvick & Nelson, 1987; Wagner & Nagasunderam, 1988). Each phase is reviewed below.

It is important to design or plan the meeting before it convenes. The facilitator works with the group leader and/or members to develop a meeting

design. An effective design focuses first on formulating the problems and outcomes to be addressed and developing an appropriate meeting agenda of the topic and activities to be undertaken (Bostrom, 1989). Next, the facilitator will select the appropriate technology (techniques, GSS tools, etc.) to carry out each activity (Bostrom & Anson, 1991). Once the outcomes and agenda are established, meeting participants can be selected and informed about any meeting preparation. Participants' roles (facilitator, decision makers, etc.) and meeting ground rules (e.g., no attack rule) need to be established. Although critical to the success of the meeting, this premeeting stage is often neglected or underemphasized in practice (e.g., Mosvick & Nelson, 1987). In fact, one of the biggest benefits of the introduction of GSS is that it forces people to pay careful attention to meeting design (Watson et al., 1991).

Both task and relational outcomes must be accomplished during the meeting. A meeting is usually divided into the three phases shown in Figure 8.2: open (setup), during (agenda), close (wrap-up) (Bostrom, 1989). During setup, the facilitator must clarify and get agreement on outcomes, make clear roles and rules, and establish a positive group affect. During the meeting, the primary responsibility of the facilitator is to help the group adapt and execute the agenda to accomplish the task outcomes (e.g., develop an action plan). The facilitator must also ensure that positive affect and constructive relationships are developed and maintained. Poor relations, that is, negative affect, can impede task-related work both during and after the meeting. Good relations, that is, pos



**FIGURE 8.2** Meeting cycle model.

itive affect, can create a resourceful, synergistic atmosphere to accomplish the task, and to maintain group cohesion and high energy level after the meeting. During closing, facilitators usually summarize the meeting, detailing each point that requires future action (who will do what and by when, remind people of agreements, etc.).

After the meeting, the immediate dissemination of results reinforces the agreements made and maintains momentum into implementation (Mosvick & Nelson, 1987). Monitoring implementation is generally left to those responsible. The role of the facilitator, especially if he or she is not a member of the group, is minimal in this postmeeting stage. The facilitator may, however, be asked to evaluate the meeting and to suggest changes for future meetings,

## REVIEW OF PRIOR RESEARCH LITERATURE

This section overviews research relevant to facilitation in GSS environments. It focuses on research from business (organizational behavior, etc.) and information systems disciplines. A recent review of psychology, social psychology, and communication literatures revealed a general scarcity of research addressing ways that group performance can be enhanced through facilitation (Hirokawa & Gouran, 1989). Our review leads to the same conclusion, especially concerning research on facilitation in GSS environments. Because organizations continue to rely extensively on groups and meetings to carry out important tasks, this lack of theoretically sound and empirically valid prescriptions for facilitating meetings is disconcerting.

In general, past research has had two major focuses. The first is descriptive, documenting problems occurring in meetings. The second focus is developing and testing structured procedures for overcoming these problems and improving meeting outcomes. The facilitation and GSS research areas are part of this latter focus.

### Meeting Research

After a review of the many surveys and experimental research reports on meetings, two glaring conclusions can be made. First, meetings consume a great deal of time and effort in organizations. The prevalence of meetings makes the second conclusion all the more alarming. Most meetings are perceived to be extremely unproductive in terms of efficiently utilizing the participants' time and effectively achieving the meeting objectives.

This literature identifies a variety of problems that lead to unproductive meetings. The major problem areas are listed below (Hirokawa, 1987; Hirokawa

- *Pace*, 1983; Monge, 1989; Mosvick & Nelson, 1987; Oppenheim, 1987; Tobia & Becker, 1990; Weinberg, 1981):

- *Poor meeting design*: The meeting lacks goals and an agenda; it is disorganized; participants are inadequately prepared for the meeting; the people

selected to participate are not appropriate choices, given the topic and agenda of the meeting; and so on.

✂ *Poor focus:* Participants wander off the subject; discuss irrelevant or redundant information; and so on.

✂ *Lack of closure:* The meeting is too lengthy; it is inconclusive; it lacks published results; and so on.

✂ *Poor process:* Participants do not rigorously examine or challenge opinions and assumptions; there is only a superficial discussion of the alternatives; influential members inhibit the group; and so on.

These problems occur frequently because effective guidelines or procedures are not used. The major reasons effective procedures are not used appear to be insufficient training, inexperience (Tobia & Becker, 1990), and resistance to change (Poole, 1991).

### Group Dynamics/Process Interventions Research

A variety of group dynamics interventions using procedural structures to counter the meeting problems discussed above have been investigated. For example, brainstorming (Osborn, 1957) and nominal group technique (Van de Ven & Delbecq, 1974) are two popular and effective procedural structures; the Consensus Approach (J. Hall & Watson, 1970) includes fairly general guidelines and has been found to be effective; the developmental discussion technique (N. Maier & Maier, 1957; Maier & Hoffman, 1960; Miner, 1979; White et al., 1980) is an effective approach that has been studied extensively in experimental research.

Table 8.1 displays supporting research for four general intervention characteristics that appear to have the broadest positive impact on both task performance and relationships. These characteristics include structured procedures, encouraging effective task and relational behaviors, and training.

Reviewing these studies highlights several key points. First, applying structured procedures produces better results than normal group interaction. Second, more-structured interventions are generally found to be superior to less-structured or naturally occurring group interaction (Miner, 1979; Van de Ven & Delbecq, 1974; White et al., 1980). These are consistent findings throughout the structured intervention literature.

Third, broader interventions, which support both effective task and relational processes, tend to be superior to more narrowly focused interventions. Hackman & Kaplan (1974) assessed the effectiveness of a narrowly focused intervention and an interpersonal intervention (requiring discussion of task procedures before working; discussing the group's interpersonal processes during work breaks). In both cases, the intervention produced its intended effect but also produced negative spillover effects. For example, the task intervention led to improved task performance but also more interpersonal conflict and process

**TABLE 8.1** Key Findings from Group Process Interventions Studies

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<b>Interventions That Broadly Improve Group Processes and Outcomes</b>
<p><b>1. Applying Structured Procedures</b></p> <ul style="list-style-type: none"> <li>providing instructions to group members (J. Hall &amp; Watson, 1970)</li> <li>extending problem formulation (Volkema, 1983)</li> <li>extending idea generation (Ball &amp; Jones, 1977)</li> <li>separating idea generation from evaluation (Van de Ven &amp; Delbecq, 1974)</li> <li>delaying solution adoption (Hoffman, 1979)</li> </ul>
<p><b>2. Encouraging Effective Task Behaviors</b></p> <ul style="list-style-type: none"> <li>discussing task procedures (Hackman &amp; Kaplan, 1974)</li> <li>applying explicit criteria (Hirokawa &amp; Pace, 1983)</li> <li>using factual information (Hirokawa &amp; Pace)</li> <li>maintaining focus on task goals (Dalkey &amp; Halmer, 1963)</li> </ul>
<p><b>3. Encouraging Effective Relational Behaviors</b></p> <ul style="list-style-type: none"> <li>encouraging broad participation and influence (Hoffman &amp; Maier, 1959)</li> <li>managing conflict constructively (Putman, 1986)</li> <li>emphasizing consensus acceptance over majority votes (J. Hall &amp; Watson, 1970)</li> <li>applying active listening techniques (Bostrom, 1989)</li> <li>discussing interpersonal processes (Hackman &amp; Kaplan, 1974)</li> </ul>
<p><b>4. Training</b></p> <ul style="list-style-type: none"> <li>training group members and/or leaders (J. Hall &amp; Williams, 1970)</li> <li>training external facilitators (Anson, 1990; Bostrom, 1989; Hirokawa &amp; Gouran, 1989; N. Maier &amp; Maier, 1957; Miner, 1979; White et al., 1980).</li> </ul>

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problems; the interpersonal intervention led to improved satisfaction with the group but poorer decisions.

Most of the studies have intervened with a structured procedure administered by an external facilitator. An intervention that is essentially scripted or fixed by a procedure is a highly restrictive and comprehensive type of facilitation. There has been far less attention paid to flexibly applied facilitation. Here facilitators are trained in a range of procedures and support techniques that they adaptively and flexibly apply during the meeting (Hirokawa & Gouran, 1989). It was found that more highly trained facilitators are more effective than facilitators with less training (Hoffman & Maier, 1959; Maier & Maier, 1957). It has also been found that meetings are more effective when group members and/or leaders are provided some facilitation training (Hall & Williams, 1970).

## GSS Research

Group Support System (GSS) technology has been advanced as a means of making procedural structures available to the group and facilitating their use. There is ample perceptual and observational research evidence that GSS can positively alter group interaction processes (e.g., Zigurs et al., 1988). However, there is a mix of findings concerning the ultimate effects of GSS use on task and relational outcomes (See Chapter 2).

Differences between experimental and field study findings suggest that facilitation, among other factors, may be a critical factor in GSS effectiveness. This dichotomy has been discussed by various GSS researchers (e.g., Bostrom & Anson, 1988; Dennis et al., 1988; Dennis, Nunamaker, & Vogel, 1991). Dennis, Nunamaker and Vogel (1991) surveyed the majority of lab and field studies thus far reported. They concluded that, "the use of a facilitator can affect meeting outcomes at least as much as any other component in the (GSS) environment" (p. 124).

This conclusion is reinforced by field experience. McGoff and Ambrose (1991) and Grohowski et al. (1990) provide summary analyses of IBM experiences with applying computer support in over nine-hundred group sessions. They emphasize the critical role of a facilitator for ensuring the success of GSS supported meetings, especially their premeeting design role. Similar conclusions were reached in a recent survey of users of a keypad-based GSS (R. Watson et al., 1991).

The mixed findings among experimental studies may be due in part to differences among how groups were "facilitated" by the experimenters. Reports usually do not elaborate on how procedures are applied, so this possibility is difficult to assess. However, there have been only three studies that directly examined the effectiveness of facilitators in experimentally controlled conditions.

The first study, which compared the consensus and satisfaction of groups, provided the groups either with no facilitation (user-driven approach), technical facilitation only (chauffeured approach), or process facilitation (facilitation approach) (G. Dickson et al., 1989). It is important to note that the process facilitation treatment involved a facilitator who rigidly imposed a structured approach on the group rather than flexibly working with the group. This study found that facilitated groups had lower consensus and satisfaction than groups provided only with technical, chauffeured support. It appeared that many groups resisted the task structure unilaterally imposed by the facilitator, which negated some of its impact. On the other hand, both chauffeured and facilitated groups had more satisfaction and consensus than did user-driven groups. The authors suggested that satisfaction was related to relieving the users of concern with technical operation of the overall system.

The second study took a flexible approach to process facilitation by training a number of facilitators (Anson, 1990). The study compared groups provided with GSS or no GSS support, and process facilitator or no process facilitator support. Anson found that flexible process facilitation, whether supplied in the

presence or absence of computer support, significantly improved perceptions of interpersonal relationships and group processes. Combined facilitator and computer support was most effective on average, although its effects were not significantly improved over either support applied separately.

The third study took an approach to facilitation similar to that of the second study (Anson & Heminger, 1991). The study examined groups of graduate students engaged in developing a case analysis class report. All of the groups were provided computer support for their initial analysis effort, but half of the groups were additionally supported by a process facilitator. Process facilitation consisted of flexible intervention into the group interactions, both during the meeting and the premeeting planning. The authors found that flexible process facilitation, supplied in the presence of computer support, produced significant improvements in member perceptions of group processes and task outcomes.

### Summary of Research

Researchers have identified a variety of structured procedures and guidelines that can help overcome meeting problems. External process facilitation and GSS are two means of applying effective procedures outside of relying on the members themselves to do so. There is evidence that GSS can positively impact group processes, resulting in improved task and relational outcomes. There is also evidence to support the effectiveness of flexibly applied, external facilitation. Initial evidence indicates that flexibly applied process facilitation by external facilitators can supplement and/or enhance GSS effectiveness.

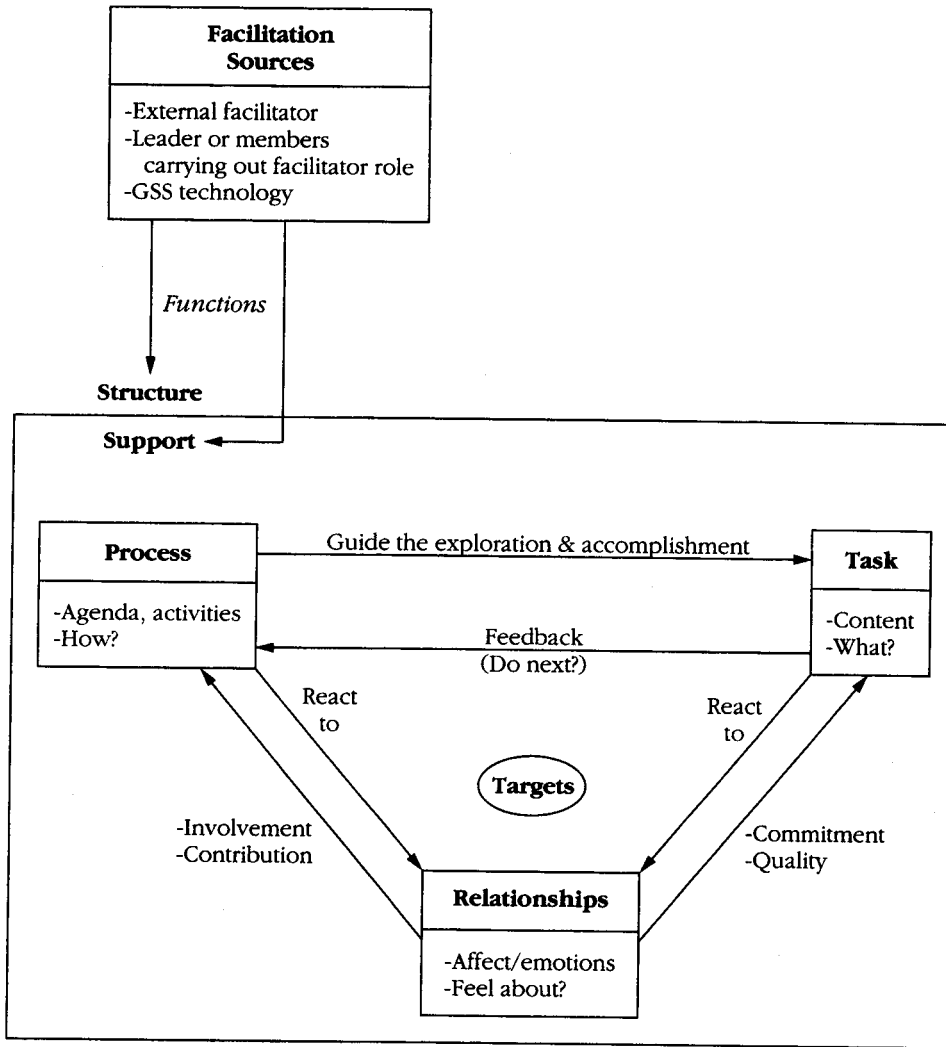
## A MEETING FACILITATION FRAMEWORK

### Overview

The purpose of this section is to present a framework for understanding and investigating facilitation in GSS environments. The framework is visually represented in Figure 8.3 and described below.

A given source of facilitation (external facilitator, leader, member, GSS) provides structures (e.g., agenda, procedures, GSS tools) and/or support (e.g., the facilitator administers a procedure, or deals with a disruptive participant) to a group in order to positively influence how the group accomplishes its outcomes. Structures provide an overall frame (represented by a rectangle around the targets in Figure 8.3) or context to activate individuals or groups to behave in a particular way. On the other hand, support activities are used primarily to maintain and promote these structures, encourage effective task and relational behaviors, and deal with disruptive influences in the meeting.

As illustrated in Figure 8.3, a facilitator, by his or her actions, attempts to influence three general targets: meeting process, *relationships*, and task outcomes. Structures are applied primarily through the development of the meeting process (e.g., agenda). These structures will influence the explo-



**FIGURE 8.3** Facilitation framework.

ration and accomplishment of task outcomes (content: the what?) and relational outcomes (affect/emotions: feel about?). In return, the individual's and/or the group's affect-relationships will influence an individual's involvement in and contribution to the process, the quality of his or her contribution, and his or her commitment to and acceptance of the task outcomes (decision, plan, etc.).

It is interesting to note that the framework in Figure 8.3 can be applied to either the individual, subgroup, or entire group. In other words, the facilitation action can be focused on the individual and/or the group. For example, an individual engages in a particular activity (process) in order to focus on or explore a specific dimension of the task. This cognitive activity results in an

individual making a contribution that leads to the development of a group cognitive frame. Thus, both individual and group frames of reference of the task are interacting in the meeting.

The participant experiences certain emotions while participating in the activity, and these feelings may change as a result of this participation. Although it is difficult to measure, the emotional life of a group is a useful concept (George, 1990; L.D. Phillips & M.C. Phillips, 1990). Emotions expressed by the group run the full range of feelings experienced by individuals. Thus, individual and group affect are also influencing the meeting process and task and relational outcomes. The facilitator intervenes into this dynamic interplay between the process, affect, and task, both with the individual and group.

In summary, facilitation, or more specifically facilitative acts or behaviors, can be described in terms of three general dimensions as illustrated in Figure 8.3:

1. Sources are the initiators of facilitative acts, including people (group members or leader, an external facilitator) or technology (GSS).
2. Targets are what the facilitative acts are trying to influence, including how the group does its work (process), the content of work (task) and/or how the group works together (relationships).
3. Functions are groupings of facilitative acts or behaviors. We have chosen two very general functions, structure and support, to categorize facilitative acts.

For example, an external facilitator (source) may need to influence how the group creatively interacts (process target) by applying a brainstorming technique (structure). The facilitator would manage (support) the brainstorming structure by acting as the recorder and by carefully summarizing each contribution. Issues concerning each of these dimensions are treated in the following sections.

### **Facilitation Targets**

Structure and support activities may be directed at process, task, or relationships. In a meeting that emphasizes task outcomes, members are brought together primarily for their task content expertise and judgment. Their efforts to contribute to and influence the substance or content of discussions could be described as "content facilitation." Likewise, an external or third-party individual, who has specific task expertise, could be brought in as a content facilitator. However, most people use the term (process) facilitation to denote interventions to the group process or relationships. Process facilitation only indirectly influences the content of the discussion by managing the procedural and relational context of the interactions. A simple example involves a group member who facilitates the process by suggesting that ideas be contributed in a roundrobin fashion, instead of facilitating the content by suggesting that the group

consider a given alternative. Although computers could be used as content facilitators (e.g., expert systems), most GSS focus on improving the process. Thus, in this chapter we focus on facilitative behavior that is targeted at group process and relationships.

### Facilitation Sources

There are three general types of facilitation sources: (1) external facilitators, (2) group members or leaders, and (3) GSS. All three sources may be present and involved in facilitating during a meeting, although one or another source may dominate during an activity.

The first source is the group members or leaders. In most meetings, the members and leader are the sole sources of facilitation. Because most members or leaders are invited to a meeting based on their content expertise, a triple responsibility is placed on these individuals. They must be concerned with the task-related discussions, group processes, and group relationships. This triple responsibility and a lack of facilitation skills is the major reason why traditional meetings are so often found to be inefficient and ineffective (Mosvick & Nelson, 1987).

Second, an external facilitator (EF) may be the primary source of facilitation. The EF is a facilitator specialist, invited to the meeting to apply process and relational skills. The EF is currently the dominant mode used to facilitate commercial GSS sessions. An EF is usually trained in designing and running meetings, and in GSS settings, he or she would be trained in the technology. Often the EF role within a GSS environment is split into two (which may be filled by two separate individuals). The technical facilitator or technographer is primarily responsible for operating the technology, whereas the process facilitator directly interacts with the group.

Finally, the GSS provides a source of facilitation through its software tools, processing routines, user interface features, and information displays. The extent to which the technology may exert a facilitative influence depends on both the extent and manner in which it is used.

There are important advantages for involving neutral external facilitators or technology for facilitation sources. Leaders or members can use the process, knowingly or unknowingly, to manipulate content (Burton, 1987). Their responsibility for process facilitation may cause important information and dissenting opinions to be lost (Gouran & Hirokawa, 1983), reduce the acceptance of meeting outcomes (Hoffman, 1982; Maier, 1963), or simply result in lack of attention to process and relational concerns.

Although it is possible for meeting participants to learn how to facilitate meetings fairly, it is not people's natural tendency (Maier & Hoffman, 1960). The primary issue is keeping process and content separate. Thus, when leaders or members do choose to both facilitate and participate, they need to keep the two roles separate. They need to signal in some way (e.g., sitting down in an empty chair) that they are stepping out of the facilitator role and into the role

of group participant and vice versa. GSS environments actually facilitate this role delineation because one usually becomes a participant when one enters information into the system. In fact, GSS environments provide many advantages of EF and may allow members or leaders to facilitate their own meetings more successfully.

### **Facilitation Functions**

The notion of functions is drawn from the group dynamics and leadership literature. Based on the pioneering work of Benne and Sheats (1948), a number of specific facilitative functions have been suggested that describe what needs to take place in a group in terms of leader and/or member behavior (Quinn, 1988). Some examples of functions include organizing, initiating structure, summarizing, clarifying, harmonizing, and energizing.

In our model, we have summarized these functions into two very general functional categories, structure and support. This is appropriate given the tutorial or overview nature of our model. Specific research studies may want to define more precise facilitative functions/role profiles (for example, see Chilberg, 1989).

### **Structure**

Facilitators provide structures to establish a frame or context to activate individuals/group into a particular way of behaving. In a meeting context, structures primarily include the following:

1. Meeting outcomes.
2. Role specialization: participants are assigned specific roles (for example, devil's advocate, facilitator, decision-maker, and so on), for an activity, phase, or entire meeting.
3. Rules to follow during an activity, phase, or entire meeting.
4. Procedures to accomplish an entire meeting, a specific meeting phase, or a specific activity.
5. Techniques/technology to carry out procedures.

A facilitator works with the group leader (and participants) to establish meeting outcomes. The facilitator then designs the meeting by picking relevant roles, rules, procedures, and techniques to accomplish desired outcomes.

As noted above, roles, rules, and procedures can have different application scopes. Some have a narrow scope and apply only to single activity, whereas others have broad scope and apply to the entire meeting. Most rules are roleand/or activity-specific, such as the rules defining the devil's advocate's role or a brainstorming activity (VanGundy 1988). However, some rules may be designed to operate throughout the meeting process. For example, a "respect rule," (i.e., respect individual differences) enforced by the facilitator and/or members at all

times, may be established to promote good relationships and encourage people to contribute.

A facilitator has many different resources to utilize in developing a structural design for a meeting. Different sets of structures have been defined for meeting, agenda, and activity levels (e.g., Bostrom, 1989; Chilberg, 1989; Poole, 1991; VanGundy, 1988). For example, VanGundy (1988) summarizes an extensive array of procedures to carry out specific activities such as generating (e.g., brainwriting, excursion) and evaluating (e.g., sticky dots) information. These structures are best viewed as structural templates that are often customized for specific group and task situations and adapted or modified during the actual meeting.

Similarly, a facilitator may use a GSS to provide structure for organizing group and/or individual thought processes and actions. A GSS tool in most situations automates a particular procedure to carry out a specific activity; for example, the brainwriting procedure is used to generate information. However, given the nature of computer technology, certain structural components that provide additional structuring capabilities are "embedded" in the technology. Examples of these added components found in GSS implementations are simultaneous idea exchange and input, anonymity, electronic recording and display and enhanced information processing capabilities (Bostrom & Anson, 1988). By its design, a GSS tool establishes a particular structure to which a facilitator may add supplemental structure, for example, rules of brainstorming (no evaluation of items generated, etc.). It is this combined collection of structures to which a group responds when using GSS technology.

Although structures usually focus on the process and task dimensions in our model, they can directly or indirectly support the relationship dimension. For example, many activity procedures (including those in GSS) serve directly relationship outcomes by providing opportunities for involvement and reducing dysfunctional behaviors. In some cases, rules are used to develop desired relational behaviors (e.g., no personal attacks, respect individual differences).

### Support

Facilitator support activities are used primarily to enact structures, encourage effective behavior, and deal with disruptive influences. Gouran and Hirokawa (1986) provide a useful taxonomy for understanding support activities and the relationships between structures and support. They view any behavior or interaction as having three potential influences on meeting outcomes. First, it may have *promotive influence* by facilitating the accomplishment of meeting outcomes. This type of influence is often referred to as "process gains" (Steiner, 1972; see Nunamaker, Dennis, George, Valacich, & Vogel, 1991, for discussion of group and GSS process gains). Second, it may have a *disruptive influence* by inhibiting progressive movement, thus, incurring "process losses" (Nunamaker, Dennis, George, Valacich, & Vogel, 1991). Third, a behavior may act as a *counteractive influence* if it neutralizes or negates

the disruptive interaction and restores progressive movement toward meeting outcomes. Facilitation support activities or behaviors are usually promotive, encouraging effective task and relational behaviors (see Table I for examples); or counteractive (e.g., challenging relevancy of information when someone wanders off the topic).

Effective structures are both promotive and preventive (minimizing disruptive influences, and thus avoiding the need for counteractive influence). For example, a GSS can promote equal participation and reduce or prevent people from dominating communication. However, structures may not be used as intended or may need to be modified to accomplish meeting outcomes. Thus, some of the primary functions of support activities are to maintain, reinforce, promote, and adapt the structures being used.

All support activities in meetings are carried out through communication acts using verbal, nonverbal, and GSS channels. Thus, the heart of good facilitation support is effective communication skills. Several authors have outlined some of the major skills required to effectively facilitate in GSS environments (Bostrom et al., 1991; McGoff et al., 1989; L.D. Phillips & M.C. Phillips, 1990). For example, frame-clarification skills that clarify, verify, and help make meaning of an individual's or group's frame of reference or language are important skills. More research is needed on how support skills can be enhanced by, or designed into, a GSS.

## **FUTURE RESEARCH ISSUES**

### **Introduction**

In this section, future research directions are outlined through a discussion of key GSS facilitation issues that include the following:

\* The necessity of a facilitator in GSS environments \*Facilitating in different GSS environments

Developing facilitation skills

Our outcome is to highlight critical research questions and issues relevant to facilitation in GSS environments. Recent research agendas for the general area of facilitation are available (Broome & Keever, 1989; Hirokawa & Gouran, 1989). Our agenda complements these. As pointed out in the review of research, little research has been carried out in the facilitation arena. Therefore, the research agenda is large and challenging. Before discussing the research issues, we introduce adaptive structuration theory as a general theoretical framework to study facilitation in GSS environments.

### **A Theoretical Perspective of Facilitation**

Adaptive structuration theory (AST, see Chapter 15 for discussion) has been applied in GSS research by Poole and DeSanctis (1987, 1990), DeSanctis and

Poole (1991), Anson (1990), and Gopal (1991). AST, like other sociotechnical theories, conceives technology use as a social practice that emerges over time. AST suggests that meeting outcomes are not a direct result of structures introduced through technology or facilitation. Rather, these outcomes reflect the manner in which groups appropriate and modify these structures. From an AST perspective, the role of facilitation is to select and present beneficial structures to groups in a manner that encourages their faithful appropriation.

A key construct within AST is appropriation. Appropriation is the process by which participants invoke or enact available structures (e.g., GSS, agenda, etc.) and thereby give meaning to them (DeSanctis & Poole, 1991). AST posits that the success of an appropriation is determined by three dimensions: the *faithfulness* (in respect to structure's design principles) of the appropriation, the group's attitudes towards the structures, and the group's *level of consensus* (i.e., agreement on how structures should be used). As we discussed earlier, a facilitator affects all three of these modes through support activities: faithfulness through promotion and maintenance of structure; attitudes through activities that develop positive affect; and consensus through monitoring the group's reactions and making appropriate adjustments.

Because of the newness of GSS technology, an external facilitator is often used to ensure proper selection of GSS structures and to provide support to ensure successful appropriation (McGoff et al., 1989). When an external facilitator is not present, a few group members take over this role (DeSanctis & Poole, 1991). Once a group has learned the GSS technology (design principles and how to use) an external facilitator may not be needed. On the other hand, any facilitator who lacks the knowledge of and comfort with a GSS will have a difficult time selecting appropriate structures and guiding the appropriation process (Anson, 1990). Understanding structures, especially those provided by GSS, and the appropriation process is critical to facilitating GSS meetings.

AST provides a general framework for investigations. More specific theories or frameworks can be used as supplements in detailed investigations. For example, the substitutes for leadership theories (e.g., Howell et al., 1986; S. Kerr & Jermier, 1978) provide concepts that may be useful in exploring and describing potential interactive effects between GSS and human facilitation sources.

#### **Is a Facilitator Necessary in GSS Environments?**

Many people who promote GSS as a substitute for a human facilitator answer "no" to the question of "is a facilitator necessary?" They argue that business cannot afford the expense of an external facilitator and that a "good" GSS should be capable of providing the group with the facilitation needed. It should be obvious from our discussion that we believe the answer to this question would be a resounding "yes!" Given the current state of GSS technology, a human facilitator is definitely required. A GSS can provide some facilitation support, but it cannot be a total substitute for a facilitator.

Consequently, the important question is not, "is a facilitator necessary?" The important question is, "how can different sources of facilitation (people, GSS) be combined to effectively design and support meetings?" Research in this area has been limited and exploratory. Very little is known about how different sources might interact when used together. Although we know that a GSS can support facilitating such things as in-meeting participation and dominance control, we are not sure how to build more facilitative functions into a GSS. Most GSS provide support only in the meeting, and do not address, for example, the critical premeeting phase. How can we design GSS to facilitate the entire meeting cycle and system? The integration of other technologies into GSS, such as expert systems (e.g., acting as facilitation advisers) and database (e.g., capture group/meeting history), will be important in answering this question. However, a great deal more needs to be learned about the process of facilitation and facilitator interventions before expert system advisers could be effectively designed.

A second question is related to the tradeoffs; between using external facilitator, group members, or GSS as the facilitator. In the long run, organizations cannot rely on a pool of external facilitators to run all their meetings. As more facilitation functions are integrated into GSS, the need for an external facilitator is expected to decrease. A GSS with greater facilitative capabilities may allow the group members to facilitate their own meetings and still provide substantial content involvement. However, the issue of training group members to effectively use the GSS must be addressed and studied for the goal of self-facilitation to be realized. With increased GSS sophistication, the facilitator specialist role may evolve into one of providing consultation to groups on how to effectively design and run GSS supported meetings.

Much conceptual and empirical work remains to develop and test the effects of various structural and support characteristics of combined humancomputer facilitation. Appropriation analysis (DeSanctis & Poole, 1991) could explore the effects of different combinations of facilitation and GSS interventions. The development of a set of structural dimensions that could be used to define different classes of facilitation and/or GSS interventions would greatly expedite these research efforts. The collection of structures provided in a GSS environment could then be described and differentiated using these structural dimensions. Poole (1991) and Anson (1990) document some initial efforts to develop these dimensions. Other rich areas for future research include how GSS and/or facilitation training, GSS experience, different GSS designs, and other contingencies can influence patterns of appropriation in groups.

### **Facilitating in Different GSS Environments**

Typically, group interaction takes place in a face-to-face environment, with the group working together at the same time and place. However, GSS and other collaborative technologies have expanded the types of environments in which meetings can take place to include the same time/different place, dif

ferent time/same place and different time/different place. There appear to be three key parameters that would influence facilitation in these different environments: the availability and richness of communication channels, the immediacy of feedback, and the means of coordination.

All GSS facilitation research has been carried out in same time/same place settings. Thus, it is necessary to gather various forms of research data (cases, surveys, experiments) on facilitation in these other environments along the lines suggested in the previous section. Our facilitation framework (Figure 8.3) is applicable to these other environments, although the mechanisms to provide structure and support would vary. Same time/same place environments provide a variety of rich communication channels (verbal, nonverbal, GSS), immediate real-time feedback, and multiple means to coordinate activities. In different time or place environments, especially different time, the facilitator would have to rely more on the GSS to provide special mechanisms to enrich communication, gather and assess feedback, and monitor and coordinate activities (e.g., agenda). What mechanisms (tools, features, etc.) are needed for someone to be able to effectively facilitate in these different environments?

The core of any collaborative system is the shared group space. In current different time/different place systems (electronic mail, video- or teleconferencing, bulletin boards), this is primarily a communication/discussion space. This communication space lacks the process-structuring, outcome-directed space found in most GSS different time/different place environments. These GSS lack the communication space of non-GSS, tools. A communication space is needed to support GSS facilitation. Ways to integrate these technologies to support facilitation need to be explored either by providing linkages between GSS and non-GSS tools and/or integrating non-GSS tools into a GSS. Research studies carried out using different time/different place tools may provide a source of good ideas and data, especially those that focus on people who facilitate activities in these environments (e.g., S. R. Hiltz et al., 1991a, 1991b; J. C. Smith and Vanecek, 1990).

The availability of different meeting environments creates more meeting design alternatives because the facilitator can combine different environments to accomplish a meeting outcome(s) and agenda that unfolds over time. For example, a useful combination is different time/different place followed by same time/same place. One of the authors recently participated in a meeting to develop changes to an undergraduate curriculum. The suggested changes were generated and an initial evaluation of changes was done first in different time/different place mode. This was followed by a GSS-supported face-to-face meeting to decide on which changes to actually implement. How do we effectively combine different environments to accomplish a meeting's outcomes?

Research exploring the effects of different combinations of environments is needed. In addition, some researchers have argued that different GSS environments should be used depending on the group development stage, for example, face-to-face environments should be used in early stages of group development when interpersonal relationships are being formed Johansen et

al., 1991; Kutsko and Smith, 1991). These types of contingency hypotheses need to be investigated including their reverse formulations, for example, how can a facilitator overcome obstacles in environments that are not face-to-face environments to effectively develop group relationships.

### **Developing Facilitation Skills**

In this chapter, we have argued for the importance of facilitation skills in GSS environments. Given their importance, the critical research questions become the following:

1. What are the key or core facilitation behaviors and skills within a GSS environment? How do these differ from traditional environments?
2. How do we develop and/or select people with these skills?
3. Are some individuals or "personalities" predisposed to developing facilitative behaviors? Is there a facilitative personality profile?
4. How can GSS technology and/or facilitators be used to teach facilitation skills to individuals? Groups? Organizations?

One would expect to have a solid body of literature to draw on in pursuing questions 1-3 yet this is not the case (see Clawson, 1991, for research summary). Empirically based answers to all three questions are needed in both GSS and non-GSS environments. Evidence does indicate that the facilitator's training and experience with technology is important in the GSS environment (Anson, 1990; McGoff et al., 1989). How do we help current or future facilitators integrate GSS technology into their toolkits?

In agreement with Hirokawa and Gouran (1989), we do not anticipate research ever to lead to specific detailed prescriptions for facilitating groups. However, general strategies, skills, and concepts can be developed, taught to facilitators, and applied in a flexible manner in various meeting contexts. We generally have a good understanding of issues that make meetings unsuccessful (e.g., poor design) and successful (e.g., good design). Facilitation strategies and skills can be developed to effectively address each of these areas. For example, one of the most common meeting design problems is the lack of clear outcomes. An effective strategy a facilitator might employ is helping groups formulate explicit outcomes. Thus, outcome development skills become essential to effective facilitation.

Based on the above assumptions, we have developed a training program for facilitators in both GSS and non-GSS environments. Our research (Anson, 1990; Bostrom et al., 1991), along with the earlier research on facilitator training (see Table 1), has demonstrated that people can be trained in these skills. However, our training program is only a second-generation prototype. More detailed responses to questions 1 and 2 above are needed to provide good training guidelines. We need to know what a complete skill set is; what good training methods are; how training should be sequenced; etc. The question also

arises about who to train (facilitator specialists, team leaders and/or members, all of these)? If group members or leaders are to be trained to act as the facilitators, what techniques do they need to know in order to effectively handle their triple responsibilities for meeting process, content, and relationships.

Although none of the GSS facilitation studies found significant overall differences between individual facilitators, some specific differences were discovered (G. Dickson et al., 1989; Anson, 1990). Organizational behavior research has also identified personality differences in successful individuals in facilitation-related roles (Hamilton, 1988). Thus, researching the issue of a "facilitator personality" might help guide the development of facilitator selection guidelines.

Evidence already exists to suggest that the introduction of GSS into an organization can help develop good meeting facilitation skills. For example, R-T Watson et al. (1991) found that GSS forces people to design better meetings. Question 4 above invites exploration of this important issue. Can GSS be a catalyst for learning facilitation skills? Can a GSS be used as a training simulator in teaching people facilitation skills? It is also important not to overlook the teaching role of the facilitator. For example, having a facilitator explicitly mark out what and how skills are being applied could accelerate the learning curve of members. Thus, similar research questions can be generated for the facilitator role and the combined human-computer facilitation roles.

Many research strategies can be utilized to generate answers to the questions raised above. Developing profiles of excellent facilitators through modeling will be particularly important early on. The research generated in this area will provide guidelines for training programs; selection criteria for hiring and placing facilitators; and useful information for GSS designers on how to design more facilitation functions into their software.

### **Future Research Summary**

Space does not permit an exhaustive discussion of all the specific research possibilities. Rather, our outcome has been to identify an appropriate focus and general directions for future research. We believe that the introduction of GSS will create a renewed interest in the neglected area of facilitation. GSS environments provide an ideal research setting for researchers from different disciplines to study facilitation. Thus, we would strongly encourage multidisciplinary research efforts. In addition, we would suggest that researchers follow the guidelines recommended by Hirokawa and Gouran (1989). They have suggested that an appropriate approach to facilitation research and training is to focus on general skills, strategies, and concepts that can provide guidance in generating specific behaviors that can be applied across a number of contexts. This implies that facilitators should use their own judgment in applying their skills, rather than imposing facilitation techniques and procedural structures in a lockstep, prescribed fashion. Although this research approach is necessary to fully assess facilitation, it does complicate the assessment of cause and effect. Utilizing some of the research approaches outlined in this section (e.g.,

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Total Editing Time: 13 Minutes  
Last Printed On: 4/16/2002 9:57 AM  
As of Last Complete Printing  
Number of Pages: 22  
Number of Words: 8,366 (approx.)  
Number of Characters: 47,689 (approx.)