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Electronic Meeting Systems:
Win-Win Group Decision Making?

Patricia Galaczy

IRC PRESS

Queen's University

Executive Summary

In an increasingly competitive global economy unions and management alike have concluded that they must accept one another as strategic partners participating equally in joint decision making. What these groups often lack, however, is an opportunity to escape from the traditional adversarial arena, with its win-lose, opponent-based strategies that prevent them from attaining mutual gains. Electronic meeting systems (EMS) can help conflicting groups move from disagreement to consensus—from groups to teams—and ultimately achieve the strategic partnership that is essential to their survival. This study provides a detailed account of the operation of an EMS, describes the many potential benefits of the system, and gives practical advice on how to use it while avoiding the common pitfalls.

- Because it works best with groups composed of people who are at different levels of expertise or status or who represent different functional areas within an organization, EMS can meet the precise needs of traditional labour-management groups who are working towards mutual gains. EMS allows them to combine a mutual gains approach to resolving conflict with a structured group decision-making process that encourages full participation by all group members.

- The EMS software promotes creativity by allowing all team members to generate ideas simultaneously and to respond to the ideas of other group members. It makes it possible to test the level of agreement among team members by ranking choices according to priority and then voting on a course of action.

- EMS enhances participation, produces faster decisions, and results in greater satisfaction. Groups using EMS generate more correct answers to a problem, produce more questions and comments about prospective solutions, and experience more active and equitable participation in the decision process.

- A trained facilitator, who acts as a coach, teacher, and leader, plays a crucial role in the EMS process. Typically, the facilitator is a neutral third party who provides technical support and training and controls the flow of information to prevent dysfunctional conflict.

- Practitioners should be aware of several potential drawbacks of EMS. Participants may be intimidated by the technology when they are accustomed to verbal interaction; the social advantages of meetings may be limited, since much of the communication is directed by technology; and the heightened anonymity inherent in EMS may frustrate high-status individuals who are accustomed to recognition. An EMS often results in too many ideas being generated, which can lead to information overload, especially in large groups.

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About the Author

Patricia Galaczy is a labour relations practitioner with the Workers' Compensation Board of British Columbia. Patricia holds a Master's degree in Industrial Relations from Queen's University and an undergraduate degree in Psychology and Business from the University of Waterloo.

- The author explains how many potential problems of an EMS can be overcome by a trained facilitator and concludes that it can provide many organizations with a stable structure that continually reinforces the principles that make mutual gains negotiations work. With such a structure in place, the parties will find it increasingly difficult to revert to their traditional adversarial strategies.

Introduction

Because labour and management have very rarely stepped outside their confining adversarial approach to negotiation, little progress has been made toward the strategic union-management partnerships that are increasingly necessary if Canadian organizations are to remain competitive in a rapidly changing global economy (Downie and Coates 1993; Kumar 1995; Walton, Cutcher-Gershenfeld, and McKersie 1994). Both parties are beginning to recognize, however, that organizational viability—and ultimately their own survival—depends on the full participation of all stakeholders in the decision-making process.

Although full and equal participation is the goal, the parties have become accustomed to a 'positional approach,' which starts with a solution that supports their position, before any underlying problems can be identified and examined. Positional bargainers see each other as adversaries who use threats, demand concessions, and compete for victory. They are dug into their positions and distrust the other party. Inevitably, what results is a compromise which fails to adequately address the interests of either party and leaves both sides feeling dissatisfied, distrustful, and misunderstood.

In their search for a solution to this problem, researchers have been focusing on mutual gains negotiation, which provides an alternative strategy for some conflicts. In contrast to positional bargaining, the mutual gains approach starts by attempting to preserve and develop the relationship, evolves into a process in which the parties work to educate each other about their needs, and then culminates in a joint attempt to solve the problem of how best to meet their needs and interests (Moore 1997). If labour and management can successfully make the transition from exchanging positions to working for mutual gains, it may be possible for them to develop a true strategic partnership, in which there is mutual recognition, respect, and acceptance of the other party as a legitimate and necessary partner in organizational decision making that affects multiple stakeholders (Kumar 1995; Walton, Cutcher-Gershenfeld, and McKersie 1994).

What is needed, then, is a process that alters the positional nature of participation within groups, addresses the fears that derive from the traditional adversarial approach, builds mutual gains components into the negotiation process, and improves the quality of decisions and other meeting outcomes. Such a process is embodied in 'electronic meeting systems' (EMS), a new and innovative approach to group decision making which combines the essential principles of mutual gains bargaining with contemporary technology and precepts of group dynamics to provide participants with a forum for candid, equal, and strategic joint decision making.

As will be seen, the 'divergent-convergent' structure of the EMS model closely mirrors that of the mutual gains approach to conflict management: each of these models provides participants with the capabilities to move from disagreement to consensus, from isolation to interaction, and from groups to teams. Using EMS technology, labour and management can ultimately achieve the strategic partnership that is so essential to their very survival.

This study examines the applications and benefits of EMS technology and suggests that the full and equal participation of stakeholders such as unions in decisions from which they have been traditionally excluded can be significantly facilitated through the EMS process.

EMS combines the essential principles of mutual gains bargaining with contemporary technology and precepts of group dynamics.

Electronic Meeting Systems and Mutual Gains

Group Decision Support Systems

The electronic meeting systems which will be examined in detail here are one type of group decision support system (GDSS). In general, a GDSS combines communication,

computing, and decision support technologies to facilitate the formulation and solution of problems by a group of individuals (DeSanctis and Gallupe 1987). It provides the opportunity for a significant advance toward an enriched and progressive group decision-making process by focusing on both social needs and task-oriented activities to help groups make faster, more satisfying, and, ultimately, better decisions (Nunamaker et al. 1991b).

A GDSS helps group decision makers avoid the conflict-provoking behaviours of positional bargaining. Better decisions are made with a GDSS because it is designed to remove common communication barriers, systematically direct the pattern, timing, and content of discussion, and provide techniques for structuring decision analysis (DeSanctis and Gallupe 1987).

The EMS Environment

The EMS is a type of GDSS that allows group decision makers to combine a mutual gains approach to resolving conflict with a structured group decision-making process. The strategies adopted by parties engaged in mutual gains bargaining differ fundamentally from the strategies of positional bargainers. Parties to mutual gains negotiation collaborate whenever possible, provide accurate statements of their problems and preferences, and include only genuine issues in a way that increases the likelihood that new solutions will be invented or discovered (Weiss 1996). Bargainers oriented toward mutual gain also expend considerable effort to achieve shared understanding of needs, concerns, and fears, and emphasize open and honest discussion and free-flowing idea-generation (Moore 1997).

EMS environments typically consist of a number of networked computer work stations and a set of flexible software tools that provide communication and problem-solving support. The meeting takes place in a decision room equipped with a U-shaped seating arrangement for group members, so that opposing parties to a conflict can be seated side by side. Each individual is provided with a personal computer with a private screen, but the information entered is anonymously displayed on a public screen. A trained facilitator controls the system from a station at the front of the room. Software specifically designed to support and streamline group decision making focuses the participants on a collaboratively derived text and meeting agenda displayed on the public screen. The agenda rationalizes and structures the interaction of participants around a sense of shared commitment to group decision making and mutual gains.

Diverging and Converging

Electronic meeting systems are more than group-decision support systems; they also focus on communication (Dennis et al. 1988). As mentioned, like the mutual gains approach to negotiation, they operate according to a divergent-convergent paradigm (Table 1).

In an electronic meeting, the participants are guided through a sequence of distinct group decision-making processes by the group's facilitator. First, the participants 'diverge' by taking a broad-based approach to idea generation. This may consist of a S.W.O.T. analysis (an identification of the strengths, weaknesses, opportunities, and threats of a particular issue), a list of key issues, a definition of changing trends, or a proposal for new work processes (Thornton and Lockhart 1994). During this initial phase, the EMS software supports a truly diverging and creative brainstorming session in which participants can anonymously and simultaneously keyboard their ideas at will, without feat of judgment, criticism, or evaluation.

In the second phase of the EMS process, the participants converge, as they focus on and edit the ideas generated in the first phase. At this point, the group comes together with the help of a facilitator and supportive software to review all the information and eliminate redundancies, categorize and group similar ideas, and consolidate and organize their findings.

Electronic meeting systems operate according to a divergent convergent paradigm.

Table 1
Divergence and Convergence

Mutual Gains Negotiation	EMS
1. Diverge. Participants take a broad-based approach to candidly defining the problem by identifying the interests, needs, and facts that each party feels are important to the situation. They brainstorm as many options as possible, without judgment, evaluation, or commitment.	1. Diverge. Participants identify underlying interests through electronic software and expert human facilitation. Group members electronically list key issues, define changing trends, and perform S.W.O.T. analysis. They take a broad-based approach to brainstorming and option generation. Participants anonymously and simultaneously kepboard their ideas at will without fear of judgment, criticism, or evaluation.
2. Converge. Participants develop and evaluate independent and unbiased standards and objective criteria against which mutually satisfying solutions will be evaluated.	2. Converge. EMS software allows participants to focus on and edit the collectively generated ideas that are displayed on a public screen. The facilitator manipulates the software to help thegroup clarify ambiguities and eliminate redundancies.
3. Converge. Each party concentrates thinking on their own and the other party's best alternative to a negotiated agreement, which estimates, explores, and improves upon the best possible alternative outcome if a mutually beneficial agreement cannot be reached.	3. Converge. The electronic software allows participants to rank-order, critically assess, and vote anonymously on the electroncially generated ideas, based on a set of predetermined objective criteria, jointly agreed to by the parties at the outset of the session.
4. Repeat the diverge-converge paradigm (steps 1-3) to develop an action plan	4. Repeat the diverge-converge paradigm (steps 1-3) to develop an action plan.
5. Agreement and closure.	5. Agreement and closure. A print-out of a tangible and specific action plan is provided to all participants.

During the third step in the meeting, group members converge even further, as the team works through a software-guided critical assessment and evaluation of the ideas. Often this assessment is made against a set of predetermined and objective criteria jointly agreed to by the parties at the outset of the session. The specific goals of this step in the process are to discuss the reduced list, address any discrepancies or conflicts which may still remain between the members, and rank the items for action planning.

At this stage, the group will typically repeat the process and diverge again, as options for an action plan are brainstormed electronically by the parties. As in the first phase, as the participants anonymously type their ideas into their computers, the system gathers all the responses and displays them on a main screen to prompt further discussion or more brainstorming or both, depending on the outcomes. Next, group members slowly make their way back towards the convergent paradigm, as they electronically and anonymously vote on which ideas should be acted upon, deleted, or discussed further.

In the final stage, the parties narrow the focus once again and converge as they jointly decide what needs to be done and by whom. The EMS automatically documents all decisions so that the parties can refer back to their agreement during the implementation phase. Upon completing this last step in the EMS process, the group members can walk away with an action plan that has originated from the genuine interests of all the parties.

EMS Software

Two important aspects of the EMS work together to make successful group decision making possible: the software and the facilitator. The main software components closely mirror the divergent-convergent sequence of the EMS process (table 2). These tools facilitate communication among members. They also structure the process by providing rules or techniques, such as an agenda or a methodology that directs the pattern, timing, or content of communication. Furthermore, they provide information such as external data bases, and techniques, rules, or models—budget allocation models, for example—for analyzing task-related information, permitting members to gain new insights (Nunamaker et al. 1991b).

The EMS software tools in table 2 which are essential in establishing and maintaining process support and structure include the following:

- The electronic brainstorming tool, which supports the simultaneous input of ideas and promotes creativity by allowing team members to generate ideas at the same time, to read the contributions of others, and to respond to those ideas with new ideas of their own. Without the input, routing, display, and storage capabilities provided by the group software, simultaneous interaction would be impossible (Leventhal 1995).

- The idea organizer, which supports the examination and refinement of ideas generated by the team, as well as the organization of those ideas. This tool allows the team to determine the factors that they want to use to organize or evaluate ideas; it enables the team to work jointly on group-related ideas, to examine the relationship of parts of an issue to the whole, and to rate, rank, and screen mutually derived ideas (Leventhal 1995).

- The voting support tool, which makes it possible to test the level of agreement among team members, by ranking choices according to priority and then voting on a specific course of action (Leventhal 1995).

- The topic commenter tool, which allows team members to break a problem or issue down into its component parts or into each individual's area of expertise.

- The stakeholder identification tool, which allows group members to individually identify and analyze the effects on the stakeholders of their mutually formulated decision. This function provides a systematic method of analyzing exactly how decisions made in the EMS session will impact individuals in the workplace.

- The matrix analysis tool, which supports the development of a two-dimensional matrix to examine relationships among ideas. Using this tool, team members can evaluate organizational processes in terms of several factors, such as efficiency and effectiveness (Leventhal 1995).

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Table 2
EMS Software

Group-system Tool	Function
Electronic brainstorming	Allows rapid generation of a free flow of ideas. Users diverge from old thinking patterns.
Idea organizer	Gives structured methods for generating, synthesizing, and categorizing ideas. Users converge on key issues.
Voting support	Helps evaluate ideas, measure consensus, and make choices using seven voting methods. Users focus on where and why differences exist.
Topic commenter	Permits people to generate ideas on electronic index cards. Participants comments are available for others to read. Users explore issues in depth.
Alternative evaluation	Mathematically compares a set of alternatives against a set of group-developed criteria. Users reveal value sets and assumptions about alternatives.
Policy formation	Facilitates the process of developing consensus statements and action plans; also useful as a quick-response forum for open-ended text answers to a group question. Users converge on shared meanings and shared goals.
Stakeholder identification	Helps the group to analyze the impact of actions or policies on identified stakeholders and on fundamental assumptions.
Questionnaire	Permits users to respond to many different kinds of questions.
Matrix analysis	Supports analysis of interrelationships between sets of ideas.
Group outliner	Allows a group to explore issues and develop action plans using a tree or outline structure. Users develop hierarchical representations of complex ideas.
Group writer	Supports the collaborative preparation of a document.
Group dictionary	Allows the group to develop common definitions for critical concepts.

These six EMS tools, along with the others described in table 2, represent only a sampling of the types of support software specifically designed to aid groups in decision making and issue analysis. Overall, EMS is primarily an advanced method of providing process support, process structure, task support, and task structure to the group meeting process.

The Facilitator

The facilitator also plays a crucial role in the EMS process. Although the technology itself does provide some facilitation—the activity structuring provided through a particular software tool, for example—on its own EMS does not address critical areas of group functioning, such as designing the meeting or managing verbal communications, that can be appropriately managed only through human facilitation (Anson, Bostrom and Wynne 1995).

Facilitation in computer-supported meetings is a key success factor (Niederman, Beise, and Beranek 1996). The facilitator helps the group by providing guidance to encourage faithfulness, as well as encouraging positive attitudes and consensus over the use of EMS structures (Anson, Bostrom, and Wynne 1995).

In a typical EMS session, the facilitator is a neutral third party who is not a member of the group and who is specifically trained in EMS technology and group dynamics. The facilitator performs four primary functions:

- The facilitator provides technical support by initiating and terminating specific software tools and guiding the group through the technical aspects necessary to work on the task.

- The facilitator controls the flow of information by chairing the meeting, maintaining the agenda, and assessing the need for agenda changes. By providing process structure and coordinating discussion, the facilitator can provide improved group interaction, and by controlling the group memory, the facilitator can prevent competition and dysfunctional agreements from contaminating group information.

- The facilitator assists in agenda planning by working with the group to highlight the principal meeting objectives and develop an agenda to accomplish them.

- The facilitator can provide essential organizational continuity by setting standards for use of the system developing training materials, maintaining the system, and acting as champion and sponsor. (Nunamaker et al. 1991b)

Facilitators of EMS sessions also provide key interventions that broadly improve group processes and outcomes by applying structured communication procedures and providing essential training to group members (Bostrom, Anson, and Clawson 1993). The consensus is that the best facilitator is one who knows how to allow the group to achieve its objectives without being seen as the author of the decisions reached during the session (Anson, Bostrom, and Wynne 1995; Bostrom, Anson, and Clawson 1993; Leventhal 1995; Nunamaker et al. 1991b). Therefore, to produce successful EMS outcomes, the facilitator must ultimately assume a delicate balance between the roles of coach, teacher, and leader. Too much or too little emphasis on any one facilitator role can be detrimental to the social and task-related processes of the EMS-guided group.

Facilitation in computer-supported meetings is a key success factor.

The Benefits and Drawbacks of EMS

Benefits

Although EMS can be used in a wide variety of meeting settings, it can be most helpful when power differences and captiousness obstruct complex group decision making (Leventhal 1995; Thornton and Lockhart 1994; Nunamaker et al. 1991b). Facilitator-guided EMS has been successfully employed to overcome these problems by guiding.

- the development of new strategic plans;

- the design of new organizational structures;

- the re-engineering of key business processes;

- the development of comprehensive plans to address information systems, human resource management, and financial problems;

- the evolution of productive and effective team and group behaviours; and

- the management and resolution of conflict between individuals who are trying to work together. (Leventhal 1995; Thornton and Lockhart 1994).

In each of these applications, EMS enhances participation, produces faster decisions, and generates greater satisfaction (Nunamaker et al. 1991b). Groups using EMS generate more correct answers to a problem, produce more questions and comments about a solution, and experience more active and equitable participation in the decision process (Alavi 1993; Leventhal 1995; Nunamaker et al. 1991b).

EMS achieves such comprehensive and diverse effects because it works to regulate the gains and losses of the group process (Nunamaker et al. 1991b). The process gains, which improve meeting outcomes and the process losses, which impair meeting outcomes, are summarized in table 3.

The parallel communication capabilities of EMS significantly reduce losses from air-time fragmentation, blocking, free-riding, domination, and dysfunctional socializing, while simultaneously increasing process gains such as synergy, stimulation, learning, and increased information and communication.

By recording and storing all electronic comments, EMS group memory works to prevent attention blocking, incomplete use of information, information overload and participants' failure to remember, and to promote synergy and increased information flow. On the other hand, the anonymity of the EMS process reduces pressure to conform and fear of negative evaluation, creating a low-threat environment which, by encouraging members to disengage from traditional organizational hierarchies and challenge each other, leads to more productive outcomes.

Nevertheless, because the electronic media used in EMS are typically less rich than face-to-face verbal communication, they can often result in fewer cues and slower feedback from group members, depersonalization (the separation of people from their comments), and deindividuation (the loss of self- and group-awareness). However, these effects can also produce some gains for the group by encouraging more objective evaluation and more attention to identifying and correcting errors, coupled with fewer negative reactions

The anonymity of the EMS process creates a low threat environment.

Table 3
Gains and Losses in the Group Process

Common Gains

More information	A group as a whole has more information than any one member.
Synergy	A member uses information in a way that the original holder of the information did not, because that member had different information or skills.

More objective evaluation Groups are better at catching errors than are the individuals who proposed ideas.

Stimulation	Working as part of a group may stimulate and encourage individuals to perform better.
Learning	Members may learn from and imitate more skilled members to improve performance.

Common Losses

Air-time fragmentation	The group must partition available speaking time among members.
Blocking	Members are prevented from contributing comments as they occur and then forget or suppress them later in the meeting, because they seem less original, relevant, or important. Fewer comments are made because members concentrate on remembering comments until they can contribute them, or they must constantly listen to others speak and cannot pause to think.
Failure to remember	Members lack focus on communication, missing or forgetting the contributions of others.
Pressure to conform	Members are reluctant to criticize the comments of others due to politeness or fear of reprisals.
Evaluation apprehension	Fear of negative evaluation causes members to withhold ideas and comments.
Free riding	Members rely on others to accomplish goals, due to 'cognitive loafing,' the need to compete for air time, or because they think their input will not be needed.
Cognitive inertia	The discussion follows one train of thought because group members refrain from contributing comments that are not directly related to the current discussion.
Socializing	Discussion not directly relevant to the task reduces performance. (Some socializing is usually necessary, however, for effective functioning.)
Domination	Some group member(s) exercise undue influence or monopolize the group's time in an unproductive manner.
Information overload	Information is presented faster than it can be processed.
Coordination problems	The group finds it difficult to integrate members' contributions because it lacks an appropriate strategy. Incomplete discussions and premature decisions may be the result.
Incomplete use of information	The group has incomplete access to and use of the information that is necessary for successful task completion.
Incomplete task analysis	An incomplete analysis and understanding of the task results in a superficial discussion.

to criticism and increased group ownership of outcomes. Such gains may be reduced by the anonymity of the EMS process which may result in less socializing and outbursts of negative and unproductive comments displayed on the public screen. These outbursts will, of course, reduce group cohesiveness and satisfaction (Nunamaker et al. 1991b).

In general, however, the process support mechanisms of EMS that have been described here work together to balance the gains and losses of electronic meetings. EMS can therefore provide unique advantages to the group decision-making process, advantages that can significantly increase the probability of productive and efficient meeting outcomes.

Common Drawbacks and How To Avoid Them

EMS should not be over-sold as an omnipotent solution to all group decision-making problems. Rather, EMS functions best when used to support and structure the human dynamics of group interaction. Practitioners should be aware of seven main drawbacks that limit the applicability of the EMS system (Gallupe and Cooper 1991):

1 Simply stated, the success of EMS depends on its users. Once an idea has been developed using EMS, team members must still perform all the necessary steps in implementation, such as winning support of constituents, gathering resources, and taking action.

2 Participants may feel intimidated by the technology and by having to keyboard their ideas and reactions when they are accustomed to verbal interaction; they may not therefore participate to their fullest potential. A trained facilitator can help to ensure that this fear of technology does not severely inhibit the process. (Grohowski and McGoff 1990)

3 The heightened anonymity of EMS may frustrate high-status, control-oriented individuals who are accustomed to having their ideas recognized because of who they are or where they sit in the company hierarchy. However, this disadvantage to some is tempered by the advantage of increased equal and unrestricted participation that is provided to most group members.

4 The social advantages of meetings may be limited using EMS, since much of the communication is directed by the technology. Trained facilitators will therefore often try to include verbal interaction in the process to compensate for the loss of the usual social cues in EMS.

5 The productive power of EMS often results in too many ideas being generated by the group, which can lead to information overload, especially in large groups. In response to this problem, facilitators are providing group members with advanced software to edit, evaluate, and categorize ideas into manageable chunks.

6 An efficient EMS involves costly computer hardware and software, as well as meeting rooms designed specifically for EMS. For many firms the initial cost of such a system is likely to be prohibitive, but they may be able to rent a portable EMS at a reasonable cost. Larger firms that regularly require decision-making, planning, idea-generating, or conflict-resolution meetings may however find the costs of implementing EMS easily affordable when compared to the extra time, effort, and frustration usually associated with traditional meetings.

EMS functions best when used to support and structure the human dynamics of group interaction.

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7 Some problems are better suited for EMS than others. According to Leventhal, 'the greater the initial disagreement within the group, the higher quality the resulting outcome is likely to be, and the stronger the consensus that supports that outcome' (1995, 12). Thus, EMS may not be the most appropriate strategy when there is no need for interactive behaviour, as would be the case in a lecture setting (Thornton and Lockhart 1994). However, EMS does provide an excellent tool to help groups attempting the transformation into teams.

Mutual Gains

When labour and management have not attained the minimum level of trust that is necessary for a mutual gains approach, it is best to begin with a preliminary, structured, trust-building process to change the circumstances and behaviours that contribute to a climate of distrust between the parties. The overwhelming consensus is that structured group interaction can improve the negotiation process (Costantino and Merchant 1996; Druckman 1993; Endelman and Crain 1994; Fisher, Ury, and Patton 1991; Jandt 1985; Lewicki et al. 1994; Moore 1986; Weiss 1996). EMS technology provides an excellent forum for building trust through full, joint participation in idea generation, organization and prioritization and in action-plan development. EMS technology familiarizes the parties with a mutual gains approach by decreasing the factors in the group process which traditionally impede interest-based behaviour and by simultaneously increasing the factors which typically promote mutual gains behaviour.

Because more people with varying perspectives and back grounds can be brought into the brainstorming process, the chance of good ideas being generated is increased.

Because it works best with groups composed of people who are at different levels of expertise or status or who represent different functional areas within an organization (Leventhal 1995, 12), EMS may meet the precise needs of traditional labour-management groups who are working toward mutual gains. Indeed, the very obstacles that inhibit the successful generation of options for mutual gains in traditional group-decision meetings are successfully mediated by EMS technology (Nunamaker et al. 1991a). Gallupe and Cooper (1993) have found that groups of up to fifty people have successfully used EMS, although a usual session is comprised of twelve to fifteen people. They conclude that because more people with varying perspectives and backgrounds can be brought into the brainstorming process, the chance of good ideas being generated is increased (31).

Conflict management and mutual gains negotiations between labour and management can succeed only if several essential conditions are met. These include a focus on the problem rather than on the personal or emotional issues, consideration of a wide range of alternative solutions, and a cooperative climate and an orderly process. Furthermore, artificial conflict-reducing devices such as relying on a group leader or representative to make a final decision must be avoided (Fisher, Ury and Patton 1991; Poole, Holmes and DeSanctis 1991; Walton and McKersie 1965). Electronic meeting system technology satisfied each of these conditions. It therefore provides labour and management groups with an effective method of achieving mutual gains.

Conclusions

In response to a competitive, dynamic, and unpredictable global economy, unions and management alike have concluded that they must be willing to accept one another as strategic partners participating equally in decision making. What these groups lack, however, is an opportunity to escape from the traditional adversarial arena and win-lose

strategies that prevent them from achieving mutual gains. One possible solution is for the parties to focus on the best way to meet their underlying interests, rather than on their ultimate positions (Fisher, Ury, and Patton 1991; Walton and McKersie 1965). The parties need a stable structure which continually reinforces the principles that make mutual gains negotiations work: focusing on the problem rather than on personalities, focusing on interests not positions, inventing options for mutual gains, and using objective criteria (Fisher, Ury, and Patton 1991). With such a structure in place, the conflicting parties will find it increasingly difficult to revert to their traditional, familiar win-lose orientations.

As this study has emphasized, electronic group decision-making technology combined with facilitation provides an innovative structure that keeps divergent parties on the road toward interest-based group decision making. The EMS structure accomplishes this goal by mirroring the divergent-convergent group decision-making pattern that characterizes mutual gains negotiation and by increasing the gains and decreasing the losses that are typically associated with group problem-solving. Because these capabilities are built into the system, EMS facilities are able to direct conflicting groups toward mutual gains without the same efforts and without the parties having to make the concessions that are typically associated with traditional negotiations.

Electronic group decision-making technology keeps divergent parties on the road toward interest-based group decision making.

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