

Changing Channels: Using the Electronic Meeting System to Increase Equity in Decision Making

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The difficulties women encounter in gaining a voice and having influence in meetings, particularly those in which males are present, are well documented. So too are the benefits of computer-based group decision support systems (GDSS), such as electronic meeting software, for increasing participant satisfaction as well as enabling meeting processes that are equitable as well as efficient. Given that there are very clear differences in the decision-making styles (not decision-making abilities) and preferences of men and women, surprisingly little research has been conducted into the gendered view of electronic meeting processes and outcomes. This paper reports on research into the effects of technological intervention on minimizing stereotypical outcomes in group decision making. Based on a survey of women in same-time same-place electronic meetings, the perceptions of process and outcomes of the women participants in a series of electronic meetings are compared with the perceptions of women in a series of conventional meetings, and reasons for the results are explored.

The Decision-making Process and Power

In any organization there are powerful decision-making bodies composed of individuals who hold positions of influence and authority, who understand the power of information and who use that information and their participation in formal and informal decision-making processes to successfully chart their careers. Few of these decision makers and powerful individuals are women, even in this final decade of the 20th Century, as women are generally underrepresented in the ranks of senior executives and their powerful decision-making forums. Such forums thus tend to encapsulate and reinforce a patriarchal organizational model.

The generally contrasting, and certainly different, behaviors displayed by men and women in meetings are a challenge for anyone attempting to ensure an efficient, effective, and equitable meeting outcome. This research explores whether an electronic meeting system does in fact enhance the effective decision making of women and, by inference, other minority groups in organizations.

Creating More Equitable Meeting Processes

A strong feeling of dissatisfaction with meetings will be familiar to many, and the problems besetting conventional meetings have been frequently discussed in the literature (for example, Herschel, 1994). Identified dysfunctional aspects of meetings include:

- usually 20 percent of the participants dominate 80 percent of the time.
- people are often afraid to say what they think, or they feel pressured to conform with the group.
- good ideas can be stifled and lost while people await their turn to speak.
- ideas are often judged by *who* said them rather than by the value of *what* was said.

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- because people feel dissatisfied with the process, they are less likely to support the outcomes.

These negative characteristics reduce the effectiveness of meetings as decision-making forums.

This reduction of effectiveness is compounded for women by differences in gender perceptions and behaviors that arise from women's lesser rank and status in the organization; their lack of power through marginalization in a male-dominated environment; and their relative lack of experience in meetings (Handley, 1994). Additionally, stereotypes concerning women and other minority groups often lead to the contributions of such people being minimized or devalued.

Who Gets Heard: Conversational Styles and Meetings

While participant feelings of general dissatisfaction with the meeting process are widespread, women report even greater dissatisfaction with meeting processes and their own level of influence than do men (Handley, 1994). Research (Handley, 1994; Smith-Lovin & Brody, 1989; Spender, 1987; Tannen, 1993, 1994) has revealed three factors that contribute powerfully to women's dissatisfaction and reduced effectiveness in meetings. These relate to:

- the status perceptions of women in meetings;
- the contrasting conversational styles between men and women;
- women's perceptions of their own performance and level of influence in meetings.

Conversational Styles and Status

A recent study of committee decision-making processes at the Victoria University of Technology (Affirmative Action Agency, 1995, p. 23) highlighted "interrupting" or "non turn-taking" behavior in committee meetings. The researchers concluded that:

despite increased representation of women on committees, men continue to dominate meetings, taking up between 58%-86% of

speaking time, well in excess of their level of representation.

This finding supports research about the characteristics of conversational style that can have a detrimental effect on performance and promotion in the work setting (Smith-Lovin & Brody, 1989). Smith-Lovin and Brody's research examined the differences between male and female conversational styles, as well as patterns of conversational dominance and turn-taking, all of which are important factors in allowing meeting participants to get their ideas across to others.

Generally, it was found that in group discussions: "men talk more than women, more often assume a leadership position, receive more positive statements and fewer negative statements and are more likely to show non-verbal task and dominance cues" (Smith-Lovin & Brody, 1989, p. 425). These features of men's conversational style are compounded by (their greater) non-adherence to the process referred to as "turn-taking." In contrast to turn-taking, "interrupting" means beginning to talk before the speaker is finished, perhaps preventing him or her from completing the thought. This can be destructive because it may inhibit, at least temporarily, that speaker from accomplishing his or her interactional goals (Smith-Lovin & Brody, 1989, p. 425).

Frequently, it is powerful, high-status speakers who fail to "take their turn," interrupting at the expense of their lower-status colleagues (Baker, 1991, p. 118). Men in meetings are likely to interrupt 2.5 times more often than women (Lenthen & Smith, 1991, citing O'Laughlin), and so the negative impact of interruptions on meeting participation and performance will be felt more keenly by women than men.

The impact of status on meetings cannot be overstated. James and Drakitch (1993) asserted that characteristics such as race, sex, organizational rank or occupation determine status. In the context of a meeting this means that the "high status individual is not only expected to perform better but is also given more opportunity to perform than the lower-status individual" (p. 286). High status individuals "tend to be less tolerant of and less willing to wait for contributions from lower status individuals since they perceive those individuals as being less competent at

the task. Lower status individuals tend to wait for them to make contributions and are less willing to contribute to the interaction themselves” (pp. 289-290).

Thus, higher-status individuals say more and take up more time saying it. Women, because of their generally lower, largely gender-based status, are more likely to occupy lower ranks in the organization and to have less power and exercise less influence in situations such as meetings in which men are present.

Participants' Perceptions of Performance

Female academics at an Australian University (Affirmative Action Agency, 1995) were asked to rate their own perceived degree of influence on the decisions made by several decision-making bodies of which they were members. Their responses supported the theory that women experience difficulty talking when males are present at meetings because men take up more of the talking time and interrupt more frequently. Only 61% of women compared with 81% of men felt satisfied with their contribution to the meeting. Similarly 62% of women compared with 82% of men felt able to say what they wanted to say.

Benefits of Electronic Meetings

The impact of Electronic Meeting Systems (EMS) on improving meeting satisfaction is well-documented (DeSanctis & Gallupe, 1987). Benefits included: improved process structure, process support through improved communication channels, structured task analysis and task support. However, Powell and Johnson (1995) encouraged greater investigation of the degree to which gender differences influence views of “satisfaction.” This is based on their view that failing to examine gender issues may account for inconsistency in previously published group decision support systems. Gefen and Straub (1997) asserted that a better understanding of diversity in the workplace is vital if organizations are to maintain competitiveness. Furthermore, knowledge about how women and men respond during IT diffusion

could be essential for the success in the emerging organizational environment.

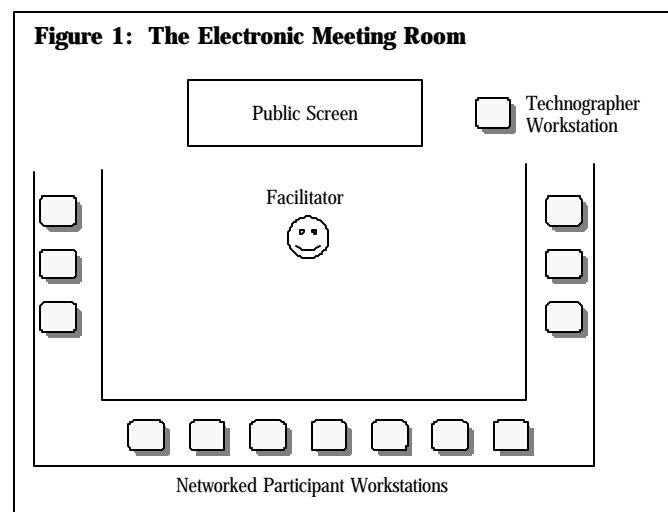
Methodology

The Study

The study conducted by the author aimed to establish whether the EMS enhanced women's participation in, and satisfaction with, formal meetings. Women participants from a total of nine EMS meetings, each held in the School of Information Systems' (University of South Australia) Electronic Meeting Room, which holds a maximum of 14 participants, replied to a questionnaire. The responses of male participants were not sought as comparisons between male and female participants were not the focus of this study. The author also gained information from first-hand observations and experiences as a meeting facilitator as well as from the questionnaire responses and some follow up semi-structured interviews with a small number of participants.

The Electronic Meeting Room

The EMS in this study provided for individuals to meet in a room of networked PCs, each running groupsystems.com's *GroupSystems 5* software (see Figure 1). Workstations were arranged in a U-shape with screens recessed to provide each participant with an unobstructed view of the other participants, the meeting facilitator and the public



screen at the front of the room. Screen filters obscured vision of each monitor from either side, thus protecting participant confidentiality. The meeting facilitator guided the meeting process and a technographer operated the control workstation. Each participant used a keyboard to input brainstorm ideas in the system, respond to ideas, and comment on the thoughts of others.

Strategy

A total of 30 female participants, in nine EMS meetings (3 university and 6 non-university meetings), provided feedback on their perceptions of the electronic meeting system, including its processes and outcomes. Only the female participants were invited to complete a questionnaire and eight women from two meetings (one university and one non-university) agreed to participate further and were interviewed. Three women had participated in one other electronic meeting, whereas the others were new to the system. Overall, 90% of respondents felt comfortable using the technology. The study did not attempt to differentiate the responses of novice and experienced EMS users.

The methodology used replicated the meeting component of a similar study of women's participation in conventional committee meetings in an Australian university. The questions which formed the basis of the electronic meeting questionnaire matched those used to study the 29 university women (Affirmative Action Agency, 1995). In both studies, in each meeting, women participants were in the minority.

The presence of more men at the meetings may suggest that male stereotypes and decision-making styles would be more likely to dominate (Herschel, 1994). Herschel noted that, prior to his study, gender composition research had only been conducted on traditional meetings. The research approach enabled a comparison between the responses of women in the two types of meeting environment. Participant returns (30 women) equaled 77% for electronic meetings and 80% for the conventional meetings.

A typical EMS meeting involves individuals generating ideas rapidly and anonymously through the *Categorizer* tool. Once keyed in, every comment is

collected quickly and exactly by the software, which is managed by the technographer. Each comment is displayed to the meeting on the central screen as well as on each computer. It is at this point that the meeting becomes interactive. As ideas are fed in, each participant can attach comments, seek an explanation, challenge an idea or add more information, just as is the case in a normal meeting; but the process can be achieved more quickly as multiple ideas are being fed silently into the system at once.

The facilitator then leads the meeting through a process of merging similar ideas to form a comprehensive list, which is ranked using one of a variety of voting systems. Statistical results are displayed immediately to the group and the degree of consensus within the group is calculated by the software. A full record of the discussion and consequent voting is generated, so that both qualitative and quantitative data are available at the conclusion of the meeting. Such data, in either hard copy or disk form, can be used for further action at a later stage.

Results

Tables 1, 2, and 3 describe the meeting participants by gender and compare the responses to the questions asked of the university women in

Table 1: Electronic Meeting Participants by Gender

Meeting	Female	Male	Total
1	3	11	14
2	2	11	13
3	4	10	14
4	5	6	11
5	4	5	9
6	6	8	14
7	5	6	11
8	5	6	11
9	5	7	12
	39	70	109

Table 2: Percentage of question agreement endorsed by conventional meeting participants versus electronic meeting participants

No.	Question	Conventional Meetings (n = 29)	Electronic Meetings (n = 30)	Phi coefficient (r)
		Agree %	Agree %	
1	My contributions were listened to.	91	90	.01
2	I am satisfied with my contribution to the meeting today.	61	83	.24
3	I said what I really wanted to say today.	62	80	.20
4	The committee worked as a team today.	84	77	-.08
5	The committee members encouraged participation today.	83	76	-.08
6	I participated in the debate today.	69	74	.05
7	I was personally satisfied with the decisions today.	73	73	.01
8	A range of conflicting views was present in today's meeting.	72	53	-.20
9	Some individuals dominated the meeting today.	29	20	-.09
10	The debate became personal or aggressive today.	18	10	-.11
11	I was intimidated during today's meeting.	19	3	-.27*
12	I felt ignored by other committee members today.	4	0	-.13

* indicates group differences are significant at $p < .05$

both the conventional meetings and the electronic meetings.

Gaining a Confident Voice Through Anonymity

Anonymity of input is an empowering feature of the EMS process because it increases the likelihood that the person contributing an idea will remain unknown. This invisibility allows ideas to be judged on their merits rather than on the basis of personality, gender, or status. Research into women's participation in university meetings found that "Many women choose not to disclose their views ...because of what was described as 'fragility of voice.'" The powerlessness derived through a combination of lack of sufficient status, insecurity of tenure, and being in the minority means that women often cannot afford to say what they want to say publicly at the meeting and choose to make known their point of view and seek to influence

Table 3: Percentage of question agreement endorsed by electronic meeting participants

No.	Question	Agree % (n = 30)
13	I felt comfortable using the technology.	90
14	The electronic meeting system gave me greater confidence to express my views.	87
15	Honest views assisted my effective participation.	87
16	Lack of interruptions assisted my effective participation in today's meeting.	86
17	Anonymity assisted my effective participation in today's meeting.	80
18	Compared with me, there were members of the group who had higher status.	77

outcomes privately after the meeting (Affirmative Action Agency, 1995).

It is here that the electronic meeting process can give women and other minority groups a greater sense of power and effective participation in meetings. It allows them the freedom to say what they want and to challenge the thinking of male authorities without interruption as well as without being under pressure to consider the political risks and possible reprisals involved.

Eighty percent of the women surveyed agreed that anonymity assisted them in this way and some participants expressed the view that anonymity provided a platform from which they could put forward ideas and be an active participant without direct personal attack, which some felt would have been inevitable, given the personalities and known views of other members of the group. Overall, fewer EMS participants felt that meeting debates had become aggressive or personal.

Two women participants in separate meetings commented on the advantages of anonymity in the electronic meeting system. One claimed that her status as a clerical worker in the organization was lower than all of the male participants and the fact that she did not have to put her case "in front of the rest of the meeting" and did not have to verbally defend her position, gave her a unique sense of confidence. This, she said, was something she did not usually experience in meetings. Another woman commented, "I found out after a meeting that had I said openly (in a normal meeting environment) what I had been able to say in the EMS, I would have been attacked. As I am new to the group, this would have been quite difficult to handle."

While anonymity frees individuals to comment without the negative impact of stereotypes, some women felt uneasy about being unable to identify the source of ideas and who said and thought what. In an increasingly political work environment, one woman suggested: "I need to know who my idea enemies are." Another woman said: "I have to work with people on these issues and it's easier if I know where they stand. I can construct my arguments more appropriately if I know my audience and their views." This 'intelligence' is a valuable resource when negotiating the on-going complexities of organizational power games and politics.

Good ideas offered anonymously by one member may be promoted by a more powerful member of the group after the meeting, usually someone having more status and access to critical decision-making networks. The majority of women participants (77%) were in meetings with higher status group members. The anonymous initiator of the idea is not acknowledged nor given due credit while more powerful individuals may profit. Credit for ideas can advantage people who are subsequently acknowledged and seen as innovative, creative, and worthy of promotion. The view was also expressed that complete anonymity is not guaranteed and it is possible on occasions to deduce the author of a comment; so caution is often wisely exercised.

While anonymity brings a degree of freedom it can also provide a cloak of secrecy for individuals to make comments that are intentionally injurious to others. Such was the case in one meeting where so much ill feeling surfaced during the electronic discussion that the meeting became totally divorced from its purpose and thoroughly ineffective in achieving its stated objectives. On the other hand, in another meeting, it was felt that anonymity took the emotion out of the issue and allowed clearer, more open debate. Overall, fewer EMS women participants (10%) felt that comments had become personal or aggressive, compared with those women in the conventional meetings (18%).

Equity

A more senior woman reported that even though she was reasonably confident, she felt that often, because she was the only woman in a male-dominated workplace, she "had to put her point and defend it more aggressively; but this was not so in the EMS." In her experience, she had observed that ideas from a woman "might not be initially given the same level of credibility as those of (her) male colleagues." The respondents indicated that only 3% of the female participants felt intimidated when contributing, compared to 19% in normal meetings. Furthermore, 80% felt they could say what they wanted to say.

The confidence to put one's point of view assertively, or aggressively, is often a function of an individual's status, experience and power in the

organization. Women often find themselves without these particular advantages and therefore may lack the confidence to assert their views. Moreover, the adoption of assertive behavior in meetings may come at a cost. Powell and Johnson (1995, 1980) stated that: "Female assertiveness in groups is treated less favorably than male assertiveness. Women may encounter more resistance and less reinforcement in group decision-making situations" (p. 34).

The EMS allowed women to put their written ideas forcefully without the obvious negative group impact than is usually experienced in a conventional meeting when women adopt male-like aggression. The opportunity for all participants to express their views openly is consistent with a consultative style of decision making; a style with which women often identify. Gefen and Straub's (1997) investigations suggest that women are more likely than men to favor electronic communication media, such as email for interactive exchanges and context building, because of "feminine discourse tendencies to use communication for rapport and cooperative behavior (context) and men's tendencies to focus on content" (p. 5).

Listening

Reducing the ability of individuals to monopolize air time increases the chances of equity of participation. Responses revealed that 20% of women felt that the electronic meeting was dominated by other individuals compared with 29% of respondents in a conventional meeting. The majority of the EMS women (80% and 83%) agreed that they could say what they wanted to say and felt satisfied with their contribution compared with fewer women in the conventional meetings (62% and 61%). Considering the phi coefficient was small (r), it could be argued that with increased statistical power, that is increased sample size, these results would be significant.

But does access to air time through the generation of computer-based discussion necessarily mean that ideas and comments submitted in parallel are heard and listened to by other members of the meeting? In a normal face-to-face meeting, comments are made openly in a serial or linear process so that the impact of each idea is visible whereas in electronic meetings, it becomes difficult to know whether ideas have had

an impact as those ideas may not elicit a direct response. In the absence of verbal and non-verbal feedback, it can appear that ideas have been ignored, possibly due to their unworthiness or irrelevance. The sheer volume of comments entered through the EMS during the free keying in of the idea generation stage can be overwhelming. Three women felt they could not do justice to the ideas presented with the necessary deliberation, leaving them to wonder "were my comments seen (heard) and what did people feel about them?" The overly rapid keying in of ideas, with one idea following another too quickly for the first to be given due consideration, versus the obscuring of ideas by social dynamics can result in participants feeling disempowered and dissatisfied with outcomes.

The problem of participants feeling ignored or disempowered is more easily corrected for EMS facilitators than for chairpersons of face-to-face meetings. Even the best and most even handed chairperson cannot prevent some participants from feeling dominated by others they admire, respect or fear. The EMS structure can be reconfigured so that there is sufficient time for pausing, reflecting, and then responding to ideas submitted, while still preserving anonymity. The importance of the role of the EMS facilitator in managing this process cannot be overestimated. His or her ability to create reflection time is of paramount importance to the success of an electronic meeting.

While the creation of anonymity for participants in EMS can be viewed as empowering, it must be recognised that participants may still choose to remain silent. Given the processes of the meeting, abstention from input is quite simple. The silence of certain participants can be concealed and this can concern women. As Powell and Johnson (1995) warned: "the anonymity of the electronic interaction of GDSS compared to face-to-face processes may inhibit the female search for equity" (p. 53). Once again, this underscores the female decision-making style, which places importance not only on the decision reached, but also on whether everyone has had an opportunity to contribute openly and fairly to the process. This can impact on satisfaction with meeting processes and outcomes, however the meeting is held.

Maintaining Relationships

Women are more likely to be motivated by the desire to maintain relationships with other meeting participants, in contrast to males who are more likely to be “exploitative and concerned with winning” (Powell & Johnson, 1995, p. 50). Tannen (1993) supported this view, saying that: “Male speakers are consistently found to be more competitive and more likely to engage in conflict and females to be cooperative and more likely to avoid conflict” (p. 175). As a result, women tend to adopt meeting strategies which avoid contradiction and conflict in favor of consensus and agreement, at least where coalitions are involved. Women could be described as being more accommodative and orientated toward equity and the maintenance of smooth interaction, and tend to avoid or resolve any interpersonal conflict that may arise.

Two women in the EMS environment commented that they felt freed from the constraints of not wanting to alienate other women who were part of their support group by making controversial or conflicting comments which could put at risk their coalition. To one woman, the bond with her close colleagues was more important than saying what she felt should be said, which would have put her in direct opposition to another colleague whose friendship she valued. Because the source of ideas is usually unknown during an electronic meeting, ideas can be proposed with a greater degree of freedom from loyalties and can be judged independently of the proposer.

However, as Powell and Johnson (1995) suggested, the EMS environment with its anonymity of comment may make it more difficult to support group relationships where individuals seek to be consciously proactive in support of other group members. If total anonymity is maintained, this may work against women’s desire to maintain alliances.

Efficiency and Effectiveness

It is important that electronic meeting processes are managed to accommodate both men’s and women’s decision-making styles to increase overall satisfaction with the process and outcomes. EMS research (Nunamaker et al., 1991) consistently emphasises the efficiency of the process, and, in particular, the way in

which decisions are reached with less likelihood of the discussion being sidetracked and time wasted.

However, both the efficiency and the effectiveness of the decision-making process are important. The integrity of the processes and the methods by which decisions are reached are generally of greater concern to women than men. Barnett and Karson (cited by Powell & Johnson, 1995) suggested that:

This may mean taking longer and dealing with more information better to get the right decision (and) that selection and adoption of an appropriate method to accomplish a task forms an important part of the goals adopted by women whereas the goals adopted by men focus more exclusively on the results of the decisions (p. 50).

The process of idea generation encourages divergent thinking as a wide range of thoughts and views are captured by the EMS. Discussion takes place in written format giving rise to comments which are often more carefully constructed and extensive than verbal comments. Because the system captures all comments, women are likely to feel that decisions are based on more information having been made available to the group. The drive to proceed efficiently through the agreed EMS stages of idea generation, merging of similar ideas, electronic discussion, and voting, may inhibit a full and extensive investigation of all ideas presented to allow assessment of their merit and the formation of considered responses.

To do justice to the ideas generated, careful consideration must be given to the ideas if the meeting is to be effective; that is, time must be set aside to allow the best decisions to be made from the written information available. In some cases, this may lengthen rather than reduce the time taken by the process, because of the richness and divergent nature of the information supplied. If the process moves too quickly towards solution (a male preference), then females may feel uncomfortable.

In one meeting, female EMS participants felt that the discussion had moved quickly through these stages to a conclusion without adequate time being given to a thorough analysis of the range of views

presented. Failure to deal sufficiently with this aspect had resulted in a feeling of unease and a perception that the meeting had not achieved its full potential.

One woman commented that this emphasis on efficiency created an atmosphere where: "it seemed to be a race from start to finish." Just as women have commented in conventional meetings: "women tend to want to explore ideas; men just want to 'get on with it'..." (Affirmative Action Agency Report, 1995, p. 16). Thus, an electronic meeting may proceed too quickly and deny participants the opportunity to explore more fully the issues that are raised. It must be made clear, however, that it is not solely EMS technology itself that determines the way in which information is processed and decisions reached, but rather the management of the selected technology and processes.

Improved Satisfaction with Outcomes

Personal satisfaction with meeting outcomes is an important criterion for measuring meeting success (Dorando et al., 1993). While satisfaction with contributions was greater for EMS participants, there was little overall difference between the two groups in the level of personal satisfaction with the decisions reached. The pace of the electronic meeting and issues about effectiveness gave cause for concern. Despite criticism of some aspects of the EMS, the participation of women in the EMS debate was perceived to be greater than in the conventional university meetings.

Summary

Women continue to face the problem of gaining significant representation on formal decision-making bodies and gaining a confident and influential voice once there. Both individuals and organizations have much to gain when all members involved in formal decision making processes, such as meetings, can contribute positively and effectively. Findings from this study, although limited, suggest that the EMS can eliminate or reduce many of the dysfunctional aspects of mixed-sex meetings that women experience, such as male forms of conversational dominance and gender-related stereotypes which work against women gaining an equitable voice and overcoming their lack of confidence to contribute.

Anonymity of input and free access to the floor provided by the EMS can allow women to increase their participation, to contribute more confidently and to say what they want to say in a meeting without interruption. Anonymity also divorces the status of the speaker from the idea being offered and equalizes the value of each individual's input. The EMS also ensures that all written inputs are collected and recorded so that ideas are not lost or misrepresented.

However, some aspects of the EMS can reduce women's satisfaction. For example, it is not certain whether total anonymity can always be assured. And when it is achieved, it can hide the identity of "idea enemies" who may work against others outside the meeting. Any abuse of anonymity to inflame hostilities with intentionally injurious comments can also have a negative effect on the meeting process.

Some individual comments entered during simultaneous discussion may not attract a direct response, leaving women to feel unsure as to whether their contributions are heard and acknowledged, creating a sense of frustration and reducing the women's sense of influence. The desire to proceed efficiently through the meeting can sometimes be at odds with women's views of the effectiveness of the meeting process that demand that issues are discussed in full and attention given to all comments.

While it is the technology-based features of the EMS that bring opportunities for equality and effectiveness, the technology alone cannot assure this. Not all concerns were with the electronic meeting system itself, but some were with the selection of decision support tools for the EMS, the structure and timing of the meeting and the appropriateness of the facilitation style during the EMS session. Lack of awareness on the part of meeting facilitators of the decision-making style of both men and women can influence participant satisfaction. Just as in conventional meetings, careful management of the EMS process is required. Where facilitators have a greater understanding of the varying and different decision-making styles and needs of both males and females, then it is possible that negative aspects of the EMS can be avoided.

From this initial research, it is clear that the EMS has the potential to overcome many barriers to women's equal participation, effectiveness and satisfaction with the meeting process when men and women are present. It is hoped that more extensive

study can be conducted to investigate the differences in group gender composition and the EMS, an area which has received little attention from GDSS researchers to date. The research has implications for other minority groups, but further research is required.

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