An Investigation of Meeting Satisfaction in GSS and FTF Meetings

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Abstract

Meeting satisfaction is an important construct to the field of research on group support systems (GSS). This is because unless the use of GSS technology produces an increase in meeting satisfaction, it is unlikely that users will seek to adopt the technology, regardless of any productivity gains that might be realized. If the underlying causes of meeting satisfaction can be identified, then researchers and designers will be better equipped to study and build systems that facilitate meeting satisfaction without sacrificing meeting productivity. This paper presents a causal model of meeting satisfaction that builds on existing literature. The model is tested with a controlled investigation consisting of 26 groups engaged in the "Lost at Sea" task. Structural equation modeling was used to validate the model and the results suggest strong support for the model's integrity. A number of implications for researchers and practitioners are identified and discussed. These include identifying situations where low meeting satisfaction could be a problem and how the model can be used to guide future GSS research.

1. Introduction

Meeting satisfaction is an important construct to the field of research on group support systems (GSS). This is because unless the use of GSS technology produces an increase in meeting satisfaction, it is unlikely that users will seek to adopt the technology, regardless of any productivity gains that might be realized. One measure of the importance of meeting satisfaction is the attention given to it by GSS researchers. In a meta-analysis of approximately 200 controlled GSS experiments, Fjermestad and Hiltz [16] found that over 25% (280 of 1,103) of all GSS research hypotheses addressed meeting satisfaction. Although a topic of much importance and interest, meeting satisfaction has proven to be an elusive phenomenon. That is, although many experimental studies have examined meeting satisfaction, the results have been equivocal. For example, some researchers [4, 12, 15, 17] found a positive correlation between meeting satisfaction and GSS usage, but others [10, 14, 18, 25, 31] found a negative correlation.

We define satisfaction as the positive affect resulting from the perceived or anticipated fulfillment of a need or want and define meeting satisfaction as the positive affect resulting from the perception that a particular meeting has fulfilled or will fulfill a need or want. The objective of this paper is to present and validate a causal model of meeting satisfaction and then show how that model is useful to researchers and practitioners investigating or using group support systems. If the underlying causes of meeting satisfaction can be identified, then researchers and designers will be better equipped to study and build systems that facilitate meeting satisfaction without sacrificing meeting productivity. The paper proceeds by presenting a causal model of meeting satisfaction that is adapted from the work of Briggs and de Vreede [7]. An empirical investigation was conducted to test the model consisting of 26 groups (15 GSS and 11 FTF) of 5 to 7 participants engaged in an intellective task. The model is tested using structural equation modeling and findings and implications are discussed.

2. Theory and Hypotheses

Satisfaction is defined as the positive affect resulting from the perceived or anticipated fulfillment of a need or want. The perception that a need or want has been (or will be) fulfilled is a necessary antecedent for satisfaction to occur. If positive affect were to manifest in an individual without the precursor of the perceived or anticipated fulfillment of a need or want, then such affect would not be considered satisfaction. Thus, a general model of satisfaction would include some stimuli, such as water or a job promotion, which then causes the perceived fulfillment (or future fulfillment) of a need or want, such as thirst or the desire to succeed professionally. The positive affect that follows the realization that one has acquired the needed water or wanted promotion is what we are referring to as satisfaction. The focus here, however, is not on satisfaction in general but on meeting satisfaction in particular. Meeting satisfaction is defined as the positive affect resulting from the perception that a particular meeting has fulfilled or will fulfill a need or want.

The theoretical model presented in this study is based in large part on the work of Briggs and de Vreede [7],
who suggest that meeting satisfaction is caused by the perception that a meeting has accommodated one's vested interests, and refer to this perception as perceived interest accommodation. Further, they propose that meeting satisfaction consists of two dimensions, including satisfaction with meeting product and satisfaction with meeting process. Briggs and de Vreede [7] then propose the following three causal relationships: (1) perceived interest accommodation causes product value, which in turn causes satisfaction with product, (2) perceived interest accommodation causes satisfaction with process, and (3) satisfaction with product causes satisfaction with process. We found the model proposed by Briggs and de Vreede [7] to be a useful contribution in theorizing about meeting satisfaction. However, we have made a number of modifications to their model.

First, we frame the cause of meeting satisfaction in terms of goal attainment, where a goal is defined as any need or want that an individual makes a conscious effort to fulfill, rather than the accommodation of vested interests. The term vested interest implies a clear advantage to an individual. Vested interests are those things that help individuals survive and thrive in their environment. The two are closely related in that it is often one's goal to fulfill certain vested interests, but this is not always the case. It is possible for people to pursue and fulfill goals, which thusly produce satisfaction, which they also believe to be harmful to their vested interests (e.g., smoking). By framing the cause of satisfaction in terms of goal attainment, we focus only on the fulfillment of needs and wants without the condition that those needs or wants are perceived to produce an advantage for the individual. The use of goal attainment has been shown to be useful in examining individual support for group decisions [11]. We use goal attainment here to examine individual satisfaction with meetings.

Second, we suggest satisfaction is caused not only when goals are fulfilled, but also by the perception that goals will be fulfilled in the future. A new tool, such as GSS, may produce satisfaction in the present because the individual perceives that the tool will allow him or her to attain goals in the future. Third, we expand Briggs and de Vreede's [7] term "product satisfaction" to the more general term of "satisfaction with meeting outcome". Meeting outcomes vary according to the purpose of the meeting but could potentially include products or deliverables, decisions, recommendations, courses of actions and the like. Fourth, we eliminate the construct "product value" from the model. Rather, we propose that satisfaction with meeting outcome and satisfaction with meeting process are both caused directly by perceived net value of goal attainment. The resulting model is presented and discussed in the following section.

2.1 Causal Model of Meeting Satisfaction

The causal model of meeting satisfaction that serves as the theoretical basis for this study is presented in Figure 1. Researchers often view meeting satisfaction as consisting of two components, including satisfaction with meeting process (SP) and satisfaction with meeting outcome (SO) [e.g., 15, 22, 25]. The meeting process refers to the procedures, deliberations and methods used by a group to reach its outcome. The distinction is necessary because it is possible that an individual could be satisfied with a meeting outcome and not satisfied with a meeting process, and vice versa. For example, if group members decided to draw straws to see which of them was to be awarded a particular artifact, the winner may be satisfied with the outcome but dissatisfied with the process. This is because the process could have easily awarded the artifact to someone else. In contrast, a group that uses "majority rules" decision making may have a member of the minority who feels dissatisfied with the group outcome but satisfied with a process that provided a fair opportunity to express one's views. The process was fair and may yield better results in the future. A failure to distinguish between SO and SP makes it difficult to predict meeting satisfaction in various situations. For example, it is not clear how the winner in the group that draws straws or the loser in the "majority rules" decision making group would report on a general meeting satisfaction instrument.

Meeting satisfaction consists of SO and SP, each of which are caused by perceived net value of goal attainment. A goal is defined as any need or want that an individual makes a conscious effort to fulfill. The term "net value" is used to recognize two important characteristics about individuals and their goals. First, individuals seek to fulfill multiple goals and it is often the case that these goals may be competing, or mutually exclusive. For example, suppose a politician believes that a particular piece of legislation would benefit the general well being of society. But suppose also that this politician's constituency strongly opposes the legislation. In such an instance the politician has two goals, (1) the desire to enact legislation that is beneficial to society and (2) the desire to maintain the support of one's constituency, that are mutually exclusive. The second aspect of net value is the concept of cost. It takes effort to fulfill goals. Implicit to the desire to fulfill goals is to do so in a manner that the benefit of the goal exceeds the cost incurred by fulfilling the goal. Net value of goal attainment (NVGA) then refers to the sum of the gains and losses associated with the goals that an individual either succeeded or failed to fulfill, minus the cost incurred by attempting to fulfill those goals. It is the perceived NVGA that one attributes to a particular meeting that causes meeting satisfaction. If perceived...
NVGA is positive, then a positive amount of meeting satisfaction should result. If perceived NVGA is negative, then a negative amount of meeting satisfaction should result.

Figure 1 also denotes a causal link from SO to SP, as suggested by Briggs and de Vreede [7]. In meetings which are held to accomplish a specific outcome, SO can be a highly sought after goal. For example, individuals faced with a difficult decision to make, such as which job candidate to hire, often have the specific goal of being satisfied with their final decision. They might express this desire with such phrases as "I hope we can reach a decision that we all are comfortable with." When such an outcome is obtained, a goal is fulfilled and thus causes SP. That is, the individual attributes the fulfillment of the desire to be satisfied with the outcome to the process. This relationship between SO and SP, as well as the relationships between perceived NVGA, SO, and SP are developed into hypotheses in the following section.

Figure 1. Causal model of meeting satisfaction (adapted from Briggs and de Vreede [7])

2.2 Hypotheses

Hypotheses were developed to test the causal model of meeting satisfaction that is presented in Figure 1. The model suggests that NVGA causes perceived NVGA, which in turn, causes meeting satisfaction. Thus, with all else being equal, individuals who attain their goals in the context of a meeting should experience greater meeting satisfaction than individuals who do not attain their goals. One measure of goal attainment is the degree to which an individual's personal preferences correspond to the group's preferences. Castore and Murnighan [11] refer to this measure of goal attainment as relative individual goal attainment (RIGA). According to the model, higher levels of RIGA should produce higher levels of perceived NVGA, which in turn should cause meeting satisfaction to manifest. Thus, our first hypothesis:

Hypothesis 1: Individuals with higher values of relative individual goal attainment will tend to report higher values of meeting satisfaction.

Hypothesis 1a: Individuals with higher values of relative individual goal attainment will tend to report higher values of satisfaction with meeting outcome.

Hypothesis 1b: Individuals with higher values of relative individual goal attainment will tend to report higher values of satisfaction with meeting process.

Hypothesis 1 stems from the relationship between perceived NVGA and meeting satisfaction. As discussed previously, SO can be, in and of itself, a goal. Consequently, with all else being equal, individuals who experience high levels of SO as a result of a meeting should also experience higher levels of SP. Thus, our second hypothesis:

Hypothesis 2: Individuals reporting higher values of satisfaction with meeting outcome will tend to report higher values of satisfaction with meeting process.

A controlled investigation was conducted to test hypothesis 1 and 2. The methodology of this investigation is presented in the following section.

3. Methodology

An empirical investigation was conducted to test the two hypotheses. We selected a task that would produce
variation in the degree to which an individual's final preferences corresponded to the group's final preferences, and thus provide a measure of RIGA. This allows us to test the first hypothesis that RIGA causes meeting satisfaction. We also measured both SO and SP to test the second hypothesis that SO causes SP. To rule out the possibility that technology, rather than RIGA, gives rise to meeting satisfaction the task was completed under two conditions, with and without GSS technology.

3.3 Structural Model

The structural model contains RIGA, SD, and SP. In this model, RIGA is an exogenous, observed variable and SD and SP are endogenous, latent variables. The model consists of three relationships: (1) a path from RIGA to SD, (2) a path from RIGA to SP, and (3) a path from SD to SP.

3.4 Participants

The study used a total of 26 groups, 15 meeting in a computer lab receiving GSS support and 11 meeting FTF in a conference room, of university students. Participants were university students in the college of business at a Hong Kong public university. The ages ranged from 19 to 23 and average 21.4. There were a total of 159 participants (85 female, 74 male), which were randomly assigned to groups and groups were randomly assigned to either the GSS or FTF conditions. GSS groups consisted of 48 females and 45 males and averaged 6.2 participants per group. FTF groups consisted of 37 females and 29 males and averaged 6.0 participants per group.

3.5 Procedure

The study was conducted using a script and was piloted prior to data collection. The procedure consisted of the following six steps:

Step 1. Participants sign in for the session, are introduced to the lost at sea survival task, and complete the initial ranking of the 15 items from the lost at sea survival task. FTF participants complete the ranking with pen and paper and GSS participants used a voting tool from a commercially available group support system (GroupSystems by GroupSystems.com). Rankings are completed individually and anonymously and responses are submitted to the researcher.

Step 2. The researcher tabulates the votes and presents the group with the items ordered according to their rank sums. For the GSS groups, these calculations are completed by the system and projected on the front projection screen. For the FTF groups, the researcher inputs the individual rankings into a spreadsheet and writes the results on a white board. Both groups were also presented a measure of their consensus (Kendall’s coefficient of concordance) that ranged from 0 to 1 and were asked to discuss the items for thirty minutes to try to improve their consensus from the initial ranking.

Step 3. Participants discussed the items for thirty minutes. GSS participants logged into a discussion tool, using anonymous pen names, that presented each of the 15 items in a list. When a participant double-clicked an item, a discussion window would appear for that particular item. FTF participants discussed the items openly around a conference table.

Step 4. Participants completed the final ranking using the same procedure described in Step 1.

Step 5. The researcher tabulated the votes and presented the group with the items ordered according to their rank sums. Participants were also presented their consensus measure and informed of whether or not they succeeded in increasing their agreement (all groups for both GSS and FTF conditions did succeed in raising their consensus).
Step 6. Participants complete a short questionnaire containing 5 items to measure SD and 5 items to measure SP (Appendix A). FTF groups completed the questionnaire with pen and paper and GSS groups completed the questionnaire electronically. Participants were thanked for their participation in the study, paid HK$100 (US $13) for participating, and dismissed.

4. Results

Prior to testing the overall model presented in Figure 2, the 5 SD items and the 5 SP items were tested for reliability and construct validity. The results of a factor analysis, with varimax rotation, on these 10 items is presented in Table 1 and revealed two distinct factors. All five of the SP items loaded heavily, greater than 0.50, on the first factor and did not load heavily on the second factor. However, only the second, third, and fourth SD items loaded heavily on the second factor. The first (SD1) and the fifth (SD5) satisfaction with meeting decision items did not load heavily on either factor and were subsequently discarded from the analysis. A correlation matrix of the remaining 8 items, consisting of 5 SD and 3 SP items, is presented in Table 2. The correlations provide evidence of high inter-item reliability with each item correlating at the p<0.0001 level of significance with each other item that measured the same construct. Further, all correlations between items that measure the same construct are higher than all correlations between items that measure different constructs. The Chronbach’s a for the 5 satisfaction with meeting process items was 0.794 and the Chronbach’s a for the 3 SD items was 0.762, both above the recommended minimum threshold of 0.70 [29].

<table>
<thead>
<tr>
<th>Table 1. Factor loadings with varimax rotation</th>
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4.1 SEM Analysis

Structural equation modeling using AMOS 4.01 was used to test the model presented in Figure 2. The model was tested with the combined data set containing both GSS and FTF participants (n=159), with the GSS participants only (n=93), and with FTF participants only (n=66). As suggested by the literature, a variety of fit measures were examined to determine the appropriateness of the model [5, 6, 24]. These measures are presented in Table 3 and include both the recommend value and the results obtained using AMOS. Overall, the model proved to be valid for each of the three data sets.

A $\chi^2$ analysis for the model was non-significant and the $\chi^2$/df ratio was 1.16, which is lower than both the upper threshold of 5.0 recommended by Wheaton et al. [33] and the more restrictive threshold of 2.0 recommended by Carmines and McIver [9]. Both the GFI and AGFI exceeded the minimum level of 0.90 [6, 20]. The root means square error of approximation (RMSEA) of the model was 0.03, under the threshold of 0.05 which is necessary to be considered a "close fit" by Browne and
Cudeck [8] and well below their maximum acceptable value of 0.10. It was concluded that the model, using the combined data set, was valid.

The model was consistent in that it performed well using the GSS only and FTF only data as well. Both analyses yielded non-significant $\chi^2$ tests and both had low $\chi^2$/df ratios. With regard to goodness-of-fit, the GSS only model and the FTF only model both exceeded the recommended threshold of 0.90. And although both had AGFI values that were slightly less than 0.90 (i.e., the GSS only AGFI=0.89 and FTF only AGFI=0.85), the values were comparable to, or exceeded, levels commonly accepted in the literature [1, 3, 23, 32]. The RMSEA statistics were supportive of the model as well. RMSEA = 0.03 for the model with the GSS only data, which was within Browne and Cudeck's [8] "close fit" range and RMSEA = 0.06 for the model with the FTF only data, which was within Browne and Cudeck's [8] "reasonable" range. Thus, it was concluded that the model was valid with the GSS only and FTF only data sets, as well as the combined data set.

Given that the overall model was valid, the parameter estimates could then be examined to test the study's hypotheses. The standardized parameter estimates for the model with each of the three data sets is presented in Figure 2. The results supported hypothesis 1a, revealing a significant relationship between RIGA and SD, for the GSS treatment, the FTF treatment as well as the combined data set. However, in all three cases there was no support for hypothesis 1b. The results did support hypothesis 2, revealing a significant relationship between SD and SP, for the GSS treatment, the FTF treatment, as well as the combined data set.

For the combined data set, the relationship between RIGA and SD was significant at $p<0.001$ level. RIGA accounted for $(0.367)^2 = 13.3\%$ of the variance of SD with the GSS only data and $(0.412)^2 = 17.0\%$ of the variance of SD with the FTF only data. SD explained $(0.399)^2 = 15.9\%$ of the variance of SP in the GSS only data and $(0.626)^2 = 39.2\%$ of the variance of SP in the FTF only data.

<table>
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<tr>
<th>Fit Measure</th>
<th>Recommended Value</th>
<th>Combined Data (n=159)</th>
<th>GSS Only (n=93)</th>
<th>FTF Only (n=66)</th>
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<td>$p&gt;0.05$</td>
<td>29.11, df=25, $p=0.26$</td>
<td>27.73, df=25, $p=0.32$</td>
<td>31.51, df=25, $p=0.17$</td>
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<td>$\chi^2$/df</td>
<td>&lt; 5.00</td>
<td>1.16</td>
<td>1.11</td>
<td>1.26</td>
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<td>GFI</td>
<td>&gt; 0.90</td>
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<td>0.94</td>
<td>0.92</td>
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<td>AGFI</td>
<td>&gt; 0.90</td>
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<td>0.89</td>
<td>0.85</td>
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<td>RMSEA</td>
<td>&lt; 0.10</td>
<td>0.03</td>
<td>0.03</td>
<td>0.06</td>
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</table>

Figure 2. Standardized parameter estimates for combined, GSS, and FTF models.
5. Discussion

The results of the SEM analysis supported the general model of meeting satisfaction presented in Figure 1 and did so consistently across three data sets including GSS and FTF groups. The degree to which an individual's rankings corresponded with the group's ranking was positively associated with SD, lending support to hypothesis 1a. It appears that the participants in this study succeeded in assessing differences in RIGA and that these assessments were the basis for differences in perceived NVGA, which, in turn, led to differences in satisfaction with meeting decision.

There was a significant relationship between SD and SP, supporting hypothesis 2. This relationship was consistent across all three data sets and in each case represented the highest effect size of the model. The direct relationship between RIGA and SP was not significant, failing to support hypothesis 1b. This finding was also consistent across all three data sets. This does not imply, however, that RIGA is unrelated to SP but rather that RIGA appears to influence SP only indirectly through SD for this particular study. It is reasonable to believe that after investing 30 minutes of effort in debating the 15 items, participants wanted a satisfactory outcome. When such an outcome was achieved, they then appeared to attribute a portion of that fulfillment to the process itself. With respect to SP, SD becomes a subset of perceived NVGA. One way to test for a relationship between RIGA and SP is to eliminate the causal link in the model between SD and SP and thus subject all of the variance in SP to RIGA. When this is done, the relationship between RIGA and SP is significant for each of the three data sets (Appendix B). However, the overall fit measures clearly suffer from the absence of a link between SD and SP for each of the three data sets, yielding further evidence that there exists a direct causal relationship between SD and SP.

Although significant, the magnitude of the relationships between RIGA and SD were relatively weak, or moderate at best [21]. There are a number of reasons that might account for the low effect sizes. First, the ability to assess NVGA is a moderating factor in the determination of perceived NVGA. In this study, participants were not presented with a measure of RIGA. Shortly after submitting their individual final ranking they were able to view the group's final ranking. However, they no longer had their own rankings available for which to compare to the group. It is possible that a participant with low RIGA thought his or her ranking corresponded more closely to the group's ranking than it actually did. It is also possible that a participant with a high level of RIGA thought his or her ranking had less correspondence to the group's ranking that it actually did. If we had reported to each individual a measure of their RIGA, and thus increased their ability to assess NVGA, we may have observed a stronger relationship between RIGA and SD. A second explanation of the low effect sizes might be that perceived NVGA was largely affected by the content of the 30 minute discussion. For example, the degree to which an individual participated is likely to have affected perceived NVGA and yet it was not captured as a measure in this study.

5.1 Implications for Practitioners & Researchers

This study's findings have some potentially important implications to practitioners. First, the relationship between RIGA and meeting satisfaction is relevant to meetings in which consensus is an issue. If group consensus is low, meaning that individuals tend to disagree on their preferences regarding the issue at hand, then RIGA would tend to be lower as a result. And although practitioners do not know an individual's RIGA in an anonymous setting, they can measure consensus quite easily. There was a significant correlation between consensus and RIGA at both the individual unit of analysis (r=0.542, df=157, p<0.000) and the group unit of analysis (r=0.917, df=24, p<0.000). Thus, when practitioners encounter low consensus situations in a group session, they should be aware that meeting satisfaction may suffer as a result. The relationship between RIGA and consensus, and between RIGA and meeting satisfaction, may explain why studies that report lower consensus in GSS groups tend to also report lower satisfaction as well [e.g., 2, 18].

A second implication for practitioners is the importance of individual versus group goals. Groups typically meet because a task or problem requires greater effort and insight than a single individual can provide. However, satisfaction occurs only if an individual perceives the fulfillment of a need or want. Unless participants adopt the goals of the group, there is not likely to be high levels of meeting satisfaction, regardless of whether or not group goals are fulfilled. This suggests that practitioners need to find ways to encourage individuals to "buy in" to the group's goals.

The model can also help explain why GSS experimental research has seldom succeeded in manipulating meeting satisfaction with various experimental treatments. Researchers often hypothesize that GSS structures such as anonymity and simultaneity will increase user satisfaction, but it is not clear what the causal link is between anonymity, for example, and meeting satisfaction. What goal is being fulfilled by anonymity? It is possible that some participants have a desire to participate but are prevented from doing so in normal meetings. But it is also possible that some participants want to dominate a discussion but are prevented from doing so in anonymous meetings. Future
GSS studies on meeting satisfaction should include the basic cause of meeting satisfaction, perceived NVGA, in their research models. For example, Reinig et al. [30] manipulated goal attainment in an ideation study that instructed groups of undergraduate students to discuss problems in a school of business. A graph was projected on the front screen that kept track of their total lines of comments submitted over a 40 minute discussion. If the participants reached their goal, a fireworks display would show on the front screen. If they failed to reach their goal, they were informed that they were below average producers. Goal attainment was varied by setting the target for comment productivity either well below or well above the average generated from a control group. Participants in groups with the below average target met their goal and reported greater affective reward than participants with the above average target that failed to meet their goal. The model of meeting satisfaction presented in this paper provide a reasonable explanation of the findings reported in the Reinig et. al. [30] study and can be applied in future GSS experiments as well.

5.2 Limitations of the Investigation

As with any controlled empirical study, there will be disagreement as to the degree to which these findings can be generalized. The participants and task, for example, are not necessarily indicative of what researchers may expect to encounter in the field. The use of ad hoc groups, such as the case here, has also been criticized for ignoring changes that occur in groups over time [13]. National culture has also shown to influence individual behaviors and attitudes in GSS meetings [27] which raises questions about generalizing results from Western cultures to Asian cultures and vice versa. However, we assert that the fundamental cause of satisfaction remain the same across all cultures and all groups. Culture may influence the goals which individuals select and groups with long histories may personalize group goals more, or in some cases less, than ad hoc groups. But whatever the goals, it is the evaluation of the tradeoff between costs and benefits that determine perceived NVGA, which we assert is the cause of meeting satisfaction.

The causal model presented here should be validated in multiple settings, groups, measures, and tasks. For example, this study used the congruence between individual and group decisions to represent NVGA. Had we used NVGA measures more closely related to meeting processes than meeting outcomes we may have observed a relationship between NVGA and SD and more of a relationship between NVGA and SP. Future studies will enable the model to be refined and identify mechanisms for increasing perceived NVGA.

6. Conclusion

Meeting satisfaction is one of the most important and frequently studied constructs in GSS research. However, only a small percentage of studies examining meeting satisfaction have reported significant results. One reason for this is that the theoretical underpinnings have seldom been explored. In this paper we developed a causal model for meeting satisfaction that was adapted from the work of Briggs and de Vreede [7]. We then presented a study consisting of GSS and FTF groups working on an intellectual task and tested the model using structural equation modeling. A number of implications of these findings for researchers and practitioners were discussed. We hope that the causal model of meeting satisfaction presented in this paper will be useful in future GSS research on meeting satisfaction. We believe that having a sound and validated theoretical model of meeting satisfaction is the first step to designing systems, methods, and techniques that can ultimately increase meeting satisfaction for its users.

7. References


**Appendix A. Meeting satisfaction items [19]**

**Satisfaction with Meeting Process (SP)**

1. How would you describe your group’s problem solving process? 1=efficient, 5=inefficient
2. How would you describe your group’s problem solving process? 1=coordinated, 5=uncoordinated
3. How would you describe your group’s problem solving process? 1=fair, 5=unfair
4. How would you describe your group’s problem solving process? 1=understandable, 5=confusing
5. How would you describe your group’s problem solving process? 1=satisfying, 5=dissatisfying

**Satisfaction with Meeting Decision (SD)**

1. How satisfied or dissatisfied are you with the quality of your group's solution? 1=Very Dissatisfied, 5=Very Satisfied
2. How satisfied or dissatisfied are you with the quality of your group's solution? 1=Not at all, 5=To a Very Great Extent
3. How satisfied or dissatisfied are you with the quality of your group's solution? 1=Not at all, 5=To a Very Great Extent
4. How satisfied or dissatisfied are you with the quality of your group's solution? 1=Not at all, 5=To a Very Great Extent
5∗ To what extent do you feel personally responsible for the correctness of the group solution?
1=Not at all, 5=To a Very Great Extent
∗Discarded due to poor loading in factor analysis.

Appendix B. SEM analysis without direct linkage between SD and SP.

Model Tested

![Diagram showing relationships between RIGA, Satisfaction with Decision, and Satisfaction with Process]

Fit Measures

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Standardized Parameter Estimates

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<td>0.399**</td>
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<td>RIGA → SP</td>
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*p<0.05, **p<0.01, ***p<0.001