Shared Sensemaking from a Diversity of Experts: 
A Methodology for Exploring Complex MIS Issues

Larry S. Seligman  
University of Texas at Austin  
lseligman@mail.utexas.edu

Reuben R. McDaniel, Jr.  
University of Texas at Austin  
mcdaniel@mail.utexas.edu

Abstract

Topics such as global information systems, enterprise systems, and electronic commerce bring substantial complexity to the study of information systems. There is therefore a need for research methodologies that will help researchers understand complex phenomena and that will take advantage of technology and the knowledge of experts to further research efforts when possible. This paper introduces Shared Sensemaking in Diversity (SSD), a methodology for discovering two types of shared sensemaking that occur when a diverse group of experts have discussions centered on a given complex issue. Results are given from a healthcare management forum which used SSD. A discussion of the validity of SSD and ideas for improvement are also provided.

The research for this paper was supported by the Texas Institute for Health Policy Research and was conducted at Memorial Southwest Hospital in Houston, Texas. The authors wish to thank Donald Wagner for making its facilities available; Donde Ashmos, Camille Miller, Michelle Walls, and Klaus Kroyer Madsen for their assistance with the research; and Stefano Grazioli and three anonymous reviewers for their helpful comments.

0. Introduction

This paper describes a methodology called Shared Sensemaking in Diversity (SSD) for holding discussions among diverse group of experts, analyzing the discussions with the help of database software, and finding indications of the shared sense of the issue that the experts have. Specifically, SSD gathers a group of experts representing differing occupational and organizational perspectives within a given industry or other system. The group holds multiple discussions on a given central issue to provide lists of researcher-requested discussion output such as research questions, managerial issues, etc. The researchers then use transcripts of the discussions to find indications of the experts' shared sense of the central issue.

The SSD methodology models a system (e.g., an organization or an industry) by selecting a diverse group of representatives of the system and asking them to discuss issues creatively in various subgroups to generate desired outputs such as research questions, managerial issues, etc. The discussions themselves are recorded and analyzed to find common sensemaking [14] in the form of recurring themes within the discussions. (The term "themes" will be defined more formally later). Transcripts of discussions can be analyzed by simple database queries to look for words that occur frequently and in multiple related discussions to highlight potential themes that lead to additional insight into the issue. The evolutionary, unguided nature of the theme development adds richness to the output that the experts specifically produced in the discussions. In other words, SSD seeks two kinds of information: that which the researchers specifically request and the experts specifically provide, and that which the researchers did not specifically request, but which emerges during the course of the discussions and adds depth to the understanding of the central issue.

This methodology also provides an example of the usefulness of existing technology for performing new research and raises the question of how technology can be used to enhance existing methodologies and to create new ones. As new methodological tools are introduced, it is important to establish their purpose and validity, and to consider how new technologies may be used in research. Therefore, this paper also discusses the validity and potential uses of SSD.

SSD is important to the IS community for the following reasons: first, there are many areas of academic and professional interest that evolve too quickly for years-long empirical studies, and therefore methods of developing a deep understanding of issues in a short amount of time are needed. Second, these quickly-evolving areas are often managed by practitioner experts with a variety of backgrounds and interests. Often by the time academicians learn and distribute their knowledge, too much has changed for it to be of practical use. It is therefore necessary to develop research methodologies that tap the knowledge and perspective of experts to...
understand their shared sense of interesting phenomena. Third, growth of IS as a legitimate academic field is contingent upon the ability of IS academicians to pioneer their own tools and methodologies, not only to enhance our understanding of IS-related phenomenon, but also that we may contribute back to disciplines such as psychology, economics, management, etc., from which we have been borrowing ideas and methodologies for decades. Better still is the pioneering of methodologies that use the same technologies that we study, so that technology utilization advances as we gain experience with those technologies.

The steps of SSD are described in Section 1. Section 2 gives an example and results of use of SSD in a healthcare setting. Section 3 discusses the validity of SSD, including some suggested modifications for improving validity. Section 4 compares SSD to similar methodologies. Section 5 discusses potential areas of use.

1. The Steps of SSD

SSD is centered around the following core principles:

1. Shared sensemaking develops through social interaction and can be found in records of that interaction. [14][10]
2. A group of experts can self-organize to accomplish tasks and develop strategy [12], and managers should facilitate group self-organization as opposed to dictating the organization. [15] Such self-organization can be facilitated through semi-structured means, i.e., a balance between structured meetings and chaotic discussions. [1]
3. Diversity of perspectives leads to fullness of shared sense and richness of understanding, especially where creativity and innovation are desired. [7][5]

Therefore, by gathering a diversity of experts together, imposing limited structure on their discussions, and analyzing the discussions thereafter, SSD seeks a rich, innovative understanding of complex issues.

SSD was developed during the case study described later in this paper, with some of the steps developed out of practical consideration for the concerns of that study. There is room, therefore, for some modifications for individual circumstances as long as adherence to the previously stated principles is the guide for the modifications.

The steps of SSD are discussed in detail below, divided into three sections: pre-discussion steps, discussion step, and post-discussion steps, denoting work that must be done before, during, and after the discussions. The steps to be discussed are:

Pre-discussion steps:
1. Identification of the central issue.
2. Development of the seed questions.
3. Development of the desired discussion output.
4. Development of the discussion plan.
5. Selection and invitation of experts.
6. Arrangement of discussion technology.

Discussion step:
8. Discussions and development of discussion outputs.

Post-discussion steps:
9. Initial formation of potential themes based on expert opinions.
10. Word frequency and context analysis.
11. Verification of themes with experts.

1.1 Pre-discussion steps

The pre-discussion steps explain what must be done to prepare the experts and researchers for the discussions.

Step 1. Identification of the central issue. The first step is for the researchers to identify the central issue that they want to address. The central issue is a general question to guide the rest of the steps of the process. The central issue may arise from managerial need, academic curiosity, or some other motivator.

Step 2. Development of the seed questions. A seed question is a question that addresses a single aspect of the central issue. Multiple seed questions therefore can be used to address diverse sub-issues in order to promote development of a full, encompassing perspective of the central issue. The seed questions are generally developed from conversations among the researchers. The seed metaphor [11] [14] provides a starting point from which many different discussions might unfold, depending upon the experts, circumstances, etc. It is the variety of the discussions that helps the experts develop a full, shared perspective of the central issue from the perspectives inspired by the seed questions.

When developing the set of seed questions, the researchers should consider that each question requires an amount of the experts’ time for discussion and development of discussion output. The number of seed questions must fit with the amount of time experts have for the discussions.

Step 3. Development of the desired discussion output. At the end of the discussion of each seed question, experts...
will be asked, as a group, to summarize the discussion in terms of various discussion outputs. Examples include research questions, managerial issues, methods of addressing the research questions and managerial issues, policy questions, managerial decisions that have to be made, etc. The researchers must determine which outputs are desired so that they may center discussion of seed questions on the production of these outputs.

Step 4. Development of the discussion plan. The discussion plan is an assignment of experts to seed questions at specified times. There are a number of approaches that may be taken here, e.g.,

- All experts discuss the seed questions one at a time.
- Experts are divided into groups, with one seed question per group. After the groups complete their discussions, experts may be reassigned to other groups to discuss other seed questions.
- An online forum may be assigned to each seed question for a specified period of time. Experts may participate in any or all of the forums until time runs out.

Whatever the chosen plan, a facilitator (perhaps one of the researchers) should be assigned to guide each group toward production of the desired discussion outputs. The number of experts, the number of seed questions, and the amount of available time are factors for determining the discussion plan.

Step 5. Selection and invitation of experts. The group of experts as a whole should represent as many different relevant perspectives of the central issue as possible within the system in which it is studied. For example, a central issue of implementation problems of an organization-wide information system should include representatives of the various departmental and occupational groups within the organization. The resulting group of experts should then be a model of the system (in this case the organization) that can represent multiple relevant perspectives.

Individually, the experts should be selected based on the researchers’ perceptions of their ability and willingness to think about the central issue creatively, their willingness to relay their own expertise and viewpoints about the central issue and seed questions, and their interest in the topic and the viewpoints of others. Ideal experts, therefore, have two characteristics. First, they have expertise in the various facets of the central issue that are described by the seed questions. Second, they have demonstrated innovative, unusual, or improvisational approaches and viewpoints. It is desirable to avoid people who seem to have pre-conceived answers for the seed questions.

Step 6. Arrangement of discussion technology. The discussions must either be recorded and transcribed from the recordings, or be transcribed concurrently. Arrangements for appropriate equipment and equipment operators must therefore be made.

Step 7. Development and assignment of a related library of readings. A set of readings should be assembled for the experts that surveys the various facets of the central issue and addresses them in a variety of ways. Two types of readings will be included: general information to update the experts on the central issue, and readings to inspire creative thinking about the issue. The general information readings should be brief and few in number. The creativity readings can be a larger group of articles with diverse points of view. All experts should be required to read the general information readings. One or two different creativity readings should be assigned to each expert, so that different ways of thinking about the problem are represented in the readings by different experts. All of the readings should be made available to everyone, though, so that experts can read unassigned readings as they desire. Experts should also be sent the list of seed questions and desired discussion output, so that they may be forming thoughts about them before the discussions.

1.2 Discussion step

Step 8. Discussions and development of discussion output. The discussions of the seed questions are now held according to the discussion plan. The purpose of each discussion is to allow the experts to describe their perspectives of the seed question being discussed. During each discussion, every contribution to the discussion by an expert, hereafter referred to as a "statement", is either transcribed concurrently into a text file or recorded for later transcription. Each discussion will have its own text file.

At the end of each discussion, experts should work together to develop the desired discussion output. The text of all the discussions and the discussion output together form the "proceedings".

1.3 Post-discussion steps

These steps describe the analysis done after the discussions.

Step 9. Initial formation of potential themes based on expert opinions. The researchers should read through the
proceedings to determine what potential "themes" may exist in the discussions that were not captured in the discussion output. The label "themes" is used here to describe important, recurring statements or similarities among statements that address the central issue in ways not covered by the seed questions or the discussion output. These potential themes can add depth to the understanding of the central issue by focusing the researchers on perspectives that they did not anticipate before the discussions were held.

Step 10. Word frequency and context analysis. In an attempt to validate the themes that are initially found, as well as to reveal new themes which the researchers may have overlooked, the following analysis is done:

1. The text of each discussion is copied into its own record within a database table.
2. A program is written and run which makes a list of every word in the discussions, counts the number of times each word was used overall, how many times the word was used in each discussion, and the number of different discussions in which the word is used.

The purpose of this analysis is to determine which words were used most often and in the most discussions. Words used frequently and in several discussions, and which suggest a possible aspect of the central issue, are selected by the researchers (Step 2), selected by the researchers after further conversations with researchers at TIHPR and fellow academicians, were:

1. How can inter-organizational relationships be better managed within the healthcare system and with other societal systems such as education and transportation systems?
2. What strategies are emerging for the financing and governance of health care, and how will these strategies affect the delivery of healthcare services? What mechanisms are required to deal with the unintended consequences of shifts in healthcare financing and shifts in healthcare governance?
3. What strategies are emerging for controlling costs to the payors? Now that many of the one-time savings in cost through managed care have been achieved, what new strategies will payors use to control costs?
4. When the only distinguishing feature between healthcare providers and delivery systems is cost, how will providers and systems maintain product or service identity?
5. What is the role of clinicians and non-clinicians in new healthcare systems, and what kinds of education/training will be required to prepare them for these new roles? Who will be responsible for the re-education of clinical and non-clinical workers as the focus of healthcare organizations shifts from one set of interest groups to another?
6. What are alternative managerial techniques for responding to capitation and other risk shifting mechanisms? Will stakeholders emerge who will seek to make a profit from the healthcare system by assuming risk rather than shifting risk and how will these stakeholders attempt to influence the delivery of care?
7. How will healthcare delivery systems go about increasing market share, market power and operational efficiencies?

The words with the highest frequency and which appear in the most discussions will be articles, pronouns, and other non-thematic words. Browsing further down the list, the potentially thematic words will start to appear. Additionally, a single theme may be represented by several different forms of the same word, or several different related words. For example, experts may use the terms "information" and "data" interchangeably. Researchers should combine results from interesting, related words to consider whether the combined statistics are high enough to search for a theme, and then look for each related word in context to look for themes.

This type of word frequency analysis is not new, e.g., the methodology of automatic concept classification by Chen, et al. [2] The contribution of this step is objective, automated suggestions for themes. Researchers should decide which word analysis technique(s) is/are appropriate for their specific study.

Step 11. Verification of themes with experts. The researchers may solicit feedback from the experts on whether the identified themes were the major themes of the discussion.

2. Example of Usage

The Texas Institute for Health Policy Research (TIHPR) held a forum in May 1998 to address the central issue of "What are the impacts of managed care on the management of the delivery of healthcare?" The researchers, in conversations with researchers at TIHPR, developed this central issue (Step 1). The seed questions (Step 2), selected by the researchers after further conversations with researchers at TIHPR and fellow academicians, were:

1. How can inter-organizational relationships be better managed within the healthcare system and with other societal systems such as education and transportation systems?
2. What strategies are emerging for the financing and governance of health care, and how will these strategies affect the delivery of healthcare services? What mechanisms are required to deal with the unintended consequences of shifts in healthcare financing and shifts in healthcare governance?
3. What strategies are emerging for controlling costs to the payors? Now that many of the one-time savings in cost through managed care have been achieved, what new strategies will payors use to control costs?
4. When the only distinguishing feature between healthcare providers and delivery systems is cost, how will providers and systems maintain product or service identity?
5. What is the role of clinicians and non-clinicians in new healthcare systems, and what kinds of education/training will be required to prepare them for these new roles? Who will be responsible for the re-education of clinical and non-clinical workers as the focus of healthcare organizations shifts from one set of interest groups to another?
6. What are alternative managerial techniques for responding to capitation and other risk shifting mechanisms? Will stakeholders emerge who will seek to make a profit from the healthcare system by assuming risk rather than shifting risk and how will these stakeholders attempt to influence the delivery of care?
7. How will healthcare delivery systems go about increasing market share, market power and operational efficiencies?
8. What models of healthcare will help us to look into the future of health care? (This question was actually not one of the original seed questions, but was added after discussion among the experts.)

The desired discussion outputs were determined to be (Step 3):
1. Key Managerial Issues in the Delivery of Quality Healthcare
2. Methods for Addressing These Issues
3. Research Questions
4. Policy Questions
5. Managerial Decisions that Need to Be Made

It was determined that the most important seed questions would be discussed with all of the experts in one large group focussed on the same seed question at the same time. The other questions would be given to expert subgroups as a timesaving measure (Step 4).

Forum experts included twenty-one managers and practitioners from a variety of healthcare delivery systems and academicians whose primary interests are in healthcare and related disciplines. The experts were invited based on their abilities to think creatively as evidenced by their previous research and/or experience (Step 5). The group as a whole was designed to represent many different perspectives of the healthcare delivery system. The group represented the perspectives of physicians, nurses, upper management, middle management, technologists, consumers, economists, insurance providers, researchers, teachers, and consultants. Some of these perspectives were represented more strongly than others (e.g., more upper management than nursing representatives) due to some invitees being unable to participate and substitutes being found.

The researchers decided to use two laptop computers to record the statements during discussions (Step 6). Each expert was assigned the two general readings from the set of readings, as well as two additional creativity readings randomly chosen from the set (Step 7). All readings were made available to all experts.

During the discussions, each statement was typed into a text file of statements (Step 8). The intent was to capture the flow of the conversation, as opposed to a word-for-word dictation. This is a slight departure from the previously stated instructions of word-for-word dictation, but at the time of the forum, the analysis methods on the statements had yet to be determined, and therefore the importance of the specific words used was not yet known. However, statements were recorded for the most part as they were actually stated. During the other discussions, only presentation and discussion of the discussion outputs was recorded. Again, at the time of the forum, the value of recording the entire discussion from each discussion group was not fully appreciated.

At the end of each discussion, the discussion facilitator asked the experts as a group to create lists of discussion output of the types previously described. The following is an example of "key managerial issues" which emerged from the discussion output from the last seed question (p. 11) [13]:

- The definition of “health” must become less ambiguous, at least for my organization.
- We must understand the individual and community definitions and expectations of “health”, and consider how and to what extent these should/can be modified.
- Technology raises the expected standard of health, and redefines health in the eyes of individuals and the community. Since some technologies make healthcare more expensive, e.g., Viagra, we must prepare ourselves for a constantly changing definition of health.
- Because healthcare systems are dynamic, the models must be continually reassessed.
- It is increasingly clear than linear models are not sufficient to represent many aspects of the healthcare system. Other types of models, types of understanding, and new ways of thinking about representation of the healthcare system are necessary.

Five themes were initially developed by discussion between the researchers and TIHPR staff, based on ideas from the proceedings that seemed recurring and relevant (Step 9). These themes are shown in Table 1 below.

<table>
<thead>
<tr>
<th>Table 1 - Initial Set of Themes from Step 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There exists a new lack of trust in the healthcare industry on many levels which has undermined the abilities of many parties to work together.</td>
</tr>
<tr>
<td>2. Inter- and intra-organizational connections are not being formed that encourage desirable outcomes, and there is no formal effort to manage these connections.</td>
</tr>
<tr>
<td>3. Healthcare organizations are newly displaced from their communities, and neither participate in community affairs nor encourage community participation in their affairs.</td>
</tr>
<tr>
<td>4. The existing concept of a healthcare organization's value to the community is antiquated, and does not consider changing community values, new types of healthcare organizations, and other forms of extra-medical evolution.</td>
</tr>
<tr>
<td>5. Healthcare organizations to accept change as a fundamental aspect of healthcare delivery.</td>
</tr>
</tbody>
</table>
During the word frequency analysis (Step 10), many of the words occurring frequently (10 times or more, in this example) in several discussions (4 or more, in this example) were skipped because they were not potentially thematic (e.g., "the", "in") or too general (e.g., "health", "people"). After those words, though, came more interesting words such as "costs", "information", "trust", "systems", "community", "relationships", etc. Table 2 below gives an example of words that were found in context and the result of the search for themes in their usage.

**Table 2 - Examples of Words Examined in Context for Themes**

<table>
<thead>
<tr>
<th>Potentially thematic words</th>
<th>Result of examination of the words in context</th>
</tr>
</thead>
<tbody>
<tr>
<td>information and data (28 times in 8 sections)</td>
<td>Although there are many references to sharing information in a variety of contexts, the purpose of that information sharing is usually to develop or maintain relationships, as opposed to other possible information themes such as the need for a stronger technological infrastructure. The thematic content from references to these words is covered in the theme on managing relationships.</td>
</tr>
<tr>
<td>community and communities (28 times in 8 sections)</td>
<td>Determined to be thematic. There was repeated emphasis on the need to develop community relations and a sense of community.</td>
</tr>
<tr>
<td>change and changes (18 times in 7 sections)</td>
<td>Initially thought to thematically emphasize a need to accept change as fundamental, but there is little from the proceedings to support it.</td>
</tr>
</tbody>
</table>

Ultimately, three more themes were found, as shown below in Table 2. Of the original five themes in Table 1, four were also identified through the word analysis, but the last one (#5, acceptance of change as fundamental) was not. This suggests the possibility that the researchers identified that theme with prejudice (a concern identified in the next section's discussion of validation), or that the theme exists but the word analysis was not sophisticated enough to identify it.

**Table 3 - Themes Added by Word Analysis in Step 10**

| 6. | Healthcare organizations need to promote healthcare as a joint responsibility of healthcare organizations, patients, payors, legislature, and other parties. |

7. In order to improve image, quality, and morale, new measures of performance need to be developed and used, particularly those pertaining to outcomes.

8. Focus on organizational mission has been lost. Mission needs to be re-evaluated, and performance needs to be measured in terms of mission progress.

The value of the themes is that they create a more expanded view of the central issue. The discussion output answered the seed questions that the researchers had asked. The themes, however, provided answers to questions that the researchers had not asked, but greatly contributed to the researchers' understanding of the central issue. For example, prior to the discussions it had not occurred to the researchers at all to ask whether trust had become an important managerial concern. Since the researchers had not formed a seed question that addressed trust, it may not have been considered significant from the discussion output, but was found and validated using this methodology. The discovery of the trust theme was considered to be one of the most important findings from the forum by the researchers and facilitators.

Verification of themes was done informally by telephone calls from the researchers to the experts (Step 11). The experts were asked if the themes were relevant in the discussions, and the experts confirmed it. In retrospect, a more rigorous method of verifying the themes, such as a questionnaire or series of more formal interviews, would likely have been an improvement for this step.

### 3. Validation of SSD

Because this is an interpretive methodology, positivist criteria such as construct validity, replicability, etc., is not the best means by which to evaluate SSD and its products. Klein and Myers list seven principles for conducting and evaluating interpretive, hermeneutical research. [6] This section considers SSD's potential to adhere to these seven principles.

#### 3.1 The fundamental principle of the hermeneutic circle

This principle suggests that a complex whole is understood from preconceptions about its parts and their interrelationships, and that these preconceptions must be considered in light of the larger context in which the central issue exists.

Individual parts of the central issue are addressed with discussions of the seed questions. The outputs of these
discussions and the themes found within the discussions develop the understanding of the specific parts and add new parts. The new parts can be considered in the context of the flow of dialogue around their mention, as well as the context of the articles that the experts read to prepare themselves for the discussions. It may be beneficial to explore the relationships between these parts through extra discussions with some of the experts after the themes have been identified.

3.2 The principle of contextualization

This principle requires that the findings be considered in light of the social and historical background surrounding the central issue. Again, this context is supplied through the readings which the experts read prior to discussion. The process of selecting these readings helps prepare the research for critical consideration of the findings in context. The extent to which context is considered in the write-up of the findings, though, ultimately depends upon the diligence of the researchers.

3.3 The principle of interaction between the researchers and the subjects

This principle requires critical consideration of the researchers' influence on the findings. The principle is especially important for SSD, because the researchers are exposing the experts to readings and discussions in an effort to generate creative (and therefore unusual) thinking. With that in mind, it is unsafe to assume that the experts would not have had the same contributions to similar discussions if those discussions were held in the experts' normal organizational environments without the researchers' involvement.

It is important to remember, though, that the purpose of SSD is to generate new types of thinking, not to analyze current lines of thought as is done by other methodologies such as SODA. [3] SSD allows the experts to undergo a form of self-organization around a central issue by discussing different aspects of it and simultaneously learning about themselves and others in the process. The self-organization process is the context of interest, and the patterns that emerge from that process are the interesting themes. The learning is the attractive aspect of participation for the experts. In other words, instead of trying to understand each person's current perspective of the central issue, the methodology seeks the result of self-organizing with modified perspectives.

3.4 The principle of abstraction and generalization

This principle suggests that the findings should be relatable to multiple situations even though they are generated by a very small number of discussions, a small number of case studies, etc. One feature of SSD that promotes generalization is the diversity of experts in the group. A statement made by one expert is considered by others with different viewpoints who may openly disagree or offer an alternative to the statement. Therefore, a system of checks and balances potentially exists within the group through the representation of different viewpoints. The fact that the direct outputs and discovered themes are compiled from multiple perspectives adds to the potential for abstraction and generalization.

Nonetheless, there is no formal method for ensuring reasonably equal representation of perspectives in the discussions, or that a small number of perspectives do not dominate discussion and output generation. Researchers who use SSD may consider tracking and analyzing the number of outputs and discussion statements generated by the various perspectives in order to understand where imbalances may affect abstraction and generalization. It is also the researchers' concern to consider existing theory when denoting how their findings are applicable to multiple situations.

3.5 The principle of dialogical reasoning

It is necessary for the researchers to consider their own preconceptions and prejudices when interpreting research. SSD has some mechanisms which help the researcher to do this. First, the automated method of analyzing word usage adds objectivity to the task of theme finding. However, the researchers can offer their own themes which may not be supportable with a simple word analysis. (This happened in the previously discussed case study in which the researchers believed that the "acceptance of change as fundamental" was a pervasive theme, when in fact the word analysis did not support that finding.) Additionally, the word analysis alone is not sufficient for identifying a theme, since the researchers subjectively consider the frequently used words in context to test their relevance.

Second, if multiple researchers work on the same project they can test each other's findings and assumptions. Finally, the last step of the methodology involves discussing the findings with the participants. This is a step which can benefit from a more formalized approach such as post-forum questionnaires or structured interviews. Although the case study did not use these approaches, SSD can accommodate them.
3.6 The principle of multiple interpretations

The explanation of this principle by Heinz and Myers suggests that there are two sub-principles to be addressed. The first sub-principle is that the social context in which the discussions take place may affect the participation of the various experts. If the experts come from different, unaffiliated organizations, then there may be less pressure on them to constrain their inputs by their conceptions of what is acceptable within their organizations. It may be advantageous, then, for the researchers to select only one expert from any given organization to maximize perceived freedom of expression. Nonetheless, experts may feel some pressure to withhold opinions, anecdotes, etc., that may be relevant to the discussions. On the other hand, it may be valuable to hear multiple opinions from affiliated experts to provide more information about a particular anecdote or to verify information. This tradeoff should be considered when the list of invitees is made.

Furthermore, the fact that some individuals in discussion groups are more outspoken than others suggests that some potential contributions may never be spoken.

The second sub-principle is that the researchers must recognize the multiple possible interpretations (findings) that can be generated from the data. It is not in the purpose of SSD to develop one understanding of what was said in the discussions; in fact, a diversity of themes and discussion outputs is beneficial. Nonetheless, the researchers may find it useful to ask individuals not involved in the discussions to read the discussion dialogues and look at the word analysis to generate alternate understandings of what was said. This is especially valuable when the researchers explore the relationships between the various parts of the central issue.

3.7 The principle of suspicion

This principle, as it applies to SSD, suggests that each expert may have his own conscious or sub-conscious agenda that inspires the statements that he makes in the discussions (or for that matter his decision about whether or not to accept the invitation to participate). The researchers must consider this when interpreting the discussions and discussion outputs. Although this is a highly subjective area, researchers can take steps to apply this principle. One such step is that each expert can be asked to provide a short bio sheet to each of the other experts and the researchers so that everyone has some understanding of each other's background. Another step is consideration of which individuals to invite, paying special attention to organizational affiliations. Again, multiple individuals within the same organization or organizational partnership may affect the participation by those individuals.

Another step is that the researchers may decide to keep record of which individual made each statement so that statements may be considered in light of the personal agenda that the speaker may have had. For example, one of the themes in the case study was that healthcare needs to be promoted as a joint responsibility among several parties. Clearly this view could conform to the agenda of anyone who feels that she, her organization, and/or her occupational group carries too much of the healthcare burden as it is.

4. Comparison to other methodologies

SSD is new, but has similarities to other methodologies. This section describes existing methodologies and their similarities to and differences from SSD.

Grounded theory involves the development of themes by finding related statements within interview transcripts, notes during observation of processes, etc. Emphasis in grounded theory is exploration, with emphasis usually on exploring what can be rigorously tested later. [4] SSD also involves exploration and theme-finding, but specifically does so in the context of promoting creative thinking by experts in a model of the system to be explored. Grounded theory, like many of the methodologies in this section, is usually used to understand a pre-existing group's current processes.

The Delphi Method solicits expert opinions through questionnaires and generates new questionnaires based on the gathered opinions in a cyclical process. It tests the ideas of experts by having other experts evaluate them. This methodology is generally used for consensus building or forecasting. [16] SSD promotes the sharing of expert opinions through discussions in a less-structured format that facilitates a more self-organized approach to developing the desired outputs. Through theme-finding, SSD looks for the shared sense that the group reveals through discussions, revealing both explicit outputs and implicit patterns in thinking.

The goal of Strategic Options Development and Analysis (SODA) is to guide a group of individuals toward consensus and commitment to action. SODA involves the development of cognitive maps of the individual participants and incorporating those individual maps into a larger map representative of the group. The larger map is used for clarifying pathways to goals and identifying actionable issues. [3] SSD is not intended to move people toward consensus or commitment to action. Instead, it seeks to open a discussion to develop various forms of requested output, but also to understand the unspecified themes in the discussion. It also seeks not...
only to identify current thought processes but to modify them through common sensemaking of a variety of perspectives.

Decision conferencing is similar to SODA in that it also seeks to develop a group model of the individual issues underlying a complex issue, and attempts to move the participants toward a commitment to action. However, decision conferencing emphasizes preferences by asking participants to assign weights to issues and possible actions. The result is an understanding of the relative importance of issues and actions and is useful for negotiation and development of a strategy. [9]

System Dynamics Modeling seeks to help individuals understand processes and consequences of proposed actions by developing simulations. This is a more substantial divergence from SSD for several reasons, not the least of which is the need for some agreement about the features and parameters of the simulation. [8]

5. Summary discussion

This article describes a methodology for conducting focussed expert discussions to develop an understanding of the shared sense that experts have about a given relevant topic. Practical application of this methodology must address the following issues:

1. For what issues, or kinds of issues, is this methodology suitable?
2. To what situations is SSD suited?
3. What exactly does SSD add to the current understanding of the central issue?

SSD is best used for issues involving substantial ambiguity and complexity, or where there is currently not enough direction, resources, or definition to the topic to research it experimentally or empirically. SSD attempts to promote common sensemaking of experts on two levels. The first level is the direct production of the desired discussion output. The second level is the finding of themes after the discussions have finished. This method of theme-finding may be a faster and more objective way of sorting through a large number of statements than traditional methods of theme-finding such as grounded theory. Where these traditional methods help researchers to understand fully what can be observed in an existing process, SSD attempts to answer the question, "what emerges often and in a variety of contexts during creative discussions?" Because the theme-finding is an understanding of common cognitive ground among the experts, SSD is suitable for topics for which the desired answer is a matter of determining consensus, shared beliefs or values. Topics in IS such as technology adoption, user behavior, effects of reorganization, etc., are candidate areas for SSD.

SSD is suitable in situations in which there is a wealth of opinion and people who are willing and able to share it. Y2K effects, enterprise systems, legacy systems, electronic commerce projects, etc., are good examples of the types of technological events associated with opinion-rich situations. SSD is economical because the focused nature of the discussions minimizes the costs and time spent by the experts. It is flexible because the discussions can occur in a variety of different formats and can produce a variety of outcomes, depending upon the chosen discussion plan and outputs. Finally, by providing a view of what was commonly spoken without being the focus of the discussions, it is unpredictable but also potentially very insightful.

6. References


