A Study on the Characteristics of Group Decision Making Behavior:* Cultural Difference Perspective of Korea vs. U.S.

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Recently, considerable research on group decision support systems has been conducted in countries that have extensive information technology infrastructure. The development of group decision support software might have different implications depending on cultural differences in group behavior. This research is conducted in two phases. The first phase is exploratory in nature to understand the group decision-making behavior in Korean firms and the second one is a comparative study of group decision making between U.S. and Korean business firms. An adapted group decision-making model was used for this study, which defines the group decision-making characteristics or culture in terms of the organizational characteristics, size of the group, cohesiveness of the group, nature of the problem, function of the leader, group decision-making process, and dysfunctions. Validity of the model is also presented.

As the organizational environments have become more turbulent, complex and uncertain, a lot of literature has focused on improving the efficiency and effectiveness of decision making at all levels and in all functional areas of organizations (Gallupe et al., 1988; Zigurs et al., 1988). This literature can generally be classified as relating to individual or group decision making. While the former focuses on the individual human data processing in the area of cognitive psychology, the latter pursues communications, leadership and group dynamics in the context of organizational behavior (Nunamaker, 1989; Nunamaker et al., 1989). Individual decision making has drawbacks such as the bounded rationality, the limitation on the number and quality of accessible information, and human’s intellectual constraints in using the information systematically. Group decision making is becoming an important research topic as an alternative to overcome the problems of individual decision making. The ever more complex and turbulent organizational environments lead people to prefer group decision making as a way to share information and diverse professional knowledge. It is generally accepted that managers spend up to 75% of their time to attend meetings (Mintzberg, 1983; Ives & Olson, 1981). Therefore, group decision making is a very important part of communication in any organization, and efficient and effective group decision making could influence the competitiveness of organizations. While group decision making has some positive effects like exchanging valuable information, reaching consensus from diverse opinions and creating new ideas, it has also negative effects, such as, air time fragmentation, attention blocking, concentration blocking and dominance by a few (Nunamaker et al., 1991). It is necessary to find a way to simultaneously improve group performance and minimize dysfunctions. Research on the composition of the group, the decision-making process, characteristics of the group, and so on have been performed. Recently Group Decision Support Systems (GDSS) research has been conducted extensively in

* This research is partially supported by the Ministry of Education, the Republic of Korea.

Manuscript originally submitted June 10, 1996; Revised June 25, 1997; Accepted June 27, 1997 for publication.
the United States to improve the group process (Steeb & Johnson, 1981; Turoff & Hiltz, 1982; Lewis, 1982; Huber, 1984; Beauchamp, 1987; Zigris et al., 1988; Jarvenpaa et al., 1988; Sambamurthy, 1989; Connolly et al., 1990; Jessup et al., 1990; Nagasundaram & Bostrom, 1995; Eom, 1996; Ocker et al., 1996; Reining et al., 1996).

In spite of continuous research, questions about the effectiveness of GDSS has been raised and research outcomes lack consistency (Gallupe et al., 1988; Srinivasan & Jarvenpaa, 1991; Dickson et al., 1993; Ocker et al., 1996). Furthermore, the research has been mostly conducted in the context of western decision-making culture, especially in the United States. It is very doubtful whether we could have similar results in Korea (in any foreign culture for that matter). It would be a mistake to develop GDSS assuming there are no cultural differences in group decision making. Watson et al. (1994) suggested that culture should be an additional dimension of group support system research. They argued that because the designs of current group support systems are based on North American concepts of desirable group behavior, a group support system may have unintended consequences in an oriental setting. It was suggested that management theories and techniques developed in one culture may not be adequate in other cultures (Triandis, 1983; Hofstede, 1984; Boyacigiller and Adler, 1991).

Increasingly Korean firms also are exploiting information technology such as E-mail, videoconferencing, and so on for their communication needs within and outside of their organizations. It is also expected that information technologies will be used more frequently in the future rather than the conventional face-to-face communications in group decision making. However, as there has been no research on the current status of group decision making in Korean business firms, it is necessary to conduct a comprehensive and descriptive study first to understand group decision-making behavior in Korea. And then a comparative study of group decision making in U.S. and Korean business firms has been conducted to empirically explore the peculiar characteristics and dysfunctional behavior of group decision making in the two cultures and possibly to suggest some implications for the development of group decision support. Additional objective of this paper is to confirm the validity of the suggested model of group decision making.

Group Decision Making

Decision-Making Process and Group

Decision making has become one of the most important topics in modern organization and management theory after Barnard (1938) seriously began to discuss about it. Decision making is a process of choosing an alternative rationally among available alternatives (Barnard, 1938; Luthans, 1977), and a process to integrate and connect one management function with others. At the same time, decision making is not performed independently by each manager or group, but performed in relation to the organizational system as a whole.

Groups can achieve goals more effectively by integrating individuals' talents than each individuals could. What is the intrinsic nature of a group? A group is defined as a meeting of two or more interdependent and interacting individuals who come together to achieve common objectives. A group, more than anything, needs a consciously developed group cohesiveness (Hicks, 1972). There should be shared sentiments, common attitudes, and common goals in group consciousness (Deese, 1964). Groups can be either formal or informal depending on the existence of official authority or the characteristics of group members. This paper addresses only formal groups.

Process Gains and Losses of Group Decision Making

Group decision-making exhibits positive effects such as precision, sound judgment, creativity, and risk taking but it also has negative effects depending on many contingent factors (Maier, 1980; Nemeth, 1986). Some of the process gains that group decision-making offers are synergy effect, less possibility of committing errors, enhanced capability of solving problems and catching errors, more objective evaluation, and higher motivation and stimulation (Shaw, 1971; Manners, 1975; Robbins, 1989; Gallupe et al., 1991; Nunamaker et al., 1991).

Group decisions are not without drawbacks (Stoner, 1961; Manners, 1975; Robbins, 1989; Gallupe et al., 1991; Nunamaker et al., 1991). Some of these are air time fragmentation, longer decision making time, concentration blocking, attention blocking, free riding, domination by a few, conformance pressure, lower sense of responsibility for the decision outcomes and possibilities of making more risky decisions than an individual.

Group Decision-Making Techniques

Various group techniques have been suggested for effective group decision making. The basic process in group decision making is the traditional interactive technique in which members discuss issues face to face and make decisions as a group.

A few alternatives have been developed in order to minimize the disadvantages of and increase the efficiency of the traditional technique. Techniques include: brainstorming, the nominal group technique (NGT), and the delphi method (Delbecq et al., 1975). Because each technique has advantages and disadvantages, choosing a proper technique would be dependent upon some contingencies. For instance, face-to-face interaction technique heightens group’s cohesiveness, brainstorming minimizes social pressure, and the delphi minimizes conflicts among individuals. The best group decision-making technique suitable to a group depends on the criteria by which group members evaluate their own groups (Murnighan, 1981; Robbins, 1989). The characteristics of these group techniques are summarized in Table 1.
A Research Model

Group Decision-Making Model

A comprehensive literature review in the area of decision making was conducted to develop a research model for this comparative study. Basically, Dennis et al.'s (1988) model for GDSS research was adapted for the study with minor modifications based on the additional literature. Dennis et al. suggested that group, task, context and electronic meeting system would influence the outcome directly or indirectly through group process. Because this research is to investigate the inherent differences of group decision making between the two cultures without any electronic group support tools, the researchers modified the model so that one could descriptively depict group decision-making characteristics. Reitz (1981) summarized various models of decision making as in Figure 1. This model suggests that decision-making environments, characteristics of the problems and the decision makers influence decision making processes and decision outcomes. The characteristics of decision makers are self-respect (Ryckman & Rodda, 1972), dogmatism (Schultz & Divesta, 1972), age (Brinley et al., 1974), and sex (Schwartz & Fattaleh, 1972). Environmental factors for decision making are time pressure, discomfort and attention blocking due to noise or bad climate. Some of the factors related only to the group setting are considered, such as group dynamics (Swanda, 1979; Nunamaker et al., 1991), communication (Nunamaker et al., 1989; Nunamaker et al., 1991), leadership (Bales, 1950; Luthans, 1977) and group size (Cummings et al., 1974; Mantei, 1989; Nunamaker et al., 1991).

A minimum set of variables are selected to have a simple model because this research is exploratory in nature in describing group decision-making behavior of the two cultures. Group decision making tasks, decision-making environment, time pressure, cohesiveness of group, size of group, characteristics of communication, and the role of leader are chosen as independent variables based on these prior research. These factors may directly affect decision outcomes or indirectly through the decision-making process. Some dysfunctional behavior (process losses) may also be generated during decision making and represents perhaps an added negative outcome. These points are shown in Figure 2.

Group Decision-Making Variables

Decision-Making Task and Environment

Reitz (1981) characterized decision-making tasks with novelty, uncertainty, complexity and appropriateness. In this

Table 1: Characteristics of Group Decision-Making Techniques

<table>
<thead>
<tr>
<th>Technique</th>
<th>Conventional</th>
<th>Brainstorming</th>
<th>NGT</th>
<th>Delphi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Ideas</td>
<td>L</td>
<td>M</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Quality of Ideas</td>
<td>L</td>
<td>M</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Social Pressure</td>
<td>H</td>
<td>L</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Time/Cost</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Potential Conflict</td>
<td>H</td>
<td>L</td>
<td>M</td>
<td>H</td>
</tr>
<tr>
<td>Feeling of Accomplishment</td>
<td>H-L</td>
<td>H</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>H</td>
<td>N/A</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Cohesiveness</td>
<td>H</td>
<td>H</td>
<td>M</td>
<td>L</td>
</tr>
</tbody>
</table>

Figure 1: Factors Influencing Decision Making

Figure 2: Group Decision Making Model
paper, we would like to know the characteristics of the problems which the groups are concerned about in the two cultures. Among the environmental factors such as time pressure, discomfort, or attention blocking, Wright (1974) suggested time pressure is a typical factor influencing group decision making and is chosen to measure the decision making environment in this paper.

**Cohesiveness of a group**

Group’s cohesiveness influences group decision making in various ways (Murnighan, 1981; Nunamaker, 1989). When the cohesiveness of a group is high, group members tend to be more enthusiastic about the group action (Shaw, 1981), have more communication (Lott & Lott, 1961), adapt better to the pressure of a group (Festinger et al., 1950), and have a higher level of job satisfaction. The cohesiveness of a group is directly related to the members’ satisfaction, but does not have a consistent relationship with the performance of a group. In other words, a group with a high level of cohesiveness generally shows a normative conformance behavior and satisfies the needs of group members, but these characteristics do not necessarily contribute to the performance enhancement of the group.

Even though the level of cohesiveness is high, the productivity would be decreased if the objectives of the group do not coincide with the ones of individuals. Therefore, it is important to note that a positive relationship between performance and the cohesiveness of the group is established when the objectives of individuals and the group are identical.

Cohesiveness of the group is measured with interaction among members, external threats, level of difficulty of joining group, cooperation and participation (Festinger et al., 1950; Thomas & Fink, 1963; Swanda, 1979; Shaw, 1981).

**Size of Group**

The size of the group influences the process of decision making in many ways (Cummings et al., 1974; Manners, 1975; Hare, 1976; Shaw, 1981; DeSanctis & Gallupe, 1987; Nunamaker et al., 1991). As the membership increases, communication among members becomes more difficult and each individual’s share of speaking time is reduced.

In a large group, a few very eloquent and aggressive members tend to dominate discussions. The rest of the members feel threatened and are unwilling to participate in discussions, and tend to be dissatisfied. The larger the group, the lower the cohesiveness (Thomas & Fink, 1963), the more diverse the objectives of the group, the easier the establishment of the cliques and coalitions, and the larger the potential conflicts (Hare, 1976; Shaw, 1981). Thus, it takes much more time for decision making and it is more difficult to come to an agreement. However, if a group ever could reach a conclusion, there are advantages such as collecting much more information and knowledge, developing various ideas and alternatives (Huber, 1984), and improving the quality of suggested ideas (Cummings et al., 1974). As the size of a group becomes larger, merits and demerits of a group change. Therefore, the size of a group becomes an important issue.

**Communication**

Communication, in its simplest term, is the process of exchanging information among individuals. Because communication transmits ideas and has the role of letting others understand oneself, it induces motivation. Types of communication influence group decision making (Murnighan, 1981; Nunamaker, 1989).

Managers can perform the management function through a communication process and furthermore evaluate the status of progress toward an organization’s objectives. Communication is the process of integrating and coordinating all functions of management through distribution of information. Without communication, an organization’s objectives would not be achieved. In addition to the integration of the management function, communication connects and integrates superiors, subordinates and fellow workers with their external environments. Therefore, communication is closely related to decision making, the structure of organizations, motivation, group dynamics, leadership, atmosphere of organization and organizational development. Communication is measured with levels of clarity, consistency, process rules, dispersion, rationality, paying attention to other members, usage of jargons, bias due to specialization, proximity, and work overload (Gibson et al., 1973).

**Leadership**

Research on small groups particularly paid attention to the importance of informal leadership in relation to the achievement of task objectives. Informal leadership very much exists in groups and has great influences on group decision making. An informal leader is a person who has clout over a group without any formal authority (Bales, 1950). A lot of literature discusses the role of leaders in relation to group decision making. One of the typical ones is “necessary functions for a leader” by Maier (1980) as follows;

a. perceive provided information well
b. acknowledge member’s contribution, as it is, without much criticism
c. summarize diverse opinions and stimulate exploratory behavior of group members
d. evoke attentions in order for group members to recognize others’ specific problems
e. provide appropriate information to members.

Therefore, a leader can be described as a person who actively participates in discussions and is willing to influence the outcome of the group process. Maier suggested that even negative factors in group decision making could work as positive ones depending on the leader’s skill. This research investigates the leader’s role with the levels of stimulating...
other members, acknowledging achievement, attending to members’ problems and providing information (Bales, 1950; Maier, 1980; Robbins, 1989).

Decision-Making Process

Decision making process can also characterized with several factors. As Zigurs et al. (1988) characterized it, decision making process is described and measured with the levels of efficiency, cooperation, equality, understandability, satisfaction and punctuality.

Measuring the Decision Outcome

There are quantitative methods (e.g., time for decision making, number of alternatives generated) and qualitative methods (e.g., suitability of decision outcomes, appropriateness of decision-making process, satisfaction level) to measure the decision outcome. In group decision making, measuring the members’ subjective satisfaction level of the process and outcome has been preferred by most researchers. Jarvenpaa et al. (1988) used the following to measure the performance of group decision making:

a. Satisfaction on the outcome of the meeting - How much satisfaction did they have on the outcome of the meeting?
b. Achievement of objectives - How much did they achieve the task objectives?
c. Agreement on opinions - How much did they agree among the group members?
d. Equality of participation - How much did they participate in the meeting?
e. Equity - How much time did each of the member have for their discussion?

Gallupe et al. (1988) used similar questions to evaluate the level of satisfaction for group decision making.

a. How much did you feel satisfaction on the final solution to the task?
b. How much did you rely on the final solution?
c. How difficult was the task to be solved?
d. How strongly did you feel conflicts among the members?

In this research, a combined set of this type of questions was used to measure the level of satisfaction of group members for the decision outcome with the following factors such as, the levels of satisfaction for the result, attainment of goal, degree of consensus, equity, confidence for the decision outcome, dogmatism, conflicts among the members, members’ intention to work again with the same group in the future.

Dysfunction

Some of the dysfunctional problems are already discussed as process losses before. Dysfunction related to group decision making is measured with the following factors; air time fragmentation, attention blocking, concentration blocking, coordination problems, conformance pressure, free riding, domination, cognitive inertia and dependence on seniors (Manners, 1975; Swanda, 1979; Robbins, 1989; Gallupe et al., 1991; Nunamaker et al., 1991).

The Results

The Sample

For this study, 400 questionnaires were sent and 44 returned with a response rate of 11% for Korean business firms and 42 questionnaires were returned out of 293 with a response rate of 14% for the U.S. firms. The types of responding organizations are as follows: banking/financial, manufacturing/construction, system integration, retailing, government/public corporation, service and research institutes.

All the Korean sample companies are large organizations. The U.S. companies were drawn from the Ninth Federal Reserve District which includes Minnesota, South Dakota, North Dakota, Montana, the northwestern part of Wisconsin, and Michigan’s Upper Peninsula. Sample companies were chosen using “Corporate Report Fact Book - 1995 edition”. The sample was limited to companies with at least ranking of top 200 for public corporations and a comparable size of private companies in terms of sales and the number of employees. The analysis was undertaken in two parts; descriptive analysis of Korean and U.S. companies’ decision-making behaviors, and correlation analysis of the research variables.

Group Decision-Making Tasks & Environment

Since the process of decision making starts from the point of perceiving a problem, a proper amount of attention should be given to the characteristics of decision-making task itself and the decision-making environment. The characteristics of tasks are explained with novelty, uncertainty, complexity and appropriateness of the task. Time pressure was chosen as the most important factor for decision-making environment.

The characteristics of group tasks seem to be generally novel, uncertain and complex in both countries. Also the level of appropriateness of tasks for group decision making is relatively high, and time pressure also seems to be high. Although characteristics of group tasks are similar in both countries, U.S. firms differ in perception that they deal with tasks which are more complex and appropriate for group decision making, and handle tasks with less time pressure.

Cohesiveness

Previous research has explained the cohesiveness with the level of interaction of members, external pressures and threats, the level of difficulty of obtaining group membership, cooperative mood and the level of participation (Swanda, 1979). Although the overall level of cohesiveness is relatively
high in both cases, groups in Korean firms more actively interact among themselves than the ones in U.S. firms for their work and social relationship. U.S. data shows a higher level of cooperative mood and participation. It seems that U.S. group members are more cooperative and actively participate in the group process. The level of external threats and difficulty of joining groups are relatively low and there is no significant differences between the U.S. and Korea.

Attendance for meetings would also explain some aspect of cohesiveness. Attendance rate of all the U.S. groups are 80% or higher, and Korean groups also have a comparatively high attendance rate except two extreme cases.

A tentative conclusion can be drawn such that cohesiveness of groups in both cultures is relatively high, but U.S. groups are probably more cooperative and participate more actively in the group decision-making process than Korean groups. But Korean groups interact more actively among the members.

**Communication**

Communication integrates management functions with distribution of information. Survey results for communication are shown in Table 2. Both countries show a relatively high level of clarity, consistency, rationality and paying attention to others.

While Korean groups have significantly better ratings in the dimensions of consistency, focus and work load, U.S. groups seem to be better for the factors of rationality, paying attention to other members and use of jargons. Korean group members seem to be consistent in presenting their opinions, discussions tend to be focused, thus less time-consuming and group members feel less burdened in participating in group meetings due to work overload. But U.S. groups seem to be more rational, try to understand and pay attention to other members’ opinions and use less jargons.

**Leadership**

Leadership is measured by the selection method of leaders and the functions of leaders. Korean group leaders are overwhelmingly chosen by the rank(84.2%). Although a person with the highest rank in the group is also chosen as a group leader most often for the U.S. groups(40.5%), leaders are chosen naturally(31%) and with other methods(23.8%) more often than Korean groups. Other methods of selection of leaders in the U.S. firms are “appointment by management”(5 cases), “champion of task force”(1 case), “most expert on subject matter”(1 case), and “functional responsibility”(3 cases). Voting is the least preferred method. If it is necessary to dynamically form a group and choose a leader due to profound changes of business environments, there should also be a change of selection method of leaders in Korean firms.

Robbins(1989) argued that leadership is a central theme in understanding group behavior because leaders provide the direction to achieve the goal of the group. Functions of leaders are as follows: stimulating members, acknowledging achievement, attending to members’ problems and providing information to the group members. Although the survey shows that respondents in both countries generally evaluate their leaders positively, there is no significant difference between the two cultures in terms of the levels of stimulating other members, acknowledging achievement, attending to members’ problems and providing information.

**Group Decision-Making Process**

Table 3 shows that both Korean and U.S. groups perceive the group decision-making processes are proper. That is, group decision-making processes are efficient, cooperative, equitable, understandable, satisfactory and meeting schedules are generally punctual. But U.S. groups seem to have significantly better processes than the Korean groups in factors such as cooperation, equity, understandability and satisfaction level.

The responding organizations use various group decision making techniques. Korea and U.S. data show a similar pattern; traditional face-to-face interaction technique is still the most widely used one followed by brainstorming technique. A relatively small number of groups utilize nominal

![Table 2: Communication](image)
group technique and delphi. A fully 60% of the responding U.S. groups never used the nominal group technique and delphi method. The quality of the usage of these techniques is not known because the scope of the survey was not to investigate whether these techniques were used faithfully following the specific guidelines. It seems that the dominant group techniques used by the groups are very conducive to the application of group decision support systems.

**Satisfaction Level of Group Decision-Making**

As we can see in Table 4, satisfaction level of group decision making is relatively high. The level of confidence shows the highest mark and satisfaction for the results, attainment of the goal, consensus among the members seem to be satisfactory. But the U.S. groups are significantly more satisfied for the results and place a higher level of confidence on the final outcome of group decision making. The level of dogmatism is about at a medium level in both cultures with no significant difference. There seem to be significantly more conflicts among group members in the case of U.S. than Korea. It is interesting to note that most U.S. group members would not be willing to work together with the same group again in the future even if most dimensions of satisfaction for the group are relatively high.

**Dysfunction**

In general, the levels of dysfunction of both groups are not very high. But Korean groups tend to experience significantly more coordination problem (difficulty of integrating various ideas), concentration blocking and higher dependence on seniors than U.S. groups. This is probably due to the fact that the highest ranking officials lead most group decision making in Korea. In turn, U.S. groups have significantly higher dysfunction in the areas of air time fragmentation. The levels of conformance pressure, free riding and cognitive inertia are slightly higher in Korean groups, but there is no statistically significant differences. Generally speaking, U.S. groups experience less dysfunction from the group decision-making process than Korean groups.

**Types of Groups**

As mentioned before, the main target for this study is formal groups in business organizations. Types of formal groups which organizations currently operate are shown in Table 6. Departmental meeting groups are by far the largest both in Korean and U.S. firms, which indicates that groups within departmental boundaries are still the most prevalent types of groups. In the case of official departmental meetings, the average number of groups is 14 and the average number of

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Table 3: Decision-Making Process

<table>
<thead>
<tr>
<th>Process</th>
<th>Korea (mean,std)</th>
<th>U.S. (mean,std)</th>
<th>t(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>efficiency</td>
<td>3.45(0.89)</td>
<td>3.46(1.07)</td>
<td>-0.05(0.96)</td>
</tr>
<tr>
<td>cooperation</td>
<td>3.68(0.76)</td>
<td>4.15(0.88)</td>
<td>-2.57(0.01)**</td>
</tr>
<tr>
<td>equity</td>
<td>3.48(0.82)</td>
<td>3.80(0.81)</td>
<td>-1.82(0.07)*</td>
</tr>
<tr>
<td>understandability</td>
<td>3.73(0.91)</td>
<td>4.10(0.77)</td>
<td>-1.99(0.05)**</td>
</tr>
<tr>
<td>satisfaction level</td>
<td>3.35(0.86)</td>
<td>3.95(1.02)</td>
<td>-2.86(0.01)**</td>
</tr>
<tr>
<td>punctuality</td>
<td>3.32(1.03)</td>
<td>3.29(1.05)</td>
<td>0.11(0.91)</td>
</tr>
</tbody>
</table>

Table 4: Satisfaction

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>Korea (mean,std)</th>
<th>U.S. (mean,std)</th>
<th>t(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>satisfaction for the result</td>
<td>3.30(0.73)</td>
<td>3.64(0.96)</td>
<td>-1.88(0.06)*</td>
</tr>
<tr>
<td>attainment of goal</td>
<td>3.39(0.69)</td>
<td>3.55(0.77)</td>
<td>-1.02(0.31)</td>
</tr>
<tr>
<td>degree of consensus</td>
<td>3.41(0.79)</td>
<td>3.50(0.86)</td>
<td>-0.51(0.61)</td>
</tr>
<tr>
<td>equity</td>
<td>3.23(0.94)</td>
<td>3.10(0.96)</td>
<td>0.65(0.52)</td>
</tr>
<tr>
<td>level of confidence</td>
<td>3.64(0.61)</td>
<td>3.90(0.85)</td>
<td>-1.67(0.10)*</td>
</tr>
<tr>
<td>dogmatism</td>
<td>3.25(0.75)</td>
<td>3.07(0.84)</td>
<td>1.04(0.30)</td>
</tr>
<tr>
<td>conflicts</td>
<td>3.34(0.83)</td>
<td>2.86(0.84)</td>
<td>2.67(0.01)**</td>
</tr>
<tr>
<td>intention to work again</td>
<td>3.41(0.69)</td>
<td>1.64(1.16)</td>
<td>8.50(0.00)**</td>
</tr>
</tbody>
</table>
members per group is 16 in Korean firms. But the average number of other types of groups is less than 5 with an average membership of less than 10. The average life of the other groups is less than one year which indicates that these groups are dynamically organized and disbanded. Departmental meetings are maintained permanently due to their official nature.

In comparison, U.S. firms have more groups on average than Korean firms, but the size and average life of groups are quite similar. This is also true in the case of average age of group members. The average age of committee members are slightly higher than the average ages of other groups both in Korean and U.S. firms. This seems to be due to the fact that generally high ranking officials participate in the committees, and other types of groups seem to be working groups for specific tasks. Although respondents generally do not give high marks to the groups and there are no significant differences in the importance scale among different types of groups, departmental meetings seem to be the most important ones followed by task force teams, project teams and committees. The fact that there are fewer task force teams and committees than expected indicates that the structure of most organizations are still rather rigid, and flexible organizational structures such as the orchestra or network type of organizations are not yet widely adopted.

**Validation of the Model**

The group decision-making model suggested in Figure 2 shows four paths by which group decision-making variables affect the decision-making process, the outcome and dysfunction:

1. group decision-making variables -> decision-making process -> outcome(satisfaction)
2. group decision-making variables -> outcome(satisfaction)
3. group decision-making variables -> decision-making process -> dysfunction
4. group decision-making variables -> dysfunction

An aggregate measure for each variable was developed by adding values of each factor because each variable is explained with more than one factor. According to Tables 7-1

### Table 5: Dysfunction

<table>
<thead>
<tr>
<th>Dysfunction</th>
<th>Korea (mean±std)</th>
<th>U.S. (mean±std)</th>
<th>t(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>air time fragmentation</td>
<td>2.61(0.88)</td>
<td>3.76(0.98)</td>
<td>-5.72(0.00)**</td>
</tr>
<tr>
<td>attention blocking</td>
<td>3.09(0.77)</td>
<td>2.81(0.86)</td>
<td>1.59(0.11)</td>
</tr>
<tr>
<td>concentration blocking</td>
<td>3.09(0.78)</td>
<td>2.79(0.81)</td>
<td>1.78(0.08)*</td>
</tr>
<tr>
<td>coordination problems</td>
<td>3.77(0.74)</td>
<td>2.74(0.73)</td>
<td>6.40(0.00)**</td>
</tr>
<tr>
<td>conformance pressure</td>
<td>2.98(0.98)</td>
<td>2.83(1.08)</td>
<td>0.65(0.52)</td>
</tr>
<tr>
<td>free riding</td>
<td>2.82(0.84)</td>
<td>2.61(0.83)</td>
<td>1.15(0.26)</td>
</tr>
<tr>
<td>domination</td>
<td>3.07(0.97)</td>
<td>3.07(1.06)</td>
<td>-0.02(0.98)</td>
</tr>
<tr>
<td>cognitive inertia</td>
<td>3.07(0.82)</td>
<td>2.80(1.08)</td>
<td>1.26(0.21)</td>
</tr>
<tr>
<td>dependence on seniors</td>
<td>3.66(0.83)</td>
<td>3.24(1.32)</td>
<td>1.72(0.09)*</td>
</tr>
</tbody>
</table>

### Table 6: Types of Groups

<table>
<thead>
<tr>
<th>Type</th>
<th>no. of group</th>
<th>size</th>
<th>av. life (months)</th>
<th>av. age (year)</th>
<th>importance *</th>
</tr>
</thead>
<tbody>
<tr>
<td>departmental meeting</td>
<td>14(16)**</td>
<td>16(17)</td>
<td>permanent</td>
<td>36(36)</td>
<td>2.5(1.8)</td>
</tr>
<tr>
<td>task force team</td>
<td>3(8)</td>
<td>8(7)</td>
<td>8(7)</td>
<td>35(37)</td>
<td>2.7(2.0)</td>
</tr>
<tr>
<td>project team</td>
<td>5(13)</td>
<td>10(7)</td>
<td>11(9)</td>
<td>35(36)</td>
<td>2.4(2.2)</td>
</tr>
<tr>
<td>committee</td>
<td>4(7)</td>
<td>9(9)</td>
<td>4(5)</td>
<td>42(39)</td>
<td>2.7(2.6)</td>
</tr>
</tbody>
</table>

* importance of group(1; most important, 5; least important)  
** Korea(U.S.) data
and 7-2, most of the decision-making variables except some factors of the decision-making task and group size have significant relationships with both the process and the outcome. Table 8 indicates a very strong relationship between the process and the outcome. Therefore, it may be concluded that the decision-making variables seem to affect the decision outcome both directly and indirectly through the process. This suggests that the group decision-making model proposed in Figure 2 is valid and the following can be proposed.

<proposition 1> The noted group decision making variables affect the decision outcome (measured as the perceived satisfaction level) directly and indirectly. Also, the group decision-making process is highly correlated with the decision outcome.

Not all the dysfunction have significant relationships with the decision-making variables or the process. Among the decision-making variables, time pressure, cohesiveness, communication, and leadership seem to be most highly correlated with dysfunctions. The decision-making process has strong relationships only with some of the dysfunction. This suggests that the group decision-making model proposed in Figure 2 moderately holds true, and the following can be proposed.

<proposition 2> The group decision-making variables moderately affect some (a number of them are significant but not all) dysfunctions directly and indirectly through the decision-making process.

Discussion

When information technologies are utilized increasingly in group settings to support group decision making in developed countries, a question arises whether the same technologies can be successfully implemented in different cultural environments. As many U.S. firms are introducing information technologies in group decision making such as group decision support systems, and these tools are designed based on North American concepts of desirable group behavior (Watson et al., 1994), it is important to understand differences in group behavior if there is any, when various information technologies and group support systems are implemented in different cultures. This research is exploratory in nature to characterize group decision making of U.S. and Korean groups, as there is virtually no comprehensive and practical research on the status and behavior of group decision making.

U.S. firms tend to have more groups on average than Korean firms, but the size and average life of groups are quite similar. Among the different types of groups, departmental meetings which would follow the formal organizational structure are the most prevalent and are regarded as the most important. And the average size of departmental groups is rather large (16-17 members). This means that large departmental type of groups would be the ones by which GDSS could be utilized most often. But as most GDSS research had been done for small groups (mostly less than 10 people), it is very doubtful that the research findings could be applied to this type of groups even in western culture. More focused research is needed for larger groups with somewhat permanent life spans. At a minimum, GDSS should be designed to be flexible enough to accommodate larger groups, if it is to be a valuable tool for business firms’ group decision making.

The characteristics of group tasks in both countries are similar, but U.S. firms seem to deal with more complex and appropriate tasks for a group setting, and under less time pressure. Following the U.S. example, this implies that when GDSS is implemented and used in Korean environment, GDSS should be used discretionally only for more complex and suitable tasks for groups. Also GDSS could be a valuable tool for Korean groups which are under a lot of time pressure to materialize an efficient group process.

Cohesiveness of groups is generally high in both countries, but Korean groups seem to have more interactions among the group members, whereas U.S. groups cooperate and participate better in the group process. Watson et al. (1994) found that U.S. groups showed greater change in consensus than Singaporean groups, which means that even though U.S. groups have low pre-meeting agreement, they would come up with high post-meeting consensus. This suggests that cooperation and active participation in the group process might produce greater changes in consensus in U.S. groups. It is not known whether GDSS would help Korean groups to cooperate and participate better in the group process. It is speculated that if Korean groups tend to have high pre-meeting consensus, some group members may not actively cooperate and participate in the group process because high pre-meeting consensus seems to let one person dominate the final solution (Watson et al., 1994). The fact that Korean groups seem to be more consistent in presenting their opinions, discussions tend to be focused, and less time is consumed in communication compared to U.S. groups, may indicate that Korean groups have higher consensus before meeting than U.S. groups. It is somewhat consistent with findings such that Singaporean groups had higher consensus before meeting than U.S. groups. Therefore, higher level of pre-meeting consensus may dictate less cooperation, less participation, more consistent presentation, focused discussion and efficient communication. Thus, anonymity, parallel communication, and voting features of GDSS may be utilized to have better cooperation and participation while maintaining focused discussion and efficient communication. Karan et al. (1996) also report that GDSS-mediated communication is more efficient. But idea generation feature might not be culturally compatible to Korean groups’ decision-making behavior. This observation may be reinforced by the selection method of group leaders and the level of dependence on the seniors of the group. The dominant method of selecting group leaders is the rank for both the Korean and U.S. cases. However, U.S. groups utilize more diverse selection methods. About 40.5% of U.S. groups choose group leaders based on the formal authority compared to 84.2% in Korean groups. And Korean groups tend to be more dependent on the seniors of the group. This would reinforce further the notion of high power distance of Korean groups (Hotstede, 1980, 1984) and strengthen the tendency of
The implication for the design and strategies for the use of group decision support systems is: the increased time pressure, less cooperation, less care for others, less appropriate use of group processes for tasks and less participation suggest that use of GDSS will be more difficult, but also these characteristics could open a new opportunity to enhance group processes in the Korean environment. The characteristics of increased interactions, less rational approach, more coordination problem, more concentration blocking and more dependence on seniors suggest a real need for the benefits that a GDSS can offer. As Watson et al. (1994) suggested, culture, particularly in a group setting, is a more powerful influence than technology, it seems more significant and important how a specific GDSS is utilized in a group setting rather than which features of GDSS should be included in one.

Korean groups experience significantly more coordination problem and concentration blocking, whereas U.S. groups’ major dysfunction of the group process is air time fragmentation. Parallel communication feature of GDSS seems to greatly alleviate these problems.

The satisfaction level for the results of group decision making, that is, level of confidence, satisfaction for the result, attainment of the goal, consensus among the members seem to be generally high. Although the U.S. groups’ level of satisfaction with the results of group decision making and the level of confidence are higher, they experience more conflicts than Korean groups.

U.S. groups seem to have better group processes in the dimensions of cooperation, equity, understandability and the level of satisfaction. Anonymity and parallel communication features of GDSS along with a structured decision-making process may be able to enhance the levels of efficiency, cooperation, equity, understandability and satisfaction of Korean groups. In terms of group decision-making techniques, traditional face-to-face interaction is still the most widely used form of interaction in both countries. Therefore, when GDSS is utilized in group meetings, communication method should be based on face-to-face interaction with flexible use of GDSS features of anonymity, parallel non-verbal communication and voting.

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Table 7-1: Correlation of Decision-Making Variables with Process/Outcome - Korea

<table>
<thead>
<tr>
<th></th>
<th>decision</th>
<th>making</th>
<th>task</th>
<th>time</th>
<th>cohesive</th>
<th>communication</th>
<th>leadership</th>
<th>group size</th>
</tr>
</thead>
<tbody>
<tr>
<td>process</td>
<td>0.3353**</td>
<td>0.0605</td>
<td>-0.0284</td>
<td>0.4495***</td>
<td>0.5026**</td>
<td>0.3528**</td>
<td>0.6247***</td>
<td>0.0183</td>
</tr>
<tr>
<td>outcome</td>
<td>0.4562***</td>
<td>0.0515</td>
<td>-0.0957</td>
<td>0.3016**</td>
<td>0.5173**</td>
<td>0.2984**</td>
<td>0.5544***</td>
<td>-0.0551</td>
</tr>
</tbody>
</table>

*: p<.10, **: p<.05, ***: p<.01

Table 7-2: Correlation of Decision-Making Variables with Process/Outcome - U.S.

<table>
<thead>
<tr>
<th></th>
<th>decision</th>
<th>making</th>
<th>task</th>
<th>time</th>
<th>cohesive</th>
<th>communication</th>
<th>leadership</th>
<th>group size</th>
</tr>
</thead>
<tbody>
<tr>
<td>process</td>
<td>0.0869</td>
<td>-0.3799**</td>
<td>0.2367</td>
<td>0.2919*</td>
<td>0.3121**</td>
<td>0.5878***</td>
<td>0.5984***</td>
<td>0.1558</td>
</tr>
<tr>
<td>outcome</td>
<td>0.1614</td>
<td>-0.0929</td>
<td>0.1562</td>
<td>0.1024</td>
<td>0.5974**</td>
<td>0.4406***</td>
<td>0.5423**</td>
<td>0.1412</td>
</tr>
</tbody>
</table>

Table 8: Correlation of Decision-Making Process and Outcome

<table>
<thead>
<tr>
<th></th>
<th>process</th>
<th>outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>outcome</td>
<td>0.5858*** (Korea)</td>
<td>0.6870*** (U.S.)</td>
</tr>
</tbody>
</table>
cultural setting or another. Therefore, group support systems should be designed to be as flexible as possible so that some features or decision-making processes may be selected at the discretion of the participants in specific cultural decision-making environment.

Conclusions

As the organizational environments are changing rapidly and uncertainty is increasing, much attention has been given to improving the effectiveness and efficiency of decision making in organizations. On the other hand, it is true that we do not know much about group decision making in specific cultural environments.

In this study, Korean and U.S. business firms are surveyed to do a comparative, yet an exploratory study to understand the current status of group decision making in both cultures. Although Hotstede (1980, 1984) characterized Koreans with lower individualism, higher power distance, higher uncertainty avoidance and lower masculinity than Americans, this study did not find clear-cut differences in group behavior according to these dimensions. Nevertheless, this study provides similarities and differences of group characteristics of the two cultures, and implications for the GDSS design and strategies for its use.

Finally, validity of the group decision-making model in Figure 2 was tested. As the model suggests, the decision making variables have strong direct and indirect relationships with the outcomes. Additionally, the decision making variables have moderate relationships with dysfunction.

References


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