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A Measure of Strategic Decision-Making in Non-profit Membership Associations

Eyun-Jung Ki*, Hanna Park and Jwa Kim

University of Alabama, Tuscaloosa, Alabama, USA

***Corresponding author:** Eyun-Jung Ki, University of Alabama, Tuscaloosa, Alabama, USA, Tel: 205-348-036; E-mail: ki@apr.ua.edu

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Abstract

The goal of this investigation was to construct a comprehensive instrument for measuring strategic decision-making in non-profit membership organizations. Based on a literature review, the multiple-item measurement development procedures suggested as a guideline and philosophy by Churchill and Spector were used to identify eight dimensions to measure strategic decision-making: decision quality, decision routines, procedural rationality, procedural justice, affective conflict, cognitive conflict, understanding, and decision commitment. Confirmatory factor analysis (CFA) validated the constructed measures.

Keywords: Strategic decision making; Measurement development; Non-profit

Introduction

Nonprofit membership associations contribute significantly to the economy and civic life in America. They create at least 1.2 million jobs, and more than 18 million people volunteered in 2010 through a membership association [1]. As the power of such membership associations is based on the number of members, nonprofit membership associations make efforts to increase new member entry, retain existing members, and motivate participation in the organizations. A primary factor of members' decision to support a membership association is how well their organization makes decision [2].

Strategic decision-making often determines the overall direction of an organization [3] and significantly affects the quality and effectiveness of organizational performance [4]. Strategic decision-making itself demonstrates complicated organizational issues, thus demanding a great deal of organizational resources [5]. As scholars in the organizational management arena have increasingly noticed the value and impact of strategic decision-making on organizational performance, they have endeavored to identify the dimensions, attributes, and measures of strategic decision-making quality. For example, Amason [4] identified 'cognitive conflict' and 'affective conflict' as key dimensions of strategic decision-making. Other dimensions including 'decision routines' [6], 'relational practices' [7], 'procedural justice' [8], 'procedural rationality' [9], 'affective and cognitive conflict' [4,10] and 'decision quality' [11] among many others have often been identified as key dimensions of strategic decision-making in separate independent studies.

In the management literature, a majority of studies have been dedicated to investigating dimensions of strategic decision-making in the context of for-profit organizations. Studies have confirmed the fundamental differences between for-profit and non-profit organizations in decision-making [12-14]. While the primary responsibility of top management in for-profit organizations is to maximize profit for multiple stakeholders [15,16], the top management for non-profit organizations can be more sensitive to the interests of multiple stakeholders such as supporting democratic process, regulating behaviors, and providing psychological and social rewards [17]. As strategic decision-making quality is essential to both types of organizations, Schwenk [18] investigated how managers in both types of organizations viewed conflicts in strategic decision-making and observed different patterns. In addition, after creating a synthesis of 20 years of published articles on the topic of strategic management in nonprofit organizations, Stone, Bigelow, and Crittenden [19] concluded that broader questions regarding strategic decision-making have not been sufficiently addressed. More specifically, factors affecting strategic decision-making in the context of nonprofit membership associations have not been identified.

Although the importance of strategic decision-making is known, comprehensive measures of strategic decision-making have not gained much scholarly attention in the nonprofit organization or management literature. Moreover, no attempt has been made to test construct validity among the dimensions of strategic decision-making. Therefore, this study was designed to test a multiple-item dimension measure of strategic decision-making that meets standards for reliability and validity. To test the scale's reliability and validity, frameworks developed by Churchill and Spector [20,21], which provide a model for creating multiple-item scales, were applied as a philosophy and guideline. Churchill [20] emphasized the importance of establishing a better measure of variables as the essence of developing a body of knowledge in any field. In this sense, the established measure of strategic decision-making quality will benefit those who need to evaluate an organization's current level of strategic decision-making quality and find areas for improvement.

Literature Review

Strategic decision-making process

Strategic decisions are important decisions that affect organizational effectiveness and determine the success or failure of an organization. Strategic decisions are generally made in vague, complex, and non-routine situations and require interaction and exchange of information

among team members [11]. The strategic decision process is not simply a matter of selecting from options and is distinct from day-to-day managerial decision-making (for example, when to have a meeting). For example, making strategic choices about where to invest resources can be an important matter for nonprofit organizations since they might not be able to focus on their essential purposes without sustainable revenue [22].

The strategic decision process is important since the products of decision-making by top management teams influence organizational performance [4]. To be more exact, the decision process is related to different choices, and the choices that managers make influence the outcomes affecting an organization. The outcomes determine strategic decision-making effectiveness, referring to "the extent to which a decision achieves the objectives established by management at the time it is made" [9]. In the following sections, key dimensions of strategic decisions are discussed.

Dimensions of strategic decision-making

Decision quality: This dimension is defined as "team members' perception of the overall quality of the decision relative to its intent" [11]. Two principal antecedents of decision quality have been identified: the cognitive capabilities of a top management team and the interaction process that the team employs [4]. A top management team, which is composed of individuals with diverse capabilities such as knowledge, skills, abilities, and perspectives can make higher-quality decisions than a team with less diverse capabilities [23,24]. In addition, critical and investigative interaction produces higher-quality decisions through rigorous debate on different positions and diverse perspectives [4,18,25].

Dooley and Fryxell [26] built on the findings from Tilles and Schweigner, Sandberg, and Ragan [27,28] to assess decision quality and asked respondents about their perceptions of whether the decision fits their organization's current strategy, is financially responsible, and contributes to the organization's overall effectiveness. Specific items were as follows: (1) "this decision was based on the best available information," (2) "this decision was made based on valid assumptions," (3) "this decision helps this hospital achieve its objectives," (4) "this decision makes sense in light of this hospital's current financial situation," (5) "this decision is consistent with this hospital's current strategy," and (6) "this decision contributes to the overall effectiveness of this hospital".

Parayitam and Dooley [11] used six items to measure decision quality on a four-point scale. Anchored by poor to excellent, the specific items were: (1) "The effect that decision had on company is," (2) "Relative to what we expected, the results of the decision have been," (3) "Overall, the group members feel that the decision was," (4) "The degree to which team's decision rationale was covered the maximum range of relevant issues was," (5) "The degree to which the team's decision rationale was well structured and reflective of interrelationships among the relevant issues was," and (6) "The degree to which the team's decision rationale was expressed in depth was". LeRoux and Wright [29] posed the question, "How would you describe the effectiveness of your organization at making strategic decisions?".

Decision routines: In the real world, decision-making in organizations is influenced by the principle of bounded rationality rather than complete rationality [6,30]. Although strategic decisions should be made rationally based on comprehensive information, a complete search of alternatives, and an optimal solution, people tend to look for a course of action that is satisfactory or simple because they have incomplete knowledge or limited abilities to make the calculations required for optimal choice [30].

A way to reduce the gap between complete rationality and the individual's bounded rationality is to implement decision routines that can guide individual decision behavior [6]. He outlined sense making, knowledge creation, and decision making to explain decision routines in an organization. First, people in an organization give meaning to the event and interpret information during sense making. Second, during knowledge creation, they share their knowledge with others through a conversation. Finally, they select an appropriate course of action by evaluating alternatives. Cohen et al. [31] defined a routine as "an executable capability for repeated performance in some context that been learned by an organization in response to selective pressures".

Based on concepts from Choo and Cohen et al. and Engle [6,31,32] created thirteen items to measure decision routines, which was renamed as strategic attention. He selected five reliable items out of the thirteen items to measure strategic attention by conducting both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The five items were: (1) "Strategic issues are clearly articulated before being discussed by the board," (2) "There is ample time to discuss strategic issues during a board meeting," (3) "There is ample time to decide on strategic issues during a board meeting," (4) "Strategic issues presented to the board have been well researched prior to starting board discussion," and (5) "When the board votes on a strategic decision, it has the necessary information in order to make the decision.'

Procedural rationality: Dean and Sharfman [9] argued that procedural rationality and political behavior led to strategic decision effectiveness, which refers to "the extent to which a decision achieves the objectives established by management at the time it is made". They defined the first factor, procedural rationality, as "the extent to which the decision process involves the collection of information relevant to the decision and the reliance upon analysis of this information in making the choice". They also explained that executives who collected extensive information before making decisions were more likely to have accurate perceptions of environmental conditions, and hence to develop effective strategies.

Through an extensive literature review, Dean and Sharfman [9] developed nine items to measure procedural rationality and then dropped four items that were not internally consistent based on the coefficient alpha. The five remaining items were: (1) "How extensively did the group look for information in making this decision?" (2) "How extensively did the group analyze relevant information before making a decision?" (3) "How important were quantitative analytic techniques in making the decision?" (4) "How would you describe the process that had the most influence on the group's decision?" and (5) "In general, how effective was the group at focusing its attention on crucial information and ignoring irrelevant information?".

Procedural justice: Procedural justice is generally defined as the extent to which decision-making procedures are judged to be fair by members who are involved in the process [33]. Through an experiment with teams of middle- and upper-level managers, they showed that getting input from team members influenced the members' perceptions of fairness in terms of decision-making procedures and thus increased their commitment to the decision and attachment to the organization. Similarly, Ohana et al. [34] found that procedural justice

leads to greater commitment to the organization in their empirical study of employees of social enterprises.

Several communication scholars have also found that sharing of tasks, referring to "organizations' and publics' sharing in solving joint or separate problems" [35] resulted in good relationships between an organization and its publics [36,37]. Procedural justice might provide a possible explanation for this finding. Because allowing employees and team members to provide their opinions and participate in the decision-making process makes them perceive that the procedure is fair, they tend to have a positive attitude and be committed to the decision or the organization.

To measure perceived fairness of the procedures used to make a decision, Korsgaard et al. [33] asked participants "how fair were the decision-making procedures used by your team leader to make his/her case recommendation?" Engle [32] used the following items to measure procedural justice: (1) "Decisions made by the board are based upon facts, not personal biases and opinions," (2) "The decision-making rules and procedures used by this board are fair to everyone," (3) "The decision-making rules are applied consistently across people and situations," (4) "All members of the board are treated with dignity during board room discussions and deliberations," (5) "The views of all board members are fully considered when decisions are being made," (6) "The views of the chief staff executive are fully considered when decisions are being made," (7) "The needs of all stakeholders are taken into account when decisions are being made," and (8) "The board follows through on decisions and commitments that are made". Ohana et al. [34] measured procedural justice by using the scale [35-37] adopted from Rhoades et al. [38] study, including the item "Decisions in work are usually made without consulting the people who have to live with them" (reverse coded).

Conflict: Dissent or conflict in the strategic decision making process means difference of opinions or disagreement with ideas and decisions. The effect of conflict on organizational performance is a highly controversial topic. Early researchers paid attention to the negative impact of conflict on organizational functioning and regarded it as a problem to be solved. For example, Gladstein [39] argued that conflict was negatively associated with organizational productivity. Wall and Nolan [40] also showed that there was a negative relationship between conflict and satisfaction in groups.

However, more recent researchers have argued that conflict could be beneficial under some circumstances [41]. Conflict may have a positive effect on organizational performance because it provides a variety of information during the decision-making process. Dooley and Fryxell [42] argued that dissent might have a positive effect on the decision-making process when it is accompanied by loyalty because loyalty promotes open communication among the team and the belief that members are working toward group goals. Jehn [41] also suggested that disagreements about the content of tasks are beneficial in groups performing non-routine tasks but generally reduced group functioning in groups performing routine tasks. Open discussions and conflicts about non-routine tasks promoted critical evaluation of problems and decision options, which contributed to performance. However, conflicts related to routine tasks interfered with the standardized process and were usually in vain. The compelling finding of Jehn's [41] research was that there was an optimal level of conflict in non-routine tasks. Although a moderate level of conflict made people better able to critically assess information, a high level of conflict interfered with group performance because people became overwhelmed with the amount of conflicting information.

Later research on conflict suggested that different types of conflicts – cognitive conflict and affective conflict – might have a different effect on the decision-making process. According to Amason [4], cognitive conflict is functional, task-oriented, and focused on "judgmental differences about how best to achieve common objectives". Cognitive conflict generally arises from disagreements about content or differences in perceptions, viewpoints, ideas, and opinions [11]. Cognitive conflict positively contributes to decision quality because it allows key constituencies to consider diverse perspectives, and hence leads them to make the best decision [4].

On the contrary, affective conflict is dysfunctional, emotional, and focused on personal feelings [4,11]. Amason [4] argued that affective conflict was negatively related to decision quality. He claimed that there was an optimal level of conflict such that a moderate level of conflict (generally cognitive conflict) made people better able to critically assess information. However, if the conflict became affective, it could produce criticism and hostility among team members and then undermine decision quality. Thus, different effects of cognitive conflict and affective conflict in terms of strategic decisions should be examined.

Amason [4] used three items to measure cognitive conflict: (1) "How many disagreements over different ideas about this decision were there?" (2) "How many differences about the content of this decision did the group have to work through?" and (3) "How many differences of opinion were there within the group over this decision?". He also used four items to measure affective conflict: (1) "How much anger was there among the group over this decision?" (2) "How much personal friction was there in the group during this decision?" (3) "How much were personality clashes between group members evident during this decision?" and (4) "How much tension was there in the group during this decision?".

Jehn [41] developed eight items to measure intragroup conflict, which includes both cognitive conflict and emotional conflict: (1) "How much friction is there among members in your work unit?" (2) "How much are personality conflicts evident in your work unit?" (3) "How much tension is there among members in your work unit?" (4) "How much emotional conflict is there among members in your work unit?" (5) "How often do people in your work unit disagree about opinions regarding the work being done?" (6) "How frequently are there conflicts about ideas in your work unit?" (7) "How much conflict about the work you do is there in your work unit?" and (8) "To what extent are there differences of opinion in your work unit?".

Consensus: Consensus among team members is important to facilitate the effective implementation of strategic decisions and is therefore viewed as an element of high organizational performance [4,10]. Child [42,43] argued that "securing the cooperation of other parties to the decision" is crucial in terms of the implementation of strategic decisions. Consensus is an important variable in strategic decision-making because it increases the level of commitment to the decision among team members and results in successful decision implementation [42].

Consensus is not just simple agreement among team members; it involves both their understanding and commitment [4]. Wooldridge and Floyd [44] defined consensus as a construct composed of "commitment to, and understanding of, strategy". The following sections discuss each component of decision consensus.

Understanding: Understanding is important in that it provides a common direction for team members so they can act independently

but consistently in relation to strategic decisions [4]. Wooldridge and Floyd [44] focused on middle-level managers in twenty organizations and measured their understanding of those organization's strategic priorities among (1) cost/efficiency, (2) new product development, (3) coordination and control, (4) workforce development, and (5) customer/market development as articulated by the CEO. The weights assigned by each manager and the CEO's weights were compared to each other. Amason in 1996 modified Wooldridge and Floyd's [44] measurement and examined how similarly team members understand the rationale for their decision.

Decision commitment: In addition to understanding the rationale underlying a decision, commitment is another important component of consensus [4]. Commitment can be defined as "a willingness by individuals to exert high levels of effort on behalf of the organization, and a sense of identification with the organization's objectives" [45]. If the team members are not committed to a decision, some resistance or opposition can occur when the decision is implemented [4].

To measure decision commitment, Wooldridge and Floyd [44] used nine items modified from an instrument developed by Porter et al. [46] that contained items measuring the respondent's loyalty toward the organization, willingness to exert a great deal of effort to achieve organizational goals, and acceptance of the organization's values. Amason [4] adapted Wooldridge and Floyd's [44] measures for commitment and asked questions such as "How much did you personally argue for the alternative that became the final decision?" and "How consistent was the final decision with your own personal priorities and interests?". Dooley and Fryxell [42] measured decision commitment by adapting Mowday et al. [47] items. Specific items to measure decision commitment were: (1) "Team members are proud to tell others they were involved in making this decision," (2) "Team members are willing to put in a great deal of effort to see this decision be successful," (3) "Team members are willing to talk this decision up with coworkers as being good for the hospital," (4) "Team members really care about seeing this decision be successful," (5) "A change in present circumstances would cause team members to reduce support for this decision," and (6) "Team members feel there is not much to be gained by sticking with this decision".

Based on the literature review, the following overarching research question was asked:

RQ: How can the multidimensionality of strategic decision-making be captured in a comprehensive measure?

Method

This study was intended to test the reliability and validity of a measurement scale of a theoretical construct, strategic decision-making [20,21]. To improve construct validity, multiple-item measures were used as suggested [20,21].

To collect the data for this study, a survey was used. The population of this study is current members of the American Society of Association Executives (ASAE), a nonprofit membership organization of CEOs of professional societies and trade associations [48]. Founded in 1920, ASAE currently has more than 21,000 members. The majority of the members' titles are "executive director" or "president," and members belong to more than 9,300 organizations across approximately 50 countries [48]. ASAE also sponsors a certified association executive (CAE) professional certification program.

Pilot test

The measurement items were initially drafted based on the literature. Several experts who are scholars with a record of publications and professionals with more than ten years of experience in the area of strategic communication evaluated the questionnaire, and the pre-test questionnaire was revised and retested based on feedback from those experts. After the expert consultation, to solicit the comments and feedback on the questionnaire items in order to improve the efficacy of the questionnaire, a pilot test was administered. Six CEOs reviewed the items and provided feedback, which helped to rewrite the seven items for clarity. After the pilot test, some minor changes to several items were made to further refine the instrument.

Administration

To develop a reliable and valid measure of strategic decision-making, this study used a data set ASAE administrated to collect and provide full access to the data. An electronic survey was conducted with two follow-up emails to encourage participation in this study. Moreover, the president and CEO of ASAE sent emails to the members who were CEOs to increase the response rate. Initially, 4,322 CEOs were reached via email. Among them, 613 CEOs showed their interest in participating and each of them received a unique link to an online survey. The survey site was open for two months, and 244 CEOs completed the survey within that time. The response rate was 40%, determined by calculating the number of completed questionnaires divided by those who showed interest in the initial invitation (244/613). The respondents of this study represent approximately 5% of the CEO members of the organization.

Sample profile

Several demographic questions were asked including length of time being CEO, age of the organization and gross revenues. Among 244 CEOs, a plurality (n = 109, 44.7%) had been CEO in the organization between 3 and 10 years, followed by 30.3% (n = 74) over 10 years and 25% (n = 61) less than three years. A majority of the organizations were relatively new, with 95% of organizations five years old or younger (n = 233, 95.5%). Approximately 45% (n = 110) indicated that the gross revenue of their organizations was between $1 million and $5 million, 23% (n = 56) more than $5 million, 20% (n = 49) less than a half million dollars, and 11.9% (n = 29) from half a million dollars to one million dollars.

Measures

To test a comprehensive measurement model of strategic decision-making, the following eight dimensions were used. Answers were ranked on a 7-point or 5-point Likert scale depending upon the measurement item.

Decision quality: Decision quality is related with the overall quality of the decision relative to its intent. A measure was adopted from multiple studies [4,11]. Initially, five items were used to measure decision quality such as 1) this decision was based on the best available information; 2) this decision was made based on valid assumptions; 3) this decision helps this (org) achieve its objectives, and so forth.

Decision routines: This variable measures "an executable capability for repeated performance in some context that has been learned by an organization in response to selective pressures" [6,31]. This study adopted five items to measure the variable [6,31] including "strategic

issues are clearly articulated before being discussed by the board" and "there is ample time to discuss strategic issues during a board meeting."

Procedural rationality: This variable measures the extent to which the decision process involves the collection of information relevant to the decision and reliance upon analysis of this information in making the choice [9]. The following four items were used to measure this dimension: 1) How extensively did the group look for information in making this decision? 2) How extensively did the group analyze relevant information before making a decision? 3) How important were quantitative analytic techniques in making the decision? And 4) How would you describe the process that had the most influence on the group's decision?

Understanding: A component of consensus, understanding is often measured as shared understanding about ends and means [44]. Four different items were adopted from Roberto [49] to tap into this dimension, such as 'the board clearly understood the background information presented on the strategic issue,' and 'the board clearly understood the threat or opportunity presented by the strategic issue.'

Decision commitment: Another component of consensus, decision commitment represents more than simple agreement. It requires active cooperation of the team and understanding and commitment to the decision [4]. Five items were adopted from [4], including 'team members are willing to put in a great deal of effort to see this decision be successful' and 'team members are willing to talk this decision up with coworkers as being good for the organization.'

Procedural justice: This dimension measures the fairness of processes by which decisions are made and the fairness of the treatment of individuals involved in the process [8]. Seven items were adopted from Tyler and Blader [8] including 'decisions made by the board are based upon facts, not personal biases and opinions,' and 'the decision-making rules and procedures used by this board are fair to everyone.'

Cognitive conflict: This dimension measures the extent to which team members perceive the existence of task-based differences and disagreements [4,10,11]. The following three items were used to measure cognitive conflict: 1) How many disagreements over different ideas about this decision were there? 2) How many differences about the content of this decision did the group have to work through? and 3) How many differences of opinion were there within the group over this decision?

Affective conflict: This dimension measures "the extent to which team members perceive the existence of person-based differences" [4,10,11,41]. The following four items were used to measure affective conflict: 1) How much anger was there among the group over this decision? 2) How much personal friction was there in the group during this decision? 3) How much were personality clashes between group members evident during this decision? and 4) How much tension was there in the group during this decision?

Reliability tests

Cronbach's alpha was calculated, and the following reliability indices were obtained: decision quality (5 items) 0.87, decision routines (5 items) 0.83, procedural rationality (4 items) 0.77, procedural justice (7 items) 0.90, affective conflict 0.90 (4 items), cognitive conflict (3 items) 0.76, understanding (4 items) 0.79, and decision commitment (5 items) 0.82.

Statistical analyses

After computing the basic descriptive statistics for each item and variable of interest, confirmatory factor analysis (CFA) was used with AMOS in IBM SPSS (version 21) to specify which variables characterize which factor by testing for construct validity (reliability between items) and discriminant validity (difference between factors). CFA is an effective and frequently used procedure for assessing construct validity. Construct validity was measured based on the average amount of variance among indicator variables as accounted for by each factor in the CFA.

Results

Descriptive statistics

The mean and standard deviation (SD) of each variable were computed (Table 1). The item scores from both Affective Conflict and Cognitive Conflict ranged from 1 to 5, while other variables had a range of 1 through 7. In general, participants rated both cognitive and affective conflict items with low scores. This indicates that participants in this study are facing low levels of conflict. Specifically, the mean scores of Cognitive Conflict (2.03 – 2.70) are higher than those in Affective Conflict (1.55 – 2.03), which indicates that participants feel higher levels of conflict in the cognitive domain than in affective domain. Items with the highest mean scores are DQ3 and PJ3 with 6.28 and 6.26, respectively. In general, participants tend to respond more positively to items related to Decision Quality and Procedural Justice.

Latent Trait (reliability)	Variable	Mean	SD	Range
Affective Conflict (0.90)	AC1	1.55	0.85	1 – 5
	AC2	1.82	0.88	1 – 5
	AC3	1.77	0.92	1 – 5
	AC4	2.03	0.92	1 – 5
Cognitive Conflict (0.76)	CC1	2.7	0.85	1 – 5
	CC2	2.63	0.77	1 – 5
	CC3	2.45	0.75	1 – 5
Decision Commitment (0.81)	DEC1	5.61	1.21	1 – 7
	DEC2	5.1	1.47	1 – 7
	DEC3	5.4	1.72	1 – 7
	DEC4	5.86	1.19	1 – 7
	DEC5	2.26	1.51	1 – 7
Decision Quality (0.87)	DQ1	6.12	1.08	1 – 7
	DQ2	5.94	1.16	1 – 7
	DQ3	6.28	1.04	1 – 7
	DQ4	6.14	1.09	1 – 7
	DQ5	6.09	1.16	1 – 7
Decision Routines (0.82)	DR1	5.08	1.48	1 – 7
	DR2	5.04	1.52	1 – 7

	DR3	5.58	1.11	1 – 7
	DR4	5.87	0.95	1 – 7
	DR5	4.26	1.61	1 – 7
	PJ1	5.03	1.45	1 – 7
	PJ2	5.91	1.2	1 – 7
	PJ3	6.26	1.13	1 – 7
	PJ4	5.95	1.23	1 – 7
	PJ5	6.05	1.17	1 – 7
	PJ6	5.57	1.37	1 – 7
Procedural Justice (0.90)	PJ7	5.48	1.39	1 – 7
	PR1	3.6	1	1 – 5
	PR2	3.7	0.97	1 – 5
	PR3	2.32	0.9	1 – 5
Procedural Rationality (0.77)	PR4	3.07	0.75	1 – 5
	UN1	5.71	1.15	1 – 7
	UN2	5.86	1.19	1 – 7
	UN3	5.46	1.19	1 – 7
Understanding (0.79)	UN4	5.41	1.67	1 – 7

Table 1: Mean and Standard Deviation (SD) for the observed variables (N = 244)

Confirmatory Factor Analysis (CFA)

In order to establish a measurement model for strategic decision-making, a CFA analysis was conducted using the AMOS module in IBM SPSS version 21 with minor post hoc modifications. CFA confirms if a hypothesized factor model or measurement model fits the given data. First, CFA is appropriate for the proposed structural validity that is derived from questions such as 1) the number of factors (i.e., latent variables) that underlie responses to items on a test, 2) the associations among those factors, and 3) the contribution of the factors to the items of the test [50]. These questions help answer the major research question for this study. Second, CFA provides a statistical test of the extent to which a proposed measurement model fits observed, empirically collected data [51]. More importantly, CFA is appropriate for this study because the hypothesized factor structure was inductively established. In other words, the structure was developed based on existing literature and theories.

The χ^2 test for model-fit showed a significant misfit of the data, χ^2 (611) = 1228, p<0.001. However, since the χ^2 test is sensitive to a large sample size, other relative fit indices should be considered. The relative fit indices frequently used by other researchers demonstrated a fairly coherent and strong model-data fit with acceptable fit indices (χ^2 /df = 2.011, CFI = 0.881, TLI = 0.871, and RMSEA = 0.065 (90%CI: 0.059 - 0.070)). Bentler and Bonett [52] stated that if the χ^2 /df-ratio is less than 3, the model successfully fits the data. Furthermore, CFI and TLI were very close to 0.90, and RMSEA was smaller than 0.08. Therefore, the proposed measurement model of strategic decision-making with eight dimensions is valid. Moreover, the magnitude of the standardized betas demonstrated that all items of each indicator in the measurement model demonstrated strong loadings. All items had higher than 0.50 standardized loadings except five items (DR 3, DR 5, PR 3, UN 3, and UN 4). All factor loadings and correlations among factors in the standardized solutions were statistically significant at p<0.001 (Figure 1).

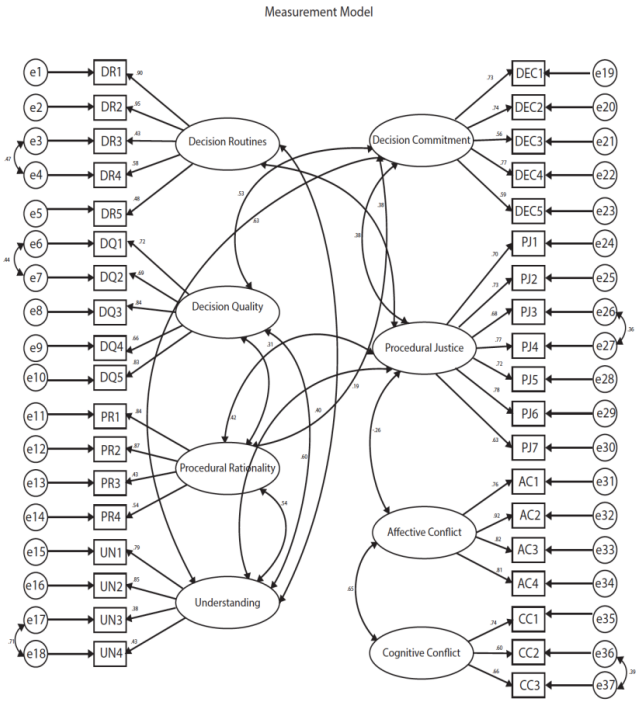

Figure 1: Final measurement model.

Discussion and Conclusion

The goal of this investigation was to construct a comprehensive instrument for measuring strategic decision-making in the context of nonprofit membership association. Based on a literature review, eight dimensions—decision quality, decision routines, procedural rationality, procedural justice, affective conflict, cognitive conflict understanding, and decision commitment—were developed to measure strategic decision making by applying the development of multiple-item measurement procedures suggested by Churchill and Spector [20,21] as a guideline and philosophy. The sample of this study was CEOs, who are decision makers of various nonprofit membership organizations. Confirmatory factor analysis (CFA) validated the constructed measures, prompting the inclusion of 37 items in the final strategic decision-making measure, consisting of five items for decision quality, five items for decision routines, four items for procedural rationality, seven items for procedural justice, four items for affective conflict,

three items for cognitive conflict, four items for understanding, and five items for decision commitment.

Practical implications

The strategic decision-making measure can be used to gather benchmark data regarding the current levels of an organization's strategic-decision quality as well as to conduct periodic checks to measure improvement in the quality of such decision-making quality. The measure tested in this study can serve as a diagnostic barometer which will allow the top managers or executive personnel in an organization to assess areas that are weak and in need of attention in order to make strategic decision-making more effective.

One way of doing this is to use a survey which asks employees to evaluate each of the eight strategic decision-making characteristics (i.e., decision quality, decision routines, procedural rationality, procedural justice, affective conflict, cognitive conflict, understanding and decision commitment). Analysis of the survey data by different business units or departments would allow evaluations of the overall quality of strategic decision-making and each of the eight dimensions. This type of evaluation would allow executive personnel to identify problem areas or departments within the organization in order to concentrate resources on improving a particular aspect of strategic decision-making. For example, if the survey results demonstrate that procedural justice is at a low level in a human resource department, then the executive personnel should work on improving the decision-making rules and procedures to be fair to everyone so that decision-making is based on facts, not personal biases or opinions in the department.

A leader of an organization is often interested in knowing the quality of overall strategic decision-making as well as the eight specific areas of strategic decision making that this study examined. Earlier studies have typically used one or two dimensions to measure strategic decision-making. In these cases, it is possible that employees could focus on certain aspects of strategic decision-making while responding to their decisions. Consequently, such measures may not precisely capture the complex characteristics of strategic decision-making.

The strategic decision-making model gives practical guidance to managers in non-profit organizations in terms of designing internal communication programs. To help an organization make the most effective and efficient strategic decisions, managers can examine internal publics' (i.e., employees, team members) evaluations of the eight elements in their organization's strategic decision-making and then develop specific strategies and tactics to improve the publics' perceptions. For example, nonprofit organization managers can encourage interaction and engagement among team members by creating a social intranet, which allows them to easily share information and make more informed decisions. Implementing a social intranet can create an organizational culture in which collaboration can thrive and improve the members' perceptions of procedural rationality and procedural justice at the same time.

Theoretical implications

In addition to the aforementioned practical implications, the findings of this study have several theoretical implications. First, while no scholar can claim to accurately tap all of the characteristics of strategic decision-making in a single study, hopefully, this study comes closer to capturing the overall quality of strategic decision-making, especially in the field of nonprofit organizations. By doing so, an organization can improve the quality of each of these eight key attributes of strategic decision making, which will be likely to enhance overall organizational performance [5].

Creating a reliable and valid measure is a fundamental first step to move forward in a field [20]. Through an extensive review of previous literature on strategic decision making, this study selected eight latent variables and then empirically tested measures of these variables through CFA. Results of CFA confirmed that the proposed measurement model was valid and reliable. This process helped us find a comprehensive measurement model for a strategic decision-making.

As the next step of research, scholars might need to further examine the inter-relationships amongst those variables. Direct and indirect effects among the variables of strategic decision-making can improve the level of sophistication of this strategic decision-making model. This process may help managers increase decision quality and strategic decision-making effectiveness. For example, researchers may investigate how procedural rationality, procedural justice, commitment, and conflict influence decision quality. It is predicted that decision quality would be increased if procedural rationality and procedural justice are highly involved in the decision-making process because they may positively influence team members' decision commitment [33], understanding, and cognitive conflict. However, in a decision-making situation that involves high procedural rationality but low procedural justice, some team members may not be committed to a decision and may not interact properly with managers or other members who may have spent extensive time on collecting information and be eager to achieve their decision objectives. This may increase affective conflict, which is a significant hurdle in the decision-making process [4]. Therefore, additional empirical research involving finding the intra-relationships among the variables tested in this study is needed.

Furthermore, the effects of those variables on strategic decision-making may differ by the type of organization or organizational structure. For example, in nonprofit organizations that incorporate a horizontal organizational structure, procedural justice may be considered relatively more important than procedural rationality. In corporations, other factors may be more significant than procedural justice in terms of strategic decision-making. Thus, in future studies, researchers should consider the type of organization in order to develop a more valid strategic decision model.

Limitations and Future Research Agendas

Like any other study, this one has weaknesses. First, a majority of the scales were adopted from the management literature related to for-profit organizations because there is a lack of literature on strategic decision-making in nonprofit organizations. Therefore, future researchers may consider developing or refining the strategic decision scale described in this study to fit nonprofit organizations better. Second, this study used data collected at a single point in time. Strategic decisions cannot be made during a short period of time. Therefore, future researchers may consider collecting longitudinal data to reflect the complexity and the length of the strategic decision-making process. Last, while strategic decision-making is a team affair, this study used only CEOs as the sample. Future researchers may consider collecting data from every level of individuals who participate in strategic decision-making.

Regardless of these shortcomings, this study contributes to both scholarship and practice. No organization can avoid the strategic

decision-making process. Hopefully, the reliable and valid measure of strategic decision-making that this study established can help organizations improve the overall quality of their decision processes.

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