

**AN INVESTIGATION OF THE RELATIVE IMPORTANCE  
ATTACHED TO THE QUALITATIVE CHARACTERISTICS  
IN THE SFAC 2 HIERARCHY**

**Dennis T. Kennedy,\* Y. Joseph Ugras,\*\* Bruce A. Leaby,\*\*  
and Madjid Tavana\*\*\***

**ABSTRACT**

*Statement of Financial Accounting Concepts No. 2 presents a hierarchy of accounting qualities and asserts that the relative importance of the qualities differs between groups of decision makers. This study examined the relative importance attached to the qualities by a sample that included preparers, auditors and users of financial reports. The survey questionnaire was based on the Analytic Hierarchy Process (Saaty 1990) and captured the respondents' judgments through a series of trade-offs between pairs of the qualities. The survey questionnaire employed the Analytic Hierarchy Process to collect the respondents' judgments. Profile analysis was used to examine the responses for group differences. The results revealed differences within each group profile at each level of the hierarchy. The results indicated between-group differences attributable to relevance, predictive value, timeliness and neutrality and differences between the group profiles attributable to relevance, predictive value, timeliness and neutrality.*

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\* Associate Professor of Accounting

\*\* Assistant Professors of Accounting

\*\*\* Assistant Professor of Management

All at LaSalle University Philadelphia, Pennsylvania 19141

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## INTRODUCTION

In Statement of Financial Accounting Concepts No. 1 (SFAC 1), the Financial Accounting Standards Board [FASB, 1978] states that the purpose of the SFACs is to establish concepts and objectives for evaluating accounting practices. Two years later, the FASB [1980] issued SFAC 2 to examine the characteristics that make accounting information useful. Whether accounting choices are made by standard-setting agencies or by individual enterprises, the FASB contends that the qualities discussed in SFAC 2 should be sought when judgments are made. Solomons [1986] observes that the SFAC 2 qualities are important because they constitute the only criteria the board has for choosing among accounting alternatives.

The usefulness of accounting information continues to be a vital issue for the accounting profession. In 1991, the American Institute of Certified Public Accountants (AICPA) formed the Special Committee on Financial Reporting to address concerns about relevance and usefulness of business reporting. The AICPA recognizes that successful businesses align the features of their products and services with their customers' needs and that providers of business reporting should also. The AICPA [1994] recently released the Committee report which recommends that standard setters increase their focus on the information needs of users. The Committee reinforced this recommendation by encouraging "novel vehicles" to focus on users' needs for the benefit of the standard setting process. This study presents a novel way to gather and

compare information about users' needs by focusing on judgments about the qualities that make accounting information useful.

Recently, the FASB [1994,p.1] stated that its mission is to "establish and improve standards of financial accounting and reporting for the guidance and education of the public, including issuers, auditors, and users of financial information." In addition, the FASB [1994,p.1] identified five criteria to accomplish its mission with the first criterion to "improve the usefulness of financial reporting by focusing on the primary characteristics of relevance and reliability . . . ." Clearly, both the FASB and the AICPA agree that improving the usefulness of accounting information is essential for the accounting profession to continue to serve its customers. Achieving this goal requires an investigation, analysis and understanding of which qualitative characteristics are most important to the various constituents it serves. The FASB [SFAC 2] views the identified qualities that make accounting information useful as a hierarchy. While the hierarchy differentiates between primary and other qualities, the FASB [1980,par.34] notes that "it does not assign priorities among qualities." The Board [1980,par.45] expects the relative importance of the characteristics to differ between groups of decision makers because they make different kinds of decisions and have different needs.

One very general advancement in cognitive science in the past two decades is the recognition that intelligent behavior is not simply the result of conditions in the current situation [Lord and Maher, 1991; Markus and Zajonc, 1985]. Based on their experience in a

particular field, individuals develop knowledge structures called schema that function as models of the outside world. Schema have considerable effects on information processing and decision making. For example, schema guide information gathering and the organization of memory. Schema can be viewed as tree-like structures, similar to the SFAC 2 hierarchy, with a network of weights defining the connections between the elements [Rumelhart, et al., 1986]. These structures affect both preconscious (e.g. attentional) and postconscious (e.g. recall) processes, and thereby influence subsequent judgments and evaluations.

In unstructured judgmental tasks, such as evaluating accounting information, schema function as interpretive frameworks that influence inferences and predictions in schema-relevant domains and the confidence with which these judgments are made [Markus and Zajonc, 1985, p.158]. While schema contribute to the efficiency of information processing in a particular domain by focusing attention and cognition on important information, they are also a source of cognitive biases that can hinder effective problem solving. In a particular situation, individuals may not attend to potentially important information because it is inconsistent with the schema they developed in other circumstances. In addition, individuals are likely to focus on different aspects of the environment because of differences in their schema. In this way, schema differences can contribute to communication and coordination problems that inhibit group functioning and problem solving.

The SFAC 2 hierarchy is a schema for evaluating the decision usefulness of accounting information. It is likely that different groups of decision makers attach different weights to the qualities in the hierarchy because of their decision making experience [Lord and Maher, 1991; Markus and Zajonc, 1985]. Consequently, preparers and auditors may not attend to information that is potentially important to users because it is inconsistent with the schema they have developed in other circumstances. This study examined the relative importance assigned to the SFAC 2 qualities by a sample that included preparers, auditors and users of financial reports. The survey questionnaire utilized the Analytic Hierarchy Process (AHP) to collect the respondents' judgments. AHP assists a decision maker in assigning weights to qualitative criteria that reflect their relative importance in a hierarchy. Profile analysis was used to examine the responses for group differences. The results: (a) showed differences within each group profile at each level of the hierarchy; (b) indicated between-group differences attributable to relevance, predictive value, timeliness and neutrality; and (c) indicated differences between the group profiles attributable to relevance, predictive value, timeliness and neutrality

### RELEVANT LITERATURE

A significant body of literature provides support for and arguments against the overall conceptual framework (CF) project. Miller [1990] suggested that the CF project would lead to substantial positive reform in accounting practice. He used the term

"reformation" to connote the movement toward significant change without abandoning the structure and central goals of the financial reporting system. Heath [1988] noted the unevenness in the readability of the SFACs but stated that the best part is SFAC 2. He suggested that the CF improved communications between the FASB and its constituents by showing that many comment letters used the concepts in the SFACs. Therefore, the CF benefited the accounting profession by providing a common working document that accountants use in discussing issues and arguing positions. Concurring with this, Miller [1990] stated that the FASB has now created an environment where changes can take place.

A study by Joyce, Libby and Sunder [1982] was an early attempt to provide an assessment of the qualitative characteristics in SFAC 2. Their study evaluated the ability of policy makers to assign operational measures to the qualitative characteristics of accounting alternatives. The participants were 26 prior members of the Accounting Principles Board (APB) and the FASB. The results revealed considerable disagreement among experienced policy makers on what the qualitative characteristics mean in the context of particular accounting policy issues. In addition, there was considerable disagreement on the relative importance of the qualities.

While Joyce, Libby and Sunder [1982] have made major contributions concerning the assessment of the qualitative characteristics, they ignored the hierarchical structure in SFAC 2. They grouped all the qualities together when the participants were asked to rank them in order of their perceived importance.

Furthermore, the participants were asked to consider some issues on which they had voted during their tenure at the APB or the FASB. Joyce, Libby and Sunder [1982, p.668] noted: "This may be damaging to the whole project if policy makers' past experience dominates their use of the characteristics." The participants' views on these issues could have been formulated so strongly that there was an inherent bias in their rankings of the qualitative characteristics. Even with their findings, Joyce, Libby and Sunder [1982] cautioned that it would be imprudent to dismiss SFAC 2. Their study was performed shortly after the statement was issued, and the CF project was not complete. They recognized that testing one section without knowledge of the entire project may have biased the results in an unfavorable manner and that results should improve as these definitions become better known.

Over a decade has passed since Joyce, Libby and Sunder [1982] reported their findings and FASB [1984] issued SFAC 5. This passage of time has allowed practicing accountants to become more familiar with the qualitative characteristics and to understand them better in the context of the other parts of the CF.

Recently, Hudack and McAllister [1994] examined whether the FASB maintains a balance between its primary qualities of relevance and reliability when promulgating financial accounting standards. They observed how often the FASB cited the primary qualities and substitute terms in the first 117 SFASs as an indication of relative importance. Their findings show that the Board "does not appear to consistently sacrifice (favor) one quality over the

other" [Hudack and McAllister, 1994,p.12]. However, when the standards are grouped by issues, the Board appears to exhibit a bias in its use of relevance more often in disclosure standards than in standards related to recognition issues. These findings show a rather consistent reference to the primary qualities over the 20 years of effort by the FASB. While the FASB standards have gone through due process, the AICPA [1994] in its recent report on business reporting indicates that standard setters have not given sufficient attention to the needs of users. The AICPA concern is particularly significant if investors and creditors assign different importance to the SFAC 2 qualities than preparers and auditors.

This study extends the prior research on the relative importance of the SFAC 2 qualities in several ways. First, it examined the relative importance attached to the qualities by different groups of decision makers. The sample included preparers, auditors and users of financial reports because these groups must often evaluate accounting alternatives and their costs and benefits are the FASB's [1980,pp.ix,55] concern. Second, AHP was used to collect the judgments of the survey respondents. AHP provides distinct advantages for making trade-offs between qualitative criteria in a hierarchical structure. The procedure is discussed in a subsequent section. Third, rather than comparing all the qualities to each other, the trade-offs were made between the qualities within each branch of the SFAC 2 hierarchy. Relevance and reliability were compared to each other and to the qualities the FASB [1980,pp.x-xi] identified as interacting with them while the ingredients of relevance



and reliability were compared separately. The comparison process is discussed further in the following sections.

### RESEARCH QUESTIONS

This article examines the relative importance attached to the qualitative characteristics for differences between the group profiles as well as for differences within each group profile.

#### **Differences Between Group Profiles**

The FASB expects that the relative importance attached to the SFAC 2 qualities is different for different groups of decision makers. Differences between the groups are important because disagreements on policy choices may have their basis in disagreements on the rating and ranking of the characteristics [Lord and Maher, 1991; Markus and Zajonc, 1985; Joyce, Libby and Sunder, 1982]. "Furthermore, the FASB may need to be concerned with the deficiency of user participation in the standard-setting process" [Tandy and Wilburn, 1992,p.58], especially if users' priorities are different than the priorities of other groups.

The relative importance of the qualities was evaluated within the hierarchical relationships discussed in SFAC 2 [p.15]. Relevance and reliability are identified as primary qualities. The next level of the hierarchy specifies the components of the primary qualities. To be relevant, information must be timely and it must have predictive value or feedback value [FASB, 1980,pars.47,51]. To be reliable,

information must have representational faithfulness and it must be verifiable and neutral.

Two constraints are included in the hierarchy, materiality and cost. Materiality involves judgments about the magnitude of an item; it is not a quality of the same kind as relevance or reliability. However, it is difficult to consider this concept except as it relates to other qualitative characteristics, especially relevance and reliability [FASB, 1980, par.124]. Subject to the constraints imposed by cost and materiality, increased relevance and reliability are to be sought when making accounting choices [FASB, 1980, pp.x-xi]. Comparability, which includes consistency, is a quality that interacts with relevance and reliability to contribute to the usefulness of information.

Relevance and reliability were compared to each other and to the qualities the FASB identified as interacting with them. The ingredients of relevance and reliability were compared separately. Furthermore, the hierarchy was evaluated without reference to particular accounting choices to reduce the possibility of dominance by specific issues. The American Accounting Association (AAA) Committee on Accounting and Auditing Measurement [Barrett, et al., 1991] recognized that it is desirable to examine the relative importance of the qualities by which issues should be judged before looking at particular choices.

### **Differences Within Group Profiles**

Before looking at particular measurement issues, the Committee on Accounting and Auditing Measurement [Barrett, et al., 1991]

commented on the relative importance of the criteria on which the issues should be judged. The Committee stated emphatically that the primary criterion must be the relevance of information to user needs. Later in the report, the Committee emphasized the primacy of relevance.

Our first consideration in seeking valuation bases for use in financial reporting is their relevance. The reliability of the resulting numbers is of course important, but whether irrelevant numbers are reliable need be of no concern to anyone.... We are guided by the thought that it is better to be approximately right than precisely wrong. [p.94]

The AAA Committee report included a discussion that implied a relative importance among the ingredients of reliability. This discussion suggested that representational faithfulness is the primary ingredient of reliability. Neutrality was not discussed, indicating a perspective consistent with the ranking of neutrality by the FASB [1980] as a secondary quality. The treatment of consistency in the AAA Committee report was also similar to the FASB view of comparability as secondary to both relevance and reliability. The AAA and the FASB discussions of trade-offs between the characteristics suggest differences in the relative importance of the qualities at each level of the hierarchy.

### **Analytic Hierarchy Process**

AHP was used to evaluate the qualities in the SFAC 2 hierarchy. AHP was introduced by Saaty [1972;1977] to assist a

decision maker in evaluating complex judgmental problems involving qualitative criteria. AHP directs a decision maker to represent the problem as a hierarchy and assign weights to the qualitative criteria by making trade-offs among them. Saaty [1987, p.157] noted that the special value of AHP is "it can be used to incorporate judgments on intangible criteria and other elements alongside tangible ones which have known measurements."

Because of its intuitive nature and its power in solving complex judgmental problems, AHP has been applied to many diverse decisions. A comprehensive list of the major applications of AHP, along with a description of the method and its axioms, can be found in Zahedi [1986] and Saaty [1994;1990]. In accounting, AHP has been applied to selecting small business computer systems [Borthick and Scheiner, 1988], modeling audit judgments [Spires, 1991; Bagranoff, 1989; Harper, 1988; Arrington et al., 1984], performance evaluation [Brown, 1993; Chan and Lynn, 1991] and investigation of the characteristics sought in employee selection [Tavana et al., 1993; Hassell and Hennessey Jr., 1989]. While these applications appear to be unrelated, each involved the evaluation of a qualitative hierarchy.

In the application of AHP to the SFAC 2 hierarchy, the problem was decomposed into three levels. The top level consisted of one factor, the overall goal of decision usefulness. The second level included five elements, the primary qualities of relevance and reliability, the constraints of materiality and costs, and the interactive quality of comparability. The third level of the SFAC 2

hierarchy involved two branches. One branch was the ingredients of relevance, the other branch was the ingredients of reliability.

AHP simplifies the evaluation of a qualitative hierarchy by confining the process to a series of pairwise comparisons. Saaty [1972] argued that a decision maker naturally finds it easier to compare two things than to compare numerous elements from a list. The AHP pairwise comparison procedure was conducted for each branch in the SFAC 2 hierarchy. The pairwise comparisons were made using the verbal scale in Figure 1. A set of  $1/2n(n-1)$  pairwise comparisons are elicited from the decision maker to compute the relative weights of  $n$  qualities.

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**FIGURE 1**  
**AHP PAIRWISE COMPARISON SCALE**

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<u>AHP Verbal Scale</u>	<u>AHP Numeric Scale*</u>
Extremely More Important	9
Very Strongly More Important	7
Strongly More Important	5
Moderately More Important	3
Equally Important	1
Moderately Less Important	1/3
Strongly Less Important	1/5
Very Strongly Less Important	1/7
Extremely Less Important	1/9

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\*The intermediate values used by AHP are: 8, 6, 4, 2, 1/2, 1/4, 1/6, and 1/8.

For example, when comparing the three relevance ingredients, the participants were required to make only three comparisons  $1/2[3(3-1)]$ :

1. How much more or less important timeliness is than predictive value?
2. How much more or less important timeliness is than feedback value?
3. How much more or less important predictive value is than feedback value?

To proceed with the AHP computations, the verbal comparisons must be translated into the corresponding numeric scale in Figure 1. While the details of the calculations have been explained by Saaty [1994;1990], Appendix A presents an approximation of Saaty's method using the actual responses of a participant in the study.

When individuals respond to the survey, they may not be consistent. For example, an individual's evaluation of the reliability ingredients could consist of the following three pairwise comparisons. First, timeliness is moderately more important than predictive value which translates to a numerical scale value of 3. Second, timeliness is moderately more important than feedback value, also a numerical value of 3. Third, predictive value is strongly more important than feedback value, corresponding to a numerical value of 5. This is an example of an inconsistent set of responses. Based on the first two comparisons, the consistent response to the third comparison would be predictive value is equally important to feedback value with a

numerical value of 1. Saaty [1994;1990] suggests responses with a consistency ratio greater than 10% are unusable.

### DATA COLLECTION

**G**roup priority setting is by nature an interactive process. In this study, it was not possible to achieve interaction among the participants because of the large sample size. When these conditions exist, Saaty [1990,p.227] suggests that individual opinions be surveyed by questionnaire and that group weights be derived from the mean of the individual judgments.

#### Survey Questionnaire

The questionnaire (Appendix B) was used to collect participants' judgments about the relative importance of the SFAC 2 qualities. The instrument was validated through several procedures. First, a preliminary questionnaire was reviewed by groups of academics with experience in survey research. Next, the questionnaire was tested by members of the American Accounting Association and the Pennsylvania Institute of Certified Public Accountants. Then, a pilot study was conducted at Prudential-Bache. The participants were 30 professionals in the Financial Strategies Group. Each of the participants made pairwise comparisons between the SFAC 2 qualities using two different questionnaires.

On one questionnaire, the qualities were arranged randomly. On the other questionnaire, the comparisons were arranged as they are in Appendix B so that one quality was compared to all the others,

then another quality was compared to the remaining qualities, etc. The questionnaires were administered on separate days with half of the participants receiving the randomized questionnaire first. Between the questionnaires, there were no significant differences in the weights assigned to any quality. However, the random ordering resulted in higher inconsistency ratios, required more time to complete and was described as being arduous and difficult in comparison to the questionnaire in Appendix B.

The cover letter discussed the SFAC 2 hierarchy and the purpose of the study. The questionnaire asked the participants to make comparisons between pairs of the qualities. A reproduction of the hierarchical relationships presented in SFAC 2 [p.15], which provides the context for the pairwise comparisons, was included in the mailing with the questionnaire. The comparisons were made using the AHP verbal scale in Figure 1. The first set of ten comparisons involves the primary qualities of relevance and reliability, the interactive quality of comparability and the constraints of materiality and cost. In the second set of six pairwise comparisons, the ingredients of each primary quality are compared.

To test for differences between groups of decision makers, the participants were asked to indicate the years of experience they had in each professional activity. This part of the questionnaire was developed from the structured interview questionnaire used by Wilson [1990] to investigate the preferences of users, preparers and attestors regarding alternative formats for governmental financial reports. There is significant evidence from cognitive research that



the schema individuals use to process information and make decisions develop gradually. Furthermore, they are difficult to alter, to ignore or to suppress once learned [Lord and Maher, 1991; Markus and Zajonc, 1985]. Frequently, the career path for a CPA begins as an auditor and then moves into one of the other professional groups as a preparer or user. Therefore, the classification of a respondent was based on the professional activity in which the respondent had the majority of experience rather than the respondent's current position. For example, a respondent with ten years experience as an auditor and five years as a preparer would be classified as an auditor. Individuals who did not have the majority of their experience in one professional activity were excluded from the analysis.

### **Sample**

The questionnaire was mailed to a sample of 600 CPAs. The sample was selected randomly from the membership list of the state of Pennsylvania. CPAs were surveyed for two reasons. First, they are likely to be familiar with the CF. Second, CPAs work not only as auditors but also as preparers and users of financial reports. The respondents who were classified as either preparers or users of financial reports had identified themselves as actually working a majority of their professional careers in these activities.

The initial mailing was followed by a reminder letter. A second mailing of the survey was sent two weeks after the initial request. The sample was reduced to 564 because subjects were unavailable. The three mailings resulted in a total of 244 returned

questionnaires, a 43% response rate. This compares favorably to the 45.6% response rate obtained in Wilson's [1990] survey of preparers, attestors and users of governmental financial reports. Eight responses were incomplete, and 12 respondents did not have a majority of experience in one professional activity. Furthermore, 53 respondents were considered inconsistent because their consistency ratio was greater than 10%. Results of analyses between early and late respondents indicated no significant differences in the weights assigned to the qualitative characteristics.

All the respondents had an undergraduate degree while 21% also held a graduate degree. A certification other than the CPA was held by 6% of the respondents. Furthermore, those respondents classified as preparers had an average of 13 years experience as preparers while the average experience for the auditors and the users was 12 years.

### PROFILE ANALYSIS

Profile analysis is a special case of the repeated measures design. There is one repeated factor and one group factor [Bray and Maxwell, 1985; Looney and Stanley, 1989; Morrison, 1990]. In this study, the repeated measures in an individual's profile were the relative weights assigned to the SFAC 2 qualities, and the group factor was based on the professional activity of the respondent. The analysis examined the relative weights assigned to the SFAC 2 qualities for differences between preparers, auditors and users of financial reports and for differences within each group profile.

## Multivariate Analysis of Variance

Profile analysis begins with an examination of the data for an association between the relative weights and the groups (response-by-group interaction). Multivariate analysis of variance (MANOVA) was used to test for a response-by-group interaction. The MANOVA was performed using the general linear model described in Figure 2.

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FIGURE 2

MULTIVARIATE ANALYSIS OF VARIANCE - (MANOVA) MODEL

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$$Y_{ij} = U + A_i + E_{ij}$$

where:

$Y_{ij}$  = The vectors of responses (for each of the qualities in the branch of the hierarchy) from the respondent  $j$  in subgroup  $i$ .

$U$  = Overall or grand mean effect.

$A_i$  = Effect of level  $i$  of factor  $A$  (subgroup) on the response items: for  $i = 1$  (preparer), 2 (auditor), and 3 (user).

$E_{ij}$  = Random error present in the response  $j$  in cell  $i$ , for  $i = 1$  (preparer), 2 (auditor), and 3 (user), and  $j = 1, 2, \dots, n_j$ .

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The outcome of the response-by-group MANOVA determines how the subsequent analysis proceeds. The absence of a significant response-by-group interaction indicates the group profiles are parallel. If the group profiles are parallel, MANOVA can answer two other questions:

1. Are the group profiles at the same level or are there differences *between* the group profiles?
2. Are the group profiles flat or are there differences *within* the group profiles?

If a significant response-by-group interaction indicates the group profiles are not parallel, alternative techniques should be used for the follow-up analysis.

### Follow-up Analysis

Two types of follow-up analysis are appropriate when the MANOVA results indicate significant *between*-group differences. First, it may be useful to determine which of the qualities contribute to differences between the groups. A separate ANOVA was performed on the weights assigned to each quality by the groups. The univariate F test from this ANOVA indicates whether there are any differences between the groups. If a significant response-by-group interaction indicates the group profiles are not parallel, Looney and Stanley [1989] recommend testing for between-group effects using separate ANOVAs with a significance level of  $\alpha/p$  where  $\alpha$  is the desired level of significance and  $p$  is the number of repeated factors. Second, it may be desirable to identify which groups contrast with each other on any quality. When the univariate F test is significant, a multiple comparison procedure can be used to identify which groups differ from the others. The Scheffe test was used because it is designed specifically for making multiple comparisons after an ANOVA. Furthermore, it is conservative in estimating

significance levels and accommodates unequal groups [Howell, 1992,p.364; Neter et al., 1990,pp.585-589; Vogt, 1993, p.204].

When the MANOVA results indicate significant differences *within* the group profiles, as before, two types of follow-up analysis are appropriate. First, it may be useful to determine which of the group profiles contain differences. Similar follow-up procedures were used to investigate the differences within the group profiles. A separate ANOVA was performed on the weights assigned to the qualities by each group. The ANOVA indicates if there are any differences within a particular group profile. If a significant response-by-group interaction is detected, Looney and Stanley [1989] recommend using separate ANOVAs with a significance level of  $\alpha/g$  where  $\alpha$  is the desired level of significance and  $g$  is the number of groups. Second, it may be desirable to identify which qualities contribute to the differences within the group profile. When the univariate F test was significant, the Scheffe test was used to identify which of the qualities were assigned different weights.

## RESULTS

The responses to the verbal scale in the survey questionnaire were translated into the corresponding numeric scale in Figure 1. These values were input into AHP to derive each respondent's relative weights for the SFAC 2 qualities. The group weights for each quality are the means of the relative weights assigned to it by the respondents in each group. The group weights are presented in

Table 1. For the reliability ingredients and the relevance ingredients, these weights represent what Saaty [1994] calls global weights.

**TABLE 1**  
**RELATIVE WEIGHTS ASSIGNED TO THE QUALITIES BY GROUPS**

**Informational Characteristics**

	Preparer (n=39)	Auditor (n=93)	User (n=39)
Reliability	.240	.247	.217
Relevance	.250	.185	.280
Cost	.114	.143	.124
Materiality	.254	.267	.231
Comparability	.142	.158	.148

**Reliability Ingredients**

	Preparer (n=39)	Auditor (n=93)	User (n=39)
Representational			
Faithfulness	.089	.084	.084
Verifiability	.093	.081	.074
Neutrality	.058	.082	.059
Total Reliability Weight	.240	.247	.217

**Relevance Ingredients**

	Preparer (n=39)	Auditor (n=93)	User (n=39)
Predictive Value	.077	.054	.092
Feedback Value	.073	.055	.075
Timeliness	.100	.076	.113
Total Relevance Weight	.250	.185	.280

The global weights for the ingredients of relevance and reliability do not sum to one because they are the product of local weights at different levels of the hierarchy. For example, the global weight of .089 for representational faithfulness is the product of the local weight of .240 assigned to reliability by preparers multiplied by the local weight of .371 they assigned to representational faithfulness. The local weights for the ingredients are not reported. Furthermore, Table 1 shows that the total of the global weights assigned to the ingredients by each group sums to the weight allocated to the parent quality in the next higher level of the hierarchy. For example, the sum of the weights assigned by preparers to representational faithfulness (.089), verifiability (.093) and neutrality (.058) sum to the weight they assigned to reliability (.240).

### **Differences Between Group Profiles**

The MANOVA results for a response-by-group effect are reported in Table 2. All four multivariate test statistics indicated a significant response-by-group interaction for both the informational characteristics and reliability ingredients. For the relevance ingredients, Roy's Greatest Root indicated a significant interaction. Consequently, differences between the group profiles were examined by performing a separate ANOVA on the group weights for each quality, and the adjustment recommended by Looney and Stanley [1989] was used in calculating the significance levels. The F test from this ANOVA was significant at the .01 level for relevance, predictive value and timeliness, and at the .05 level for neutrality.<sup>1</sup>

**TABLE 2**  
**RESPONSE -BY-GROUP MANOVA TEST RESULTS**  
 (n=171)

<u>Multivariate Test Statistics</u>	<u>Value</u>	<u>F Statistic</u>	<u>Degrees of Freedom</u>	<u>Probability</u>
<b><u>Informational Characteristics</u></b>				
Wilk's Lamda	.839	3.777	8,330	.001
Pillai's Trace	.162	3.661	8,332	.001
Hotelling- Lawley Trace	.190	3.891	8,328	.001
Roy's Greatest Root	.180	7.487	4,166	.001
<b><u>Reliability Ingredients</u></b>				
Wilk's Lamda	.914	3.818	4,334	.005
Pillai's Trace	.086	3.772	4,336	.005
Hotelling- Lawley Trace	.093	3.863	4,332	.004
Roy's Greatest Root	.088	7.384	2,168	.001
<b><u>Relevance Ingredients</u></b>				
Wilk's Lamda	.960	1.724	4,334	.144
Pillai's Trace	.040	1.717	4,336	.146
Hotelling- Lawley Trace	.042	1.731	4,332	.143
Roy's Greatest Root	.042	3.491	2,168	.032



For each of these qualities, the ANOVA results imply that at least one group assigned a weight to the quality that is different from the weights assigned by the other groups.

Next, the data were examined to assess the specific differences between the groups. The results of the Scheffe multiple comparison procedure are presented in Table 3.

**TABLE 3**  
**SCHEFFE TEST RESULTS CONTRASTING**  
**RELATIVE WEIGHTS BETWEEN GROUPS**

<u>Quality</u>	<u>Professional Group</u>	<u>Relative Weight</u>	<u>Scheffe* Grouping</u>
<i>Relevance</i>	Users	.280	A
	Preparers	.250	A
	Auditors	.185	B
<i>Neutrality</i>	Users	.058	B
	Preparers	.059	B
	Auditors	.082	A
<i>Predictive Value</i>	Users	.092	A
	Preparers	.077	AB
	Auditors	.054	B
<i>Timeliness</i>	Users	.113	A
	Preparers	.100	AB
	Auditors	.076	B

\* Relative Weights with the same letter are not significantly different at alpha = .05 with df = 168.

In this sample, users (.280) and preparers (.250) allocated significantly more weight to relevance than auditors (.185). Among the relevance ingredients, users gave more weight to predictive value (.092) and timeliness (.113) than auditors, who assigned .054 to predictive value and .076 to timeliness. Among reliability ingredients, the only significant difference between professional groups was in the importance assigned to neutrality. Auditors gave more weight to neutrality (.082) than users (.059) and preparers (.058).

### **Differences Within Group Profiles**

Because the response-by-group MANOVA results revealed the possibility of a significant interaction effect, differences within each group profile also were examined by performing a separate ANOVA on the weights for each group in Table 1. Also, the adjustment recommended by Looney and Stanley [1989] was used in calculating the significance levels. The F tests from these ANOVAs indicated differences that were significant at the .01 level within all the group profiles for the informational characteristics and within the auditor and user group profiles for the relevance ingredients. For the reliability ingredients, the F tests indicated differences in the group profile for preparers that were significant at the .05 level.<sup>2</sup>

The Scheffe multiple comparison procedure was used to examine the differences within each group profile, and the results are presented in Table 4. In this sample, both the preparer and user groups viewed relevance as a primary quality while the auditors attached less importance to relevance than reliability.

**TABLE 4**  
**SCHEFFE TEST RESULTS COMPARING RELATIVE WEIGHTS**  
**WITHIN GROUPS**

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**Informational Characteristics**

	Preparer (DF=190)		Auditor (DF=460)		User (DF=190)	
	Relative Scheffe*	Weight Group'g	Relative Scheffe	Weight Group'g	Relative Scheffe	Weight Group'g
Reliability	.240	A	.247	A	.217	AB
Relevance	.250	A	.185	B	.280	A
Materiality	.254	A	.267	A	.231	A
Comparability	.142	B	.158	B	.148	BC
Cost	.114	B	.143	B	.124	C

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**Reliability Ingredients**

	Preparer (DF=114)		Auditor (DF=276)		User (DF=114)	
	Relative Scheffe*	Weight Group'g	Relative Scheffe	Weight Group'g	Relative Scheffe	Weight Group'g
Representational						
Faithfulness	.089	A	.084	A	.084	A
Verifiability	.093	A	.081	A	.074	A
Neutrality	.058	B	.082	A	.059	A

---

**Relevance Ingredients**

	Preparer (DF=114)		Auditor (DF=276)		User (DF=114)	
	Relative Scheffe*	Weight Group'g	Relative Scheffe	Weight Group'g	Relative Scheffe	Weight Group'g
Timeliness	.100	A	.076	A	.113	A
Predictive Value	.077	AB	.054	B	.092	AB
Feedback Value	.073	B	.055	B	.075	B

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\* Relative weights with the same letters are not significantly different at alpha = .05 with DF indicated in parentheses.

For each group, the weight assigned to materiality was not significantly different than the weight assigned to either relevance or reliability. These weights are consistent with the FASB [1980] perspective that materiality is a pervasive attribute to be considered as it relates to relevance and reliability. Furthermore, cost did not appear to be an important constraint to disclosing useful information for the participants in this study; it was given the least weight by each group. Also, the relative importance assigned to comparability by all the professional groups is consistent with its designation in the FASB hierarchy as a secondary quality.

When the ingredients of reliability were compared, the auditors and users assigned neutrality as much importance as representational faithfulness and verifiability. In contrast, the preparers assigned neutrality a significantly lower weight than the other reliability ingredients. When the ingredients of relevance were evaluated, auditors assigned timeliness more weight than either predictive value or feedback value. For the preparer and user groups, timeliness was assigned more weight than feedback value but not more than predictive value.

### CONCLUSION

The results support the expectation that the relative importance of the SFAC 2 qualities differs between groups of decision makers. The preparers, auditors and users in the sample disagreed about the relative importance of relevance, predictive value, timeliness and

neutrality. The results also revealed differences within each group's profile at each level of the hierarchy. Both the differences between the groups and the differences within the group profiles reflect the kinds of decisions associated with the professional activity of the groups. Auditors gave reliability more weight than relevance, and they assigned neutrality more importance than either the preparers or users in the sample. In contrast, the user group gave relevance, timeliness and predictive value more weight than the auditors.

These group differences present an important issue to the FASB and other accounting policy makers, especially with the deficiency of user participation in the standard setting process [Tandy and Wilburn, 1992]. The AAA Committee on Accounting and Auditing Measurement [1991, p.89] declares, "The primary criterion must be that the information provided by the reporting system should be relevant to the needs of the user." The group differences and the lack of input by users create difficulties for the FASB in evaluating the decision usefulness of its proposed standards [Brown, 1989]. Furthermore, the results show that cost does not appear to be an important constraint to disclosing useful information; it is given the least weight by each group in the sample.

The limitations of this study include those that are inherent in all survey studies. One of these limitations is questionnaire reliability. Pilot testing and interviewing of those who tested the instrument were performed to minimize problems with the wording of the questionnaire and with the context and order of the pairwise comparisons. Another limitation involves the potential for response

bias which was tested by comparison of early and late respondents. Although the sample includes individuals who identified themselves as having the majority of their experience as preparers, auditors and users of financial reports, there is a limitation in extending the results to other than those in the sample. Furthermore, most respondents did have experience in more than one of the three professional activities; thus, it is possible that this mixed experience limits the ability to identify/discern between groups differences.

Future research on the perceived importance of the SFAC 2 qualities could take several directions. While the analysis in this study revealed several significant differences between the auditor, preparer and user groups, it is possible that the differences were underestimated or other differences were undetected because all the respondents were CPAs. An extension of this research would be to include in the sample those who did not share this common training and who were more geographically dispersed. Another extension would be to question preparers, auditors and users in a controlled environment in which several iterations of AHP could be attempted. This would provide the participants with the opportunity to review the consistency of their responses and revise them accordingly.

## ENDNOTES

- <sup>1</sup> In this study, the repeated factors were the relative weights assigned to the qualities within each branch of the hierarchy. Therefore,  $p=5$  for the informational characteristics, and  $p=3$  for the relevance ingredients and the reliability ingredients. The adjusted significance levels ( $\alpha/p$ ) were .01/5 (.002) and .05/5 (.01) for the informational characteristics and .01/3 (.0033) and .05/3 (.0167) for the reliability and relevance ingredients. The probability reported in the ANOVA was .0001 [ $F(2,168)=14.96$ ] for relevance, .0001 [ $F(2,168)=9.55$ ] for predictive value, .0016 [ $F(2,168)=6.70$ ] for timeliness and .0045 [ $F(2,168)=5.59$ ] for neutrality.
- <sup>2</sup> In this study, the groups were preparers, auditors and users of financial reports; therefore,  $g=3$ . The adjusted significance levels ( $\alpha/g$ ) were .01/3 (.0033) and .05/3 (.0167). The probability reported in the ANOVAs on the informational characteristics was .0001 [ $F(4,190)=18.48$ ] for preparers, .0001 [ $F(4,460)=25.69$ ] for auditors, and .0001 [ $F(4,190)=15.73$ ] for users. The probability reported in the ANOVAs on the relevance ingredients was .0017 [ $F(2,276)=6.51$ ] for auditors, and .0030 [ $F(2,114)=6.13$ ] for users. The probability reported in the ANOVA on the reliability ingredients was .0038 [ $F(2,114)=5.86$ ] for preparers.

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## APPENDIX A

### Computational Example of AHP

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A participant's pairwise comparisons for the reliability ingredients were translated into the AHP numeric scale (see Figure 1) and placed into the corresponding cells of the comparison matrix below. An approximate solution can be obtained by normalizing the comparison matrix and standardizing the row sums. The procedure begins by computing the sum of each column in the comparison matrix.

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	<u>Representational Faithfulness</u>	<u>Verifiability</u>	<u>Neutrality</u>
Representational Faithfulness	1	1/2	2
Verifiability	2	1	3
Neutrality	1/2	1/3	1
Column Sum	7/2	11/6	6

---

Next, the normalized matrix is calculated by dividing each element by its column sum. Then, the sum of each row is used to calculate the average value for that row.

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	<u>Representational Faithfulness</u>	<u>Verifiability</u>	<u>Neutrality</u>	<u>Row Sum</u>	<u>Row Sum/3</u>
Representational Faithfulness	2/7	6/22	1/3	0.892	0.297
Verifiability	4/7	6/11	1/2	1.617	0.539
Neutrality	1/7	6/33	1/6	0.491	0.164

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**APPENDIX A**  
**(Continued)**

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Although these values differ slightly from those obtained from the eigenvector method, they provide workable estimates. To derive the importance of the reliability ingredients relative to overall decision usefulness, these estimated values must be weighted by the relative importance attached to reliability. The participant in this example assigned a weight of .242 to reliability. Consequently, the overall weights for representational faithfulness, verifiability, and neutrality were .072, .130, and .040, respectively.

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	Approximate <u>Solution</u>	Eigenvector <u>Solution</u>	Overall Relative <u>Weight</u>
Representational Faithfulness	0.297	0.297	0.072
Verifiability	0.539	0.540	0.130
Neutrality	0.164	0.163	0.040

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**APPENDIX B**  
**SFAC 2 QUESTIONNAIRE**

Please respond by placing an 'X' on the appropriate location to indicate your perception of the relative importance of the qualities in each of the following:

EXAMPLE: Concept A	X' indicates A is very strongly <u>preferred to B</u>		'X' indicates A is equally <u>preferred to B</u>		'X' indicates B is strongly <u>preferred to A</u>		Concept B
	o	o	o	o	o	o	
	Ex- treme	Very Strong	Strong	erate	Mod- erate	Equal* treme	
Reliability	o	o	o	o	o	o	Relevance
Reliability	o	o	o	o	o	o	Cost
Reliability	o	o	o	o	o	o	Materiality
Reliability	o	o	o	o	o	o	Comparability
Relevance	o	o	o	o	o	o	Cost
Relevance	o	o	o	o	o	o	Materiality
Relevance	o	o	o	o	o	o	Comparability
Cost	o	o	o	o	o	o	Materiality
Cost	o	o	o	o	o	o	Comparability
Materiality	o	o	o	o	o	o	Comparability
Representational Faithfulness	o	o	o	o	o	o	Verifiability
Representational Faithfulness	o	o	o	o	o	o	Neutrality
Verifiability	o	o	o	o	o	o	Neutrality
Predictive Value	o	o	o	o	o	o	Feedback Value
Predictive Value	o	o	o	o	o	o	Timeliness
Feedback Value	o	o	o	o	o	o	Timeliness

\* Moderate, strong, and very strong appearing in the actual document have been omitted.

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**APPENDIX B (Continued)**

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**COMPARABILITY** is the quality of information that enables users to identify similarities in and differences between two sets of economic phenomena. It means that information about an enterprise can be related to similar information about other enterprises and with similar information about the same enterprise for some other time period.

**COST** is of several kinds including the cost of collecting and processing the information, the cost of audit, the cost of dissemination, the cost associated with the danger of litigation, the cost related to the potential loss of competitive advantage and the cost of analysis and interpretation.

**MATERIALITY** concerns the magnitude of an item of accounting information. Materiality involves whether the item of information is large enough, considering its nature and attendant circumstances, so that the judgment of a reasonable person would have been changed by its omission or misstatement.

**RELEVANCE** is the capacity of information to make a difference in a decision by helping users to form predictions about the outcomes of past, present, and future events or to confirm or correct prior expectations.

**RELIABILITY** is the quality of information that assures that information is reasonably free from error and bias and faithfully represents what it purports to represent.

**FEEDBACK VALUE** is the quality of information that enables users to confirm or correct prior expectations.

**NEUTRALITY** means that information should be free from bias intended to attain a predetermined result or to induce a particular mode of behavior. It means that the primary concern should be the relevance and reliability of the information not the effect it may have on a particular interest.

**PREDICTIVE VALUE** is the quality of information that helps users to increase the likelihood of correctly forecasting the outcome of past or present events.

**REPRESENTATIONAL FAITHFULNESS** is correspondence or agreement between a measure or description and the phenomenon that it purports to represent (sometimes called validity).

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## APPENDIX B (Continued)

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TIMELINESS means having information available to decision makers before it loses its capacity to influence decisions. Timeliness alone cannot make information relevant, but a lack of timeliness can rob information of relevance it might otherwise have.

VERIFIABILITY implies consensus. Verifiable financial accounting information provides results that would be substantially duplicated by independent measures using the same measurement methods. It is measured by the dispersion of a number of independent measurements of some particular phenomenon.

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