

A Theoretical Framework to Examine the Judgment Process of Accountants

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ABSTRACT

The cognitive concept of subjective user-orientated relevance is consistent with the description of accounting as a socio-technical information and communication system that is influenced by the mental processes and cognitive abilities of accountants. The purpose of this paper is the development of a theoretical framework to examine accountants' judgment process as it relates to biological assets and to empirically test the attributes and constitution of useful information in the preparation of financial statements. A questionnaire is considered the most appropriate approach in this instance to collect data for this study as it is a more efficient means of obtaining responses from a large group of accountants located throughout Malaysia. The respondents generally believe that biological assets should be measured at current market value as it would provide relevant and useful information for investment decisions. However, there is a concern about the reliability of the information given the subjectivity involved in the measurement process. The survey elicits attitudes and opinions of the respondents encapsulated in the survey vignette and are therefore perceptions of respondents to a quasi-real situation. This study provides evidence supporting the conundrum facing the accounting profession concerning relevant information for decision purposes and the conflicting reliability of the information

Keywords: Biological assets, relevance, reliability

INTRODUCTION

The IASB Framework (IASB, 1989) adopts a decision-usefulness perspective in prescribing that the objective of preparing financial statements is to provide information that is useful for the decision making needs of users. This objective can be linked to the definition of accounting as an information and communication system postulated by Chambers (1966) and Sterling (1967). The decision-usefulness perspective is derived from the reasoning that, for information to be successfully communicated, it should meet the decision making needs of users. Therefore, the accountants' decision about the appropriate accounting treatment for a business transaction or event is guided by the need to provide useful information for users to make economic decisions (IASB Framework, 1989, para.12). Although the IASB Framework itself would not be normally used as mandatory regulation, the principles prescribed in the framework are applied in the international financial reporting standards. In this paper the development of a theoretical framework to determine the judgment process of accountants and the constitution of useful information is evaluated.

Relevance and reliability are part of the four principal qualities prescribed in the IASB Framework (IASB, 1989) that are used as criteria in determining the characteristics of information that would be useful for users to make their economic decisions. These qualitative characteristics are criteria that should be used when making judgments and decisions about the appropriate accounting treatment of business transactions and events so that the information transmitted by the accountants would be useful to users in meeting their information need. However, these attributes have been criticised for lack of clarity and consistency in providing guidance to accounting practice (Loftus, 2003; Walker & Jones, 2003). In order to study the accountants' judgment process in evaluating the trade-off between competing qualities of decision-useful information, an appropriate theoretical framework that would comprehensively explicate the attributes of useful information needs to be developed. As such this project contributes to the decision usefulness and judgement literature and will be of interest to financial accounting practitioners and researchers, and accounting standard setting bodies.

This paper is structured as follows. A consideration of the literature relating to communication and judgement is followed by an explanation of the theoretical framework. The research method that has been adopted for this study is described. A discussion of the results and the possible implications are provided in Part 4. This study is concluded by a summary of the preceding analysis, study limitations and suggestions for further research.

LITERATURE REVIEW

The domain of accounting is conceptualised as an information processing and communication system by Chambers (1966) and Sterling (1967). Therefore, ideas and concepts from the field of information science and information retrieval would provide a useful approach to develop an appropriate theoretical framework to examine the accountants' judgment regarding the attributes of useful information provided in financial reports. According to Saracevic (1975, p.323), information science is 'a field and a subject that is concerned with problems arising in communication of knowledge in general', while Schamber *et al.* (1990) describe information retrieval as 'a communication process in which a message is transferred from a source (the system) to a destination (the user)' (p.756). These conceptions of information communication systems are analogous to Chambers' (1966) and Sterling's (1967) description of accounting.

According to Schamber *et al.* (1990) the effectiveness of the information retrieval process is evaluated by employing a relevance judgment. Therefore relevance is a central concept in human communication. Although there are many definitions and conceptions of relevance in information retrieval and information science, the subjective and cognitive user-orientated definition (Borlund, 2003) is considered most applicable to the domain of accounting. According to Borlund, subjective relevance is a user-orientated definition that considers the usefulness of retrieved information on the basis of the subjective mental processes of the assessor or user.

The cognitive conception of subjective user-orientated relevance is congruent with Chambers' (1966) theory that the mental processes of the accountants influence their interpretation, perception, judgment and decision with regards to the information included in the financial report. The subjective user-orientated relevance is, therefore, a useful approach to examine how accountants exercise their judgments concerning the type of information that should be included in financial reports that would meet the needs of users. In further identifying and operationalising a set of attributes for useful information that can be applied in the domain of accounting, reference is made to the fundamental theory of human communication postulated by Grice (1989).

In attempting to develop a theoretical framework to examine the accountants' judgment process and operationalise the attributes of useful information in the preparation of financial statements, references were made to the IASB Framework (IASB, 1989) as well as the theories of information retrieval, information science and human communication. It is argued that the theories from information retrieval, information science and human communication are applicable to the domain of accounting because of the existence of several convergent ideas and concepts.

The cognitive concept of subjective user-orientated relevance is found to be consistent with the description of accounting as a socio-technical information and communication system that is influenced by the mental processes and cognitive abilities of the accountants. The concept of subjective user-orientated relevance was found to incorporate many of the prescriptive requirements for useful information found in the IASB Framework (IASB, 1989). As a result, subjective relevance can be invoked to explain the manner in which accountants make their judgments regarding the trade-off between the qualities of useful information.

In developing a set of qualities or attributes to evaluate the usefulness of information, Grice's (1989) theory of Cooperative Principle for effective human communication is considered a suitably broad and fundamental approach to adopt. Grice's general principle was adapted to the qualities of useful information prescribed by the IASB Framework (IASB, 1989) to produce a set of attributes that can be specifically applied in evaluating the usefulness of information contained within the financial statements.

Figure 1 Framework of the relevance vs. reliability trade-off judgment

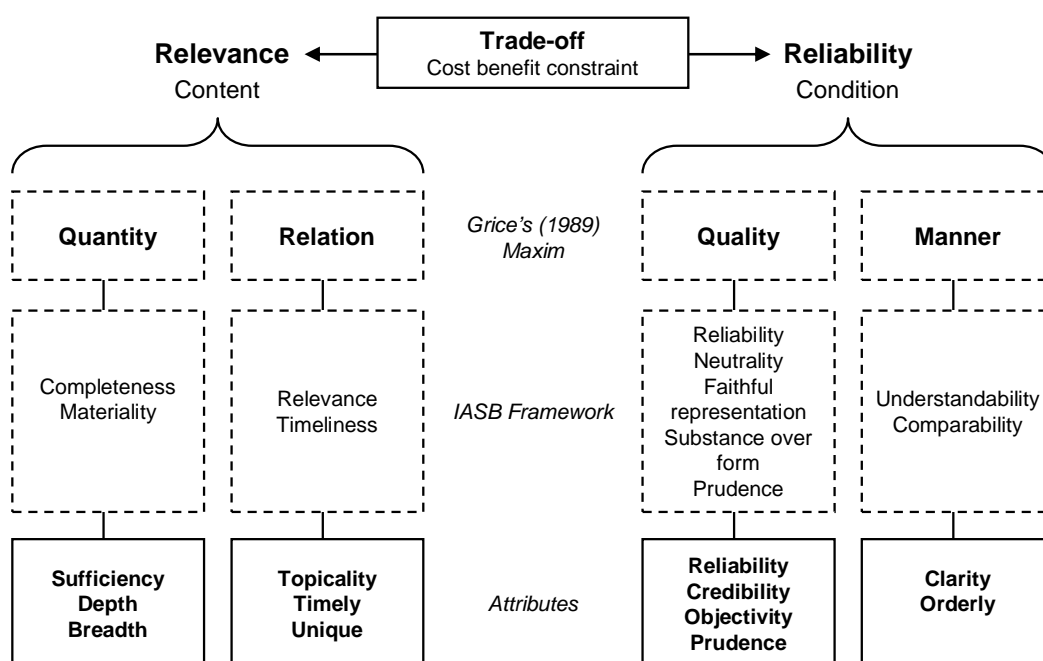


Figure 1 presents the adapted sets of attributes that can be applied to evaluate the usefulness of information reported in financial statements. The first set of attributes comprising sufficiency, depth and breadth of information, were associated with Grice's (1989) maxim of quantity. These attributes measure the adequacy and scope of information and incorporate the qualities of completeness and materiality prescribed in the IASB Framework (IASB, 1989). The attributes of topicality, timeliness and uniqueness, which were derived from Grice's maxim of relation, assess the relatedness of the information to the needs of the users. These attributes incorporate the qualities of relevance and timeliness from the IASB Framework. Both these sets of attributes evaluate the sufficiency and relatedness of the content of the information and have been labelled as 'relevance'.

The other two sets of attributes describe the condition of information rather than its content. They comprise the characteristics of reliability, credibility, objectivity, prudence, clarity and orderliness which satisfy Grice's (1989) maxims of quality and manner. These attributes are consistent with the qualities of reliability, neutrality, faithful representation, substance over form, prudence, understandability and comparability that are prescribed in the IASB Framework (IASB, 1989). Consequently, these attributes are labelled as 'reliability'.

The two main groups of attributes labelled as relevance and reliability would therefore provide a basis to examine the accountants' judgment of the usefulness of information provided in financial reports. Relevance focuses on whether the content of the information fits into the needs of the users while reliability refers to whether the condition of the information will be able to enhance its utility. Although both criteria of relevance and reliability are desirable in evaluating the usefulness of information, the satisfaction of both criteria simultaneously may not always be possible.

Therefore, in attempting to satisfy both criteria, there is often a need to trade-off one for the other. The relevance and reliability trade-off is illustrated by considering the appropriate measurement basis for an item of asset. A current valuation of an asset may be considered

more relevant to the decision of the user, but current prices may not be reliably determined. Consequently, the accountant exercises professional judgment in determining how much reliability to forego, by estimating the current market price, for example, to provide what is assumed to be more relevant information.

The relevance versus reliability trade-off is often influenced by cost benefit considerations. Therefore, the accountants' judgment regarding the trade-off between relevance and reliability would be constrained by considerations of the cost to be incurred in providing the information versus the benefits that can be derived.

RESEARCH METHOD

In order to achieve the aim of this study, information regarding the attitudes, beliefs and opinions of professional accountants in Malaysia about their motivational goals and accounting judgments would have to be obtained. Consequently, a survey research approach is adopted. Therefore, the mail questionnaire survey is considered an appropriate approach to collecting data for this study as it would be a more efficient means of obtaining responses from accountants located throughout Malaysia.

Data from Sections B and C in the survey questionnaire were used to test the hypotheses. The respondents' judgment process in financial reporting was examined within the context of their trade-off assessment of the relevance and reliability of the accounting treatment for biological assets prescribed in IAS 41. This accounting treatment was presented in the form of a vignette in the survey questionnaire. The respondents' were asked to provide their opinions of the requirement to measure biological assets at current market value in Section B. In Section C, the respondents' provided their opinions regarding the recognition of changes in the market value of these biological assets in the income statement. The respondents' ratings on a six-point scale for the 21 questions in Sections B and C represent their relevance versus reliability trade-off judgment. The frequency distributions of the respondents' opinions in Sections B and C were analysed to obtain an understanding of their relevance versus reliability trade-off judgments.

The aim of Sections B and C in the questionnaire is to elicit data from the respondents that can provide some answers to the research question of whether there is an association between the motivational values of accountants and their judgment in external financial reporting. In order to observe the accountants' judgment process regarding the trade-off between the qualities of relevance versus reliability of information provided in financial reports, a scenario or vignette was used.

According to Wason *et al.* (2002) scenarios or vignettes, which contain 'short descriptions of a person or a social situation' (Alexander & Becker 1978 p. 94), allow for the examination of respondents' decision-making in a situational context that approximates real life. Wason *et al.* argue that scenarios focus respondents to a common stimulus which enhances measurement reliability and internal as well as construct validity. They described an approach to scenario-based studies called the constant variable value vignette where all respondents are presented with identical scenarios. The constant variable value vignette, however, has some important limitations that, if not properly addressed, may impede its usefulness. The scenario should provide sufficient information to enable respondents to evaluate the alternatives appropriately. This will ensure that all respondents have a common point of reference, and will not bring their own perception of the available alternatives.

In the selection of an appropriate scenario to observe the respondents' judgment process, consideration was given to identifying a circumstance that would be able to generate diversity of opinions. The application of the IASB (2001) International Accounting Standard on Agriculture (IAS 41) was eventually selected for this study based on several important reasons. The standard was one of the earliest to prescribe the recognition of assets using the fair value measurement approach which was a controversial departure from historical cost (Elad 2004). This standard also addresses the issue of accounting for 'living assets' that possess the unique characteristic of natural biological growth that traditional transaction-based historical cost accounting is unable to cope with (Herbohn *et al.* 1998). The Malaysian Accounting Standards Board (MASB) has not adopted IAS 41 although the IASB standard was effective from 1 January 2003. This, therefore, provides an opportunity to evaluate the respondents' acceptance of the requirements of IAS 41.

IAS 41 (IASB, 2001) prescribes the recognition and separate disclosure of biological assets in the financial statements (para. 10). A biological asset is a 'living animal or plant' (para. 5) that is related to agricultural activity (para. 1). Agricultural activity involves the 'management by an enterprise of the biological assets for sale, into agricultural produce, or into additional biological assets' (para. 5). IAS 41 prescribes that biological assets should be measured at initial recognition and at each balance sheet date at its fair value less point of sale costs (para. 12). Gain or loss arising from the change in fair value of biological assets should be recognised in the net profit or loss for the period (para. 26). The major concerns about IAS 41 are regarding the need to determine the fair value of biological assets and the recognition of fair value changes in the net profit or loss for the period (Herbohn & Herbohn, 1999, Herbohn *et al.*, 1998). These issues were, therefore, incorporated in the vignette included in the questionnaire as shown in Table 1.

Table 1 Vignette for judgment in financial reporting

'X' is an experienced accountant at *ABC Berhad*, a public listed company involved in the cultivation of oil palm for the production of crude palm oil and palm kernel. The company has substantial plantation area located throughout Malaysia. *ABC Berhad* is a profitable company and has been reporting healthy growth in profits over the past five years.

Currently, the plantations are reported in the financial statements as plantation land under property, plant and equipment, and are measured at cost. The costs incurred in land clearing for new planting activities until the point of harvest are capitalised as plantation development expenditure and classified as part of property, plant and equipment. These plantation expenditures are not amortised. Costs incurred in replanting old planted areas are charged to the income statement in the period it is incurred.

'X' is of the opinion that historical cost is not an appropriate valuation method for the oil palm plantation. Historical cost does not reflect the natural growth of the oil palm trees. As a result, it is unable to provide useful information about the value of the oil palm plantations. 'X' suggests that the oil palm plantations should reflect the current market value of the oil palm trees. In addition, 'X' feels that since the growth of the oil palm trees reveals management's ability to manage the plantation, any increase or decrease in the current market value of these oil palm trees should be included in the net profit or loss in the period the increase or decrease occurs.

The examination of respondents’ judgment regarding the accounting treatment of the biological assets in the vignette was conducted by asking respondents the extent to which they agree or disagree with the recognition of the assets as prescribed by IAS 41 (IASB, 2001). Section B required respondents to give their opinion regarding the appropriateness of measuring biological assets at fair value and Section C required respondents’ opinion of whether changes in fair value of these assets should be reported in the income statement.

Respondents were asked to make their judgments based on a set of criteria that measures the quality of the information provided by the prescribed accounting treatment of the biological assets. These criteria involved a trade-off between the relevance and reliability of the information. Based on the literature reviewed a set of attributes to measure relevance and reliability were developed. These attributes comprise 20 statements that make up two sets of multi-item scales that measure relevance and reliability as shown in Table 2 and Table 3.

Table 2 Criteria for relevance

Attributes of relevance	Questionnaire reference	Statements
Topicality, timely & unique	B21, C1	The information has the capacity to influence investors’ decision.
	B4, C19	The information is related to investment decisions.
	B18, C4	The information provides something new and timely about the company.
	B3, C18	The information provides something unique and different about the company.
	B16, C6	The information adds to investors’ knowledge about the company.
	B6, C16	The information improves investors’ ability to make an appropriate decision.
Sufficiency, depth & breadth	B1, C21	The information is useful for investment decisions.
	B5, C17	The information is necessary to show a complete picture of the company.
	B17, C5	The information is necessary to show an in depth picture of the company.

Table 3 Criteria for reliability

Attributes of reliability	Questionnaire reference	Statements
Reliability, credibility, objectivity	B15, C7	The information is credible.
	B9, C13	The information accurately represents the facts.
	B13, C9	The information meets the need for a cautious

& prudence		approach.
	B11, C11	The information is of quality.
	B12, C10	The information reflects economic reality.
Clarity & orderly	B7, C15	The information does not sway the decision to a predetermined outcome.
	B10, C12	The information is easy to understand.
	B14, C8	The information is not confusing.
	B8, C14	The information is effective.
	B20, C2	The information is not ambiguous.
	B19, C3	The information will help in evaluating trends and relative performance.

In addition to these attributes, it was concluded that, in providing relevant and reliable information, accountants are normally constrained by cost versus benefit considerations. Consequently, an additional statement was added to both Section B (B2) and C (C20) that requires respondents to consider whether the benefits derived from the information justify the cost to obtain it. Respondents were required to rate the extent to which they agree or disagree with these statements based on a six-point rating scale. Open-ended questions were also provided in both Section B and C to elicit any other opinions that respondents may have concerning the appropriateness of the accounting treatment prescribed by IAS 41 (IASB, 2001).

Data obtained from Section B and C would provide empirical evidence to support or reject the two hypotheses related to the accountants' judgment in financial reporting. The hypotheses are that the accountants' motivational values are associated with their judgment process and that accountants from different cultural groups would make different judgments relating to the accounting treatment of biological assets.

The response rate achieved in this study was 8.8%. Despite the relatively low response rate, it is argued that non-response bias is not likely to exist in the data. Non-response bias was tested using a similar approach taken by Bebbington *et al.* (1994) whereby the responses from the first mailings of the survey questionnaire and those from the subsequent reminders were compared to determine any significant differences. This approach is based on the argument by Rogelberg and Luong (1998) that the late respondents would have been non-respondents if the survey deadline was observed.

The results of a Mann-Whitney U Test concluded that there are no major differences in the earlier responses compared with the later responses. In order to corroborate this conclusion, the respondents' demographic profile was compared with the characteristics of the population (Bebbington *et al.*, 1994). There is consistency in the respondents' age, gender, ethnicity and religion profiles with those of the overall population. As a result of the negligible non-response bias and the representativeness of respondents' demographic profile, it is argued that the results obtained from the analysis of the data would be generalisable to the population of interest.

Component of decision-usefulness judgment

In order to examine the respondents' relevance versus reliability trade-off judgment, the frequency distributions of the respondents' ratings for Sections B and C, presented in Table 4 and 5, respectively, were analysed. Two distinct patterns can be observed from the respondents' ratings that illustrates their judgment process. The first pattern explains how the respondents' make their trade-off judgment between the criteria of relevance versus reliability while the second relates to their differences of opinions regarding the valuation of biological assets at current market value as compared to recognising changes in the market values in the income statement.

The pattern of the ratings shown in Table 4 and 5 generally indicate that respondents are more likely to agree that the accounting treatment for biological assets provides relevant and useful information. However, they are more likely to disagree that the information is reliable. This pattern of responses is reflected by the relatively higher frequency of ratings occurring under the categories of 'disagree' and 'disagree somewhat' for statements in the survey that supports the reliability of the accounting treatment for biological assets. This is in contrast with the fewer responses found under the category of 'disagree' for the statements that support the relevance of the prescribed accounting treatment. In fact, there are more responses that strongly agree that the accounting treatment is relevant. This pattern of responses suggests that, although many respondents agree that current market valuation of biological assets would provide useful information, they are concerned with the reliability of the information.

Table 4 Overall descriptive statistics of relevance and reliability judgment for Section B

	Strongly disagree	Disagree	Disagree some-what	Agree some-what	Agree	Strongly agree	Missing	Median	Mode
	1	2	3	4	5	6			
Relevance:	%	%	%	%	%	%	%		
B1 The information is useful for investment decisions.	0.82	4.51	2.05	15.98	55.33	20.90	0.41	5	5
B3 The information provides something unique and different about the company.	1.23	6.97	9.84	27.87	46.72	6.15	1.23	5	5
B4 The information is related to investment decisions.	0.41	2.46	4.51	19.67	57.79	14.34	0.82	5	5
B5 The information is necessary to show a complete picture of the company.	0.82	7.79	8.61	22.13	46.72	13.52	0.41	5	5
B6 The information improves investors' ability to make an appropriate decision.	0.41	4.92	2.87	16.39	57.79	17.21	0.41	5	5
B16 The information adds to investors' knowledge about the company.	0.82	4.10	1.64	22.13	57.79	13.11	0.41	5	5
B17 The information is necessary to show an in-depth picture of the company.	0.41	6.97	8.61	26.23	45.08	11.89	0.82	5	5
B18 The information provides something new and timely about the company.	0.82	6.15	5.33	28.69	47.95	10.25	0.82	5	5
B21 The information has the capacity to influence investors' decision.	0.82	4.51	5.33	23.36	54.10	11.07	0.82	5	5
Reliability:									
B7 The information does not sway the decision to a predetermined outcome.	1.64	16.80	19.67	29.10	28.28	2.87	1.64	4	4
B8 The information is effective.	0.41	7.38	9.02	35.66	40.57	6.15	0.82	4	5
B9 The information accurately represents the facts.	2.05	9.43	14.34	34.02	32.38	6.97	0.82	4	4
B10 The information is easy to understand.	1.64	9.84	19.26	29.10	33.20	6.15	0.82	4	5
B11 The information is of quality.	1.23	10.25	11.48	34.84	34.02	6.97	1.23	4	4
B12 The information reflects economic reality.	0.82	5.33	5.74	27.05	50.82	9.43	0.82	5	5
B13 The information meets the need for a cautious approach.	1.23	8.20	15.57	33.20	34.84	5.33	1.64	4	5
B14 The information is not confusing.	1.64	9.43	16.39	34.02	33.61	3.69	1.23	4	4
B15 The information is credible.	1.64	10.25	18.03	35.25	29.51	4.51	0.82	4	4
B19 The information will help in evaluating trends and relative performance.	0.82	6.56	9.02	23.36	50.00	9.84	0.41	5	5
B20 The information is not ambiguous.	2.05	10.66	20.08	34.43	27.46	4.51	0.82	4	4
Cost vs. benefit:									
B2 The benefits derived from this information do not justify the cost to obtain it.	3.28	18.85	22.95	26.64	23.36	4.10	0.82	4	4

Table 5 Overall descriptive statistics of relevance and reliability judgment for Section C

	Strongly disagree	Disagree	Disagree some-what	Agree some-what	Agree	Strongly agree	Missing	Median	Mode
	1	2	3	4	5	6			
Relevance:	%	%	%	%	%	%	%		
C21 The information is useful for investment decisions.	1.23	5.33	5.33	24.18	55.74	7.79	0.41	5	5
C18 The information provides something unique and different about the company.	0.41	7.79	12.30	29.92	44.26	4.92	0.41	4	5
C19 The information is related to investment decisions.	0.82	3.69	4.10	27.46	56.15	7.79	0.00	5	5
C17 The information is necessary to show a complete picture of the company.	0.82	9.02	14.75	27.87	42.21	5.33	0.00	4	5
C16 The information improves investors' ability to make an appropriate decision.	0.82	6.97	10.66	26.23	47.95	6.56	0.82	5	5
C6 The information adds to investors' knowledge about the company.	0.82	4.51	7.38	27.87	49.18	9.84	0.41	5	5
C5 The information is necessary to show an in-depth picture of the company.	0.82	9.84	12.70	27.46	42.62	6.15	0.41	4	5
C4 The information provides something new and timely about the company.	0.41	8.20	4.51	29.10	50.82	6.15	0.82	5	5
C1 The information has the capacity to influence investors' decision.	0.82	4.92	5.74	18.44	58.20	11.48	0.41	5	5
Reliability:									
C15 The information does not sway the decision to a predetermined outcome.	2.05	15.98	20.49	31.56	27.87	1.64	0.41	4	4
C14 The information is effective.	0.82	11.07	20.08	31.56	33.20	2.87	0.41	4	5
C13 The information accurately represents the facts.	1.23	13.93	18.03	28.69	30.74	6.56	0.82	4	5
C12 The information is easy to understand.	2.05	14.34	18.85	29.10	30.33	4.92	0.41	4	5
C11 The information is of quality.	0.82	12.30	14.34	31.15	35.25	4.92	1.23	4	5
C10 The information reflects economic reality.	0.82	7.38	7.38	34.43	41.80	7.79	0.41	4	5
C9 The information meets the need for a cautious approach.	0.82	12.70	13.93	29.92	36.89	5.33	0.41	4	5
C8 The information is not confusing.	2.87	12.30	24.18	31.97	23.36	4.51	0.82	4	4
C7 The information is credible.	2.05	10.66	21.72	33.20	27.46	4.10	0.82	4	4
C3 The information will help in evaluating trends and relative performance.	1.23	9.43	13.11	24.18	44.26	6.97	0.82	5	5
C2 The information is not ambiguous.	3.69	15.16	25.00	27.87	23.36	4.10	0.82	4	4
Cost vs. benefit:									
C20 The benefits derived from this information do not justify the cost to obtain it.	1.23	15.98	20.49	31.56	27.87	1.64	0.41	4	4

The second pattern in the frequency distribution of the respondents' ratings relates to the separate issues regarding the accounting treatment of biological assets addressed in Sections B and C. Section B deals with the issue of the usefulness of measuring biological assets at current market value while Section C covers the issue of the appropriateness of recognising changes in market values as profit or loss in the income statement.

The frequency distributions presented in Table 4 and 5 clearly show that respondents are more likely to disagree that recognising changes in market value in the income statement provides relevant information. There are more responses under the category of 'disagree somewhat' for relevance in Section C than in Section B. In addition, there are less responses falling under the category of 'strongly agree' in Section C. The non-parametric Wilcoxon signed rank test of differences between the matched pairs of responses for the criteria of relevance reported in Appendix 2 & 3 indicates that there are statistically significant differences between the responses in Sections B and C. The respondents' ratings for relevance are generally higher in Section B compared with Section C.

There is also a clear pattern of differences in the respondents' ratings of reliability in Sections B and C. The Wilcoxon signed rank test of differences between the matched pairs of responses for the criteria of reliability reported in Appendix 2 and 3 indicates that there are statistically significant differences between the responses in Sections B and C. The respondents' ratings for reliability are generally lower in Section C compared with Section B. As shown in the frequency distribution in Table 5, there are more ratings for reliability under the category of 'disagree' in Section C.

The respondents' ratings on statements B2 and C20, concerning the cost benefit considerations of providing the prescribed information, are also found to be different. The Wilcoxon signed rank test of differences between B2 and C20 indicates that there are statistically significant differences between the responses. The responses for C20 are generally found to be higher than B2. The respondents' are more likely to think that the benefit of recognising changes in market values in the income statement does not justify the cost incurred in providing the information.

Summary and Conclusion

In summary, the respondents generally believe that biological assets should be measured at current market value as it would provide relevant and useful information for investment decisions. However, there is a concern about the reliability of the information given the subjectivity involved in the measurement process. The reliability concern is more acute when dealing with the issue of income recognition. Due to the subjectivity and volatility in the market value measurement, reporting changes in market values in the income statement is viewed as unreliable and risky. Many respondents do not believe that such an income recognition policy would provide relevant information. Finally, the respondents also do not believe that benefits derived from recognising changes in market values in the income statement justifies the cost incurred in producing the information.

The accounting motivational values represent the manifestation in the accounting environment of the desirable goals that guide the way accountants conduct their lives. The pursuit of each value has social and psychological implications to the accountants that may be compatible or may conflict with the pursuit of other values. The array of the motivational values around the circular structure represents the dynamic relationships between these values.

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APPENDIX 1 WILCOXON SIGNED RANK TEST FOR CRITERIA OF RELEVANCE

Questions		N	Mean rank	Sum of ranks	Z-score	Asymp. sig. (2-tailed)
B1, C21	Positive Ranks	77	51.6	3972.0	-5.2587	**0.0000
	Negative Ranks	23	46.9	1078.0		
	Ties	142				
	Total	242				
B3, C18	Positive Ranks	65	56.7	3683.0	-1.2045	0.2284
	Negative Ranks	49	58.6	2872.0		
	Ties	126				
	Total	240				
B21, C1	Positive Ranks	31	41.3	1281.5	-0.6028	0.5466
	Negative Ranks	43	34.7	1493.5		
	Ties	167				
	Total	241				
B4, C19	Positive Ranks	63	45.4	2859.0	-3.2272	**0.0013
	Negative Ranks	28	47.4	1327.0		
	Ties	151				
	Total	242				
B16, C6	Positive Ranks	66	47.8	3152.5	-3.9180	**0.0001
	Negative Ranks	27	45.1	1218.5		
	Ties	149				
	Total	242				
B6, C16	Positive Ranks	98	57.0	5585.0	-6.8779	**0.0000
	Negative Ranks	16	60.6	970.0		
	Ties	127				
	Total	241				
B18, C4	Positive Ranks	53	47.3	2506.0	-1.5502	0.1211
	Negative Ranks	39	45.4	1772.0		
	Ties	148				
	Total	240				
B5, C17	Positive Ranks	87	60.0	5220.5	-4.6009	**0.0000
	Negative Ranks	32	60.0	1919.5		
	Ties	124				
	Total	243				
B17, C5	Positive Ranks	69	49.2	3397.5	-4.6732	**0.0000
	Negative Ranks	25	42.7	1067.5		
	Ties	147				
	Total	241				

** Sig. $p < 0.01$

APPENDIX 2 WILCOXON SIGNED RANK TEST FOR CRITERIA OF RELIABILITY

Questions		N	Mean rank	Sum of ranks	Z-score	Asymp. sig. (2-tailed)
B15, C7	Positive Ranks	55	42.6	2342.5	-1.7003	0.0891
	Negative Ranks	33	47.7	1573.5		
	Ties	153				
	Total	241				
B9, C13	Positive Ranks	59	55.6	3278	-2.3017	*0.0214
	Negative Ranks	43	45.9	1975		
	Ties	139				
	Total	241				
B13, C9	Positive Ranks	56	51.6	2888	-0.7350	0.4624
	Negative Ranks	47	52.5	2468		
	Ties	136				
	Total	239				
B11, C11	Positive Ranks	56	55.4	3101	-1.2869	0.1981
	Negative Ranks	48	49.1	2359		
	Ties	136				
	Total	240				
B12, C10	Positive Ranks	61	48.3	2946.5	-3.0775	**0.0021
	Negative Ranks	32	44.5	1424.5		
	Ties	148				
	Total	241				
B7, C15	Positive Ranks	54	58.0	3131.5	-0.4216	0.6733
	Negative Ranks	55	52.1	2863.5		
	Ties	131				
	Total	240				
B10, C12	Positive Ranks	65	56.2	3655.5	-2.5076	*0.0122
	Negative Ranks	42	50.5	2122.5		
	Ties	135				
	Total	242				
B14, C8	Positive Ranks	70	49.5	3465.5	-4.3937	**0.0000
	Negative Ranks	26	45.8	1190.5		
	Ties	144				
	Total	240				
B8, C14	Positive Ranks	82	56.6	4638.5	-5.7721	**0.0000
	Negative Ranks	25	45.6	1139.5		
	Ties	135				
	Total	242				
B20, C2	Positive Ranks	65	48.9	3181.5	-4.6124	**0.0000
	Negative Ranks	26	38.6	1004.5		
	Ties	150				
	Total	241				

** Sig. $p < 0.01$; * Sig. $p < 0.05$

APPENDIX 3 QUESTIONNAIRE

Please read the following scenario carefully and then answer the questions in Sections B & C.

'X' is an experienced accountant at *ABC Berhad*, a public listed company involved in the cultivation of oil palm for the production of crude palm oil and palm kernel. The company has substantial plantation area located throughout Malaysia. *ABC Berhad* is a profitable company and has been reporting healthy growth in profits over the past five years.

Currently, the plantations are reported in the financial statements as plantation land under property, plant and equipment, and are measured at cost. The costs incurred in land clearing for new planting activities until the point of harvest are capitalised as plantation development expenditure and classified as part of property, plant and equipment. These plantation expenditures are not amortised. Costs incurred in replanting old planted areas are charged to the income statement in the period it is incurred.

'X' is of the opinion that historical cost is not an appropriate valuation method for the oil palm plantation. Historical cost does not reflect the natural growth of the oil palm trees. As a result, it is unable to provide useful information about the value of the oil palm plantations. 'X' suggests that the oil palm plantations should reflect the current market value of the oil palm trees. In addition, 'X' feels that since the growth of the oil palm trees reveals management's ability to manage the plantation, any increase or decrease in the current market value of these oil palm trees should be included in the net profit or loss in the period the increase or decrease occurs.

Section B

Here are some statements that may be used to support the decision to value oil palm trees at current market value, based on the scenario described earlier on page 2. As preparers of financial statements, please rate how much you agree or disagree with each of these statements by ticking (✓) the appropriate box. *There are no right or wrong answers. Your initial impressions and feelings are important.*

What is your opinion about valuing oil palm trees at current market value in the scenario described earlier on page 2?	Strongly agree	Agree	Agree some-what	Disagree some-what	Disagree	Strongly disagree
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B1. The information is useful for investment decisions.

B2. The benefits derived from this information do not justify the cost to obtain it.

B3. The information provides something unique and different about the company.

B4. The information is related to investment decisions.

B5. The information is necessary to show a complete picture of the company.

- B6. The information improves investors' ability to make an appropriate decision.
- B7. The information does not sway the decision to a predetermined outcome.
- B8. The information is effective.
- B9. The information accurately represents the facts.
- B10. The information is easy to understand.
- B11. The information is of quality.
- B12. The information reflects economic reality.
- B13. The information meets the need for a cautious approach.
- B14. The information is not confusing.
- B15. The information is credible.
- B16. The information adds to investors' knowledge about the company.
- B17. The information is necessary to show an in-depth picture about the company.
- B18. The information provides something new and timely about the company.
- B19. The information will help in evaluating trends and relative performance.
- B20. The information is not ambiguous.
- B21. The information has the capacity to influence investors' decision.

Section C

Here are some statements that may be used to support the decision to report increases or decreases in the current market value of oil palm trees in the net profit or loss for the period, based on the scenario described earlier on page 2. As preparers of financial statements, please rate how much you agree or disagree with each of these statements by ticking (✓) the appropriate box. *There are no right or wrong answers. Your initial impressions and feelings are important.*

What is your opinion about reporting increases or decreases in the current market value of oil palm trees in the net profit or loss for the period in the scenario described earlier on page 2?	Strongly agree	Agree	Agree somewhat	Disagree somewhat	Disagree	Strongly disagree
C1. The information has the capacity to influence investors' decision.						
C2. The information is not ambiguous.						
C3. The information will help in evaluating trends and relative performance.						
C4. The information provides something new and timely about the company.						
C5. The information is necessary to show an in-depth picture about the company.						

- C6. The information adds to investors' knowledge about the company.
- C7. The information is credible.
- C8. The information is not confusing.
- C9. The information meets the need for a cautious approach.
- C10. The information reflects economic reality.

What is your opinion about reporting increases or decreases in the current market value of oil palm trees in the net profit or loss for the period in the scenario described earlier on page 2?

Strongly agree Agree Agree somewhat Disagree somewhat Disagree Strongly disagree

- C11. The information is of quality.
- C12. The information is easy to understand.
- C13. The information accurately represents the facts.
- C14. The information is effective.
- C15. The information does not sway the decision to a predetermined outcome.
- C16. The information improves investors' ability to make an appropriate decision.
- C17. The information is necessary to show a complete picture of the company.
- C18. The information provides something unique and different about the company.
- C19. The information is related to investment decisions.
- C20. The benefits derived from this information do not justify the cost to obtain it.
- C21. The information is useful for investment decisions.

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