

2009

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Recommended Citation

Bovee, Matthew W.; Roberts, Tom L.; and Srivastava, Rajendra P., "Decision Useful Financial Reporting Information Characteristics: An Empirical Validation of the Proposed FASB/IASB International Accounting Model" (2009). *AMCIS 2009 Proceedings*. 368.
<http://aisel.aisnet.org/amcis2009/368>

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Decision-Useful Financial Reporting Information Characteristics: An Empirical Validation of the Proposed FASB/IASB International Accounting Model

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ABSTRACT

As part of a future international accounting standard, the USA Financial Accounting Standards Board and UK International Accounting Standards Board recently updated their description of the financial reporting information characteristics that determine its decision usefulness for end users. Yet the relationships inherent in the description have not been empirically validated. If invalid, the description may globally misguide future professional information efforts for a multitude of business users and decisions. A causal model is created of decision-useful financial reporting information characteristics from the description, then evaluated using partial least squares and survey data from business information users as defined by the international standard. The model significantly predicted user perceptions of key information constructs (Decision Usefulness [76%], Relevance [62%], and Faithful Representativeness [57%]; R^2 values, $p < 0.01$). However, theoretically and practically important constructs (Verifiability, Completeness, Faithful Representativeness) did not significantly contribute to the model.

Keywords

Accounting information, information quality model, information usefulness, Financial Accounting Standards Board, International Accounting Standards Board, Conceptual Framework, empirical validation, partial least squares, structural equation modeling.

*“Although those characteristics are expected to be stable, they are not immutable.”
“Indeed, they ought to change if new knowledge shows present judgments to be outdated.”
(Financial Accounting Standards Board (FASB), 1993, pg. 11)*

INTRODUCTION & BACKGROUND

Decision making demands information, yet information quality problems are pervasive, costly and potentially destructive (e.g. English, 2007; Fisher, Kingma, 2001; GAO, 2006; Harvey, 2008; Meyers, 2000). With increased access through the Internet and other channels, and more users across multiple domains, the problem scope is expanding (Madden, 2006; OMB, 2001). The business costs of poor quality information due to lost productivity and failures are estimated in the trillions of US dollars (Bovee, Roberts, Srivastava, 2008; Eckerson, 2002; English, 1999; Grody, Harmantzis, Kaple, 2006; Wang, Strong, 1996).

Assurance of financial reporting information (FRI) is vital to business decision making. In this context ‘usefulness’ as determined by the user, is an overarching criterion for evaluating FRI (American Accounting Association, 1966). To assure

FRI is useful for decision making in the business context, professional accounting standards guide its production by describing key characteristics and their relationships. These stem mainly from an information-usefulness heuristic published as part of a Financial Accounting Standards Board (FASB) project to develop a United States framework of the underlying concepts of accounting (FASB, 1993). This heuristic had theoretically appealing features but was deductive and descriptive, derived by expert committee discussion (Gore, 1992). Nonetheless, this heuristic strongly influenced subsequent international accounting standards and their descriptions of useful financial information (Gore, 1992). It has also been taught to students and professionals for decades as a guide to the production of high quality FRI (e.g. Gelinas, Sutton, Fedorowicz, 2004; Horngren, Sundem, Elliott, 2001). Despite its prevalence and the time since the FASB publication, little has been attempted to validate the heuristic characteristics, their relationships, or the overall structure (e.g. Mock, 1971).

In 2004, using a similar committee-driven process, the FASB and the International Accounting Standards Board (IASB) began work on an international accounting standard that includes another deductive FRI description (IASB, 2008). Part of a future international standard, this new description also can be expected to influence the efforts of information assurance professionals throughout the world. If invalid, the description may adversely affect everything from the allocation of resources by assurance professionals preparing information products to the quality of the resulting FRI used by business decision makers. As with the original FASB heuristic this new international description will be taught to accounting, finance, and general business students, extending its impact across subsequent generations. As before, the FRI characteristics and relationships in this new description have also not been empirically validated.

During development of the description the FASB and IASB considered comments from interested parties, however these were primarily from professional preparers of financial information. Consequently, though aimed at the needs of the business information user, the description has also not been validated from the user's perspective.

The purpose of this study is to empirically validate the international description for 'useful' financial reporting information proposed by the FASB and IASB in their recent Exposure Draft (IASB, 2008). From the Exposure Draft description, the study creates a causal model of the decision-useful financial reporting information characteristics, then evaluates the model using partial least squares and survey data from financial information users as defined by the FASB and IASB. The following sections develop the model and hypotheses to be tested, describe the methodology, and discuss the study results, limitations, and conclusions.

MODEL DEVELOPMENT & STUDY HYPOTHESES

Ambiguity exists in how the characteristics from the FASB/IASB description are used elsewhere in accounting standards and guidelines, suggesting a need for clarification as well as validation. For example, while the proposed description differentiates "Completeness" from "Materially Error Free" and treats both as characteristics of "Faithfully Represented" financial information (Figure 1), in other instances these are not separate characteristics or attributes. A fairly-stated (e.g. materially error free) balance must satisfy conditions of *completeness* (all transactions that occurred are included), *existence* (i.e. the transactions are not fictitious or redundant), of *accuracy*, and more (e.g. Arens, Elder, Beasley, 2005). This highlights a broader need to ensure consistency in the meaning, use of, and relationships between terms in accounting.

However, the primary purpose of this study was solely to evaluate whether the proposed international description is empirically valid from the perspective of financial information users. Therefore, the study extracts the terms, definitions, and relationships for information characteristics from the recent FASB and IASB Exposure Draft (Figure 1) (IASB, 2008). For the purposes of creating a causal model, the Exposure Draft characteristics of information useful for business decision-making were treated as latent constructs, and relationships described between them were treated as causal paths. These are detailed next. The FASB/IASB description separates these characteristics into two categories – *fundamental* and *enhancing*.

Fundamental Characteristics

Relevance and *faithful representation* are now considered by FASB and IASB to be fundamental characteristics of decision-useful financial reporting information. The absence of either fundamental characteristic should result in information not useful to decision-making (IASB, 2008). This therefore specifies:

- Path₁: 'Relevance' will be positively related to 'Information Usefulness', and
- Path₂: 'Faithful Representativeness' will be positively related to 'Information Usefulness'

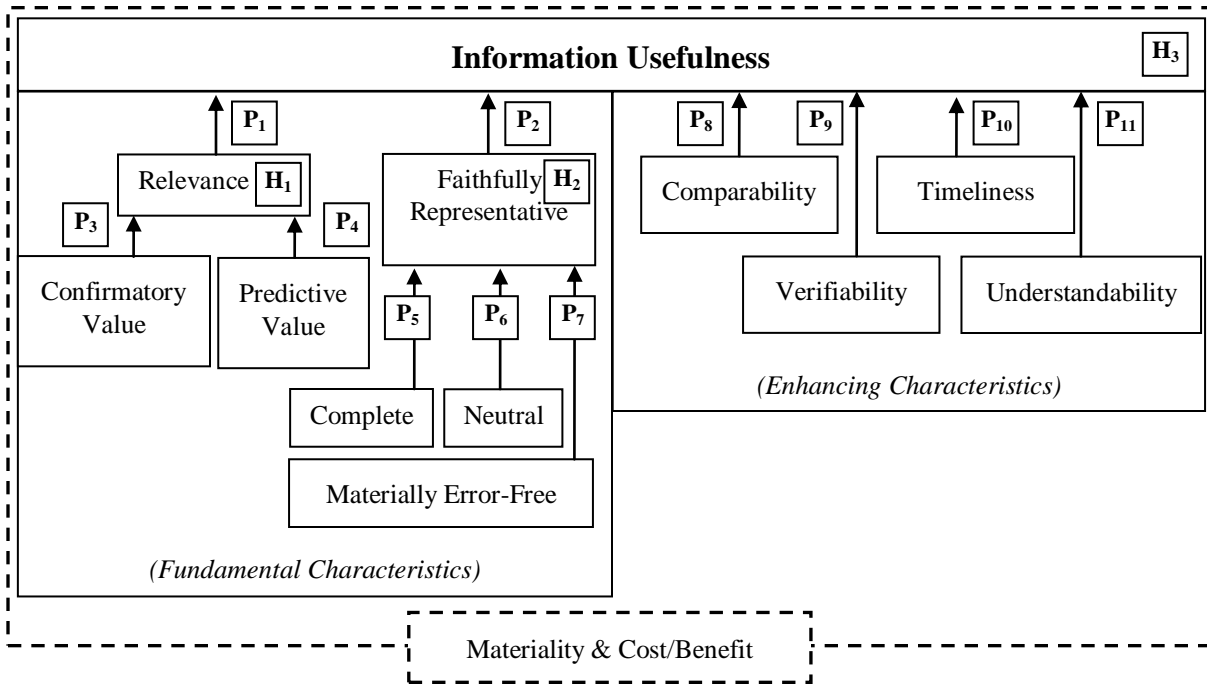


Figure 1. FASB & IASB Model of Information Usefulness Characteristics (IASB, 2008).

P_n corresponds to paths detailed in the paper; H_n corresponds to hypotheses.

Relevant information is capable of making a difference in user decision-making and must therefore have *predictive* or *confirmatory* value. Predictive information helps users evaluate future events or evaluations; confirmatory information helps them evaluate past or present events or evaluations (IASB, 2008). Thus:

- Path₃: ‘Confirmatory Value’ will be positively related to ‘Relevance’,
- Path₄: ‘Predictive Value’ will be positively related to ‘Relevance’, and therefore
- H₁: ‘Confirmatory Value’ and ‘Predictive Value’ adequately predict ‘Relevance’.

Faithfully Representative information is *complete*, *neutral*, and *free from material error* (IASB, 2008). According to the FASB/IASB Exposure Draft, complete information contains all that is necessary to faithfully represent that which it purports to. Neutral information is unbiased towards a predetermined result or behavior. Information free from material error meets a minimum of accuracy necessary for faithful representation. Therefore:

- Path₅: ‘Complete’ will be positively related to ‘Faithful Representativeness’,
- Path₆: ‘Neutral’ will be positively related to ‘Faithful Representativeness’,
- Path₇: ‘Materially Error Free’ will be positively related to ‘Faithful Representativeness’, and therefore
- H₂: ‘Complete’, ‘Neutral’ and ‘Materially Error Free’ adequately predict ‘Faithful Representativeness’.

Enhancing Characteristics

According to the FASB/IASB Exposure Draft, *comparability*, *verifiability*, *timeliness*, and *understandability* are “enhancing” characteristics of information (IASB, 2008), complimentary to relevant and faithfully represented information. Individually or collectively, enhancing characteristics cannot make irrelevant or unfaithfully represented information useful; instead they distinguish more useful information from less useful information (IASB, 2008).

Comparable information allows users to identify similarities and differences between it and other information. Consistent application of procedures and policies facilitates comparability. Verifiable information allows knowledgeable independent observers to reach consensus on whether the information is faithfully representative or an appropriate recognition or measurement method was applied. Timely information is available while it retains the capacity to influence decision-making. Understandable information enables user comprehension of its meaning. Consequently:

- Path₈: ‘Comparability’ will be positively related to ‘Information Usefulness’

- Path₉: ‘Verifiability’ will be positively related to ‘Information Usefulness’
 Path₁₀: ‘Timeliness’ will be positively related to ‘Information Usefulness’
 Path₁₁: ‘Understandability’ will be positively related to ‘Information Usefulness’

The FASB and IASB assert that the fundamental characteristics are required for information to be useful, and that the enhancing characteristics increase the usefulness of information (IASB, 2008). Consistent with its purpose, therefore, the primary study hypothesis is:

H₃: *The fundamental and enhancing characteristics adequately predict perceived Usefulness of financial reporting information*

Table 1 lists the proposed characteristics of decision-useful financial reporting information (IASB, 2008).

Characteristic	Description
Usefulness	Top-level criterion for accounting models
Relevance	Provides timely feedback or predictive value
Feedback Value	Helps evaluate past or present events or evaluations
Predictive Value	Helps evaluate future events
Faithfully Representative	Complete, and without material error or bias; in conformity with the thing of interest
Complete	All that is necessary for faithful representation is present
Neutral	Does not favor a particular outcome
Materially Error-Free	Meets a minimum of necessary accuracy
Comparability	Identifiably similar to/different from other information about economic phenomena
Verifiability	Independent observers could reach a high degree of consensus with same measurement methods
Timeliness	Received in time to impact decision making; still retains the capacity to influence decision making
Understandability	User can read, make sense of, and derive meaning from it

Table1. FASB/IASB Model Characteristics of Decision-Useful Financial Reporting Information.

METHODS

To validate the proposed FASB/IASB model, survey data was collected from individuals matching the Exposure Draft description of financial reporting information users, and this data then analyzed via partial least squares.

Survey Design

To create survey questions for each construct in the FASB/IASB model, the FASB Concepts 2 Statement (FASB, 1993), the IASB Conceptual Framework (IASB, 1989), and the most recent FASB/IASB Exposure Draft (IASB, 2008) were screened for applicable concepts and statements. These were extracted and carefully reworded to create grammatically correct survey items for each FRI characteristic. A 9-point Likert scale anchored on Very Strongly Agree (1) to Very Strongly Disagree (9) was used for each item. At least one item for each characteristic was reverse coded. Draft items were reviewed for content validity by two IS experts and five accounting experts. Based on their suggestions the items were refined. The final online instrument had five complete sets of randomized characteristic items, plus screening and demographic questions.

Sample

Self-identified “investors” in the Zoomerang database¹ were solicited to participate in the study. Participants were instructed to consider the financial reporting information they generally used (e.g. quarterly or annual reports, balance sheets, income statements, statements of cash flow, and related notes, statements or other explanatory material) and rate each survey item as it applied to that information. Of 910 completed surveys received, 401 (44%) failed screening questions, had inappropriate response patterns on rating items (e.g. all items rated the same), or were missing data on mandatory items. The remaining 509 participants were USA citizens, predominately aged 50-59 years. The majority (75%) reported greater than 5 years of

¹ www.zoomerang.com

experience using financial reporting information, were experienced at managing their own investments, and primarily invested in stocks, mutual funds, and realty.

Model and Structural Analysis

Each FASB/IASB characteristic was treated as a latent construct. Lowest order constructs were formed from survey item blocks; higher order constructs were formed from their sub-attributes (e.g. ‘Faithful Representativeness’ was formed by perceptions of ‘Complete’, ‘Neutral’, and ‘Materially Error Free’; Figure 1). Participant ratings of the FASB/IASB characteristic items were analyzed by partial least squares (PLS) using PLS Graph 3.0, Build 1130.v3 (Chin, Frye, 2003). The sample provided more than 10 cases per latent variable in the resulting causal model, and per indicator variable in the most complex latent variable block (Gefen, Straub, 2005), and was deemed sufficiently large for PLS analysis. Items that loaded poorly on their target constructs were iteratively pruned from the model, leaving three items per construct. Convergent and discriminant validity of item loadings were evaluated via cross-loading matrix (Table 2) and by AVE (average variance explained; Table 3) for each latent construct (Gefen, Straub, 2005). Paths with significant t-statistics (produced by $n=500$ bootstrap resampling of the original data set) were considered sufficiently precise to have contributed to the model (Chin, 1998, Gefen, Straub, 2005). Model explanatory power was assessed by the total variance explained (R^2) in perceived ‘Usefulness’ of FRI.

RESULTS

Survey items loaded robustly and higher on their target constructs than on all non-target constructs (Table 2), suggesting good outer model discriminant and convergent validity. Latent construct AVEs (Table 3) were acceptable (range: 0.648-0.815) and greater than the squared correlations with other constructs, suggesting acceptable inner model discriminant validity. The model significantly predicted 57% of perceived Faithful Representativeness, 61% of perceived Relevance, and 76% of perceived overall Usefulness (Figure 2; all $p < 0.01$ by F-test). Most constructs had significant path values and contributed significantly to the prediction of their associated higher-order constructs (Figure 2).

However, there were notable exceptions. Verifiability of information did not contribute significantly to predicting perceived Usefulness; Completeness did not contribute significantly to predicting perceived Faithful Representativeness; and, perceived Faithful Representativeness of the information did not contribute significantly to predicting perceived Usefulness (Figure 2).

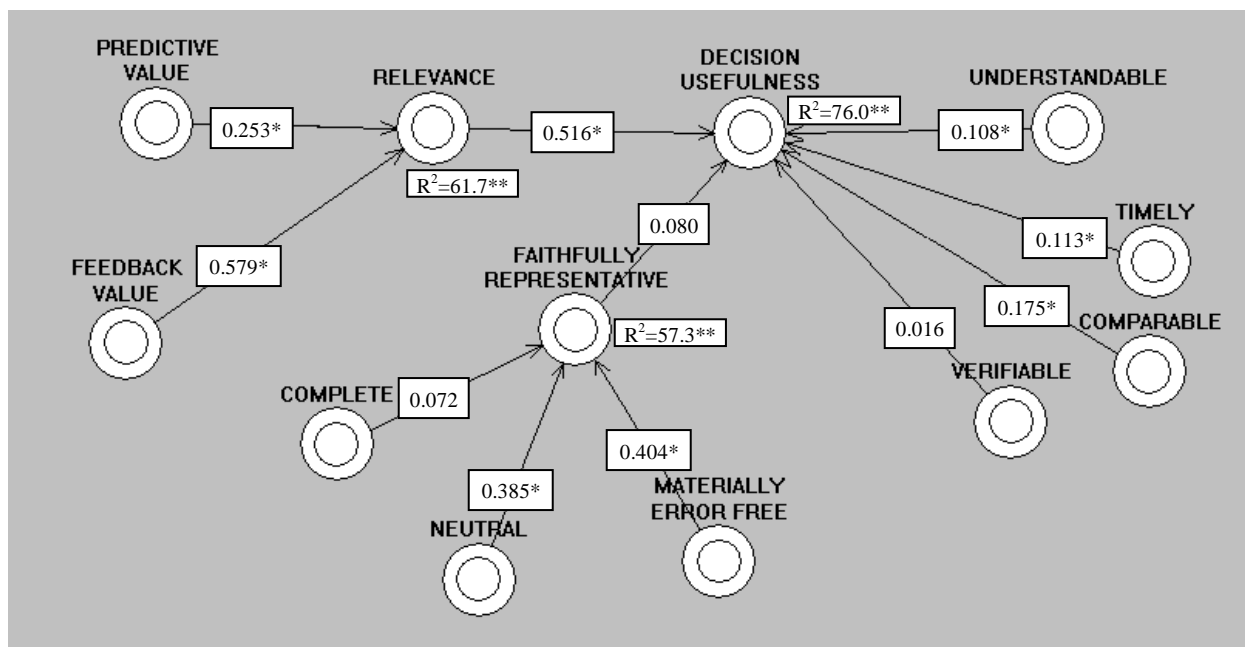


Figure 2. Model Path and R-Squared Results. “Verifiability” (an enhancing characteristic) and “Faithful Representativeness” (a fundamental characteristic) did not significantly predict perceived “Decision Usefulness”. “Completeness” also did not significantly predict perceived “Faithful Representativeness” (*= $p < 0.05$ by t-test for paths; **= $p < 0.01$ by F-test for R^2)

		CONSTRUCTS											
		Usefulness	Verifiable	Understand	Timely	Comparable	Faithful	Neutral	Material	Complete	Relevant	Feedback	Predictive
ITEMS	USEFUL1	0.833	0.483	0.477	0.517	0.525	0.541	0.315	0.378	0.380	0.646	0.558	0.519
	USEFUL2	0.899	0.552	0.500	0.617	0.638	0.649	0.417	0.464	0.459	0.779	0.665	0.597
	USEFUL5	0.865	0.605	0.571	0.657	0.662	0.681	0.537	0.524	0.597	0.714	0.670	0.627
	VERIFY3	0.477	0.809	0.309	0.482	0.508	0.581	0.441	0.415	0.323	0.472	0.510	0.426
	VERIFY4	0.626	0.933	0.472	0.630	0.636	0.719	0.595	0.573	0.532	0.606	0.565	0.451
	VERIFY5	0.576	0.921	0.477	0.610	0.637	0.690	0.607	0.532	0.539	0.547	0.518	0.426
	UNDRSTD2	0.506	0.373	0.886	0.479	0.545	0.424	0.470	0.382	0.593	0.412	0.361	0.323
	UNDRSTD3	0.592	0.504	0.895	0.538	0.628	0.560	0.470	0.430	0.493	0.534	0.456	0.447
	UNDRSTD5	0.493	0.393	0.903	0.516	0.579	0.440	0.534	0.394	0.602	0.387	0.337	0.328
	TIMELY2	0.652	0.558	0.463	0.887	0.513	0.621	0.459	0.455	0.485	0.638	0.524	0.493
	TIMELY4	0.631	0.654	0.492	0.902	0.532	0.714	0.551	0.566	0.521	0.643	0.549	0.491
	TIMELY5	0.540	0.500	0.575	0.857	0.533	0.554	0.602	0.533	0.703	0.480	0.407	0.350
	COMPR3	0.601	0.498	0.438	0.423	0.816	0.515	0.385	0.337	0.376	0.562	0.626	0.592
	COMPR4	0.607	0.622	0.547	0.513	0.861	0.601	0.464	0.439	0.466	0.565	0.571	0.503
	COMPR5	0.507	0.515	0.634	0.525	0.759	0.497	0.641	0.490	0.701	0.419	0.396	0.286
	FAITHRP2	0.579	0.597	0.374	0.564	0.510	0.842	0.514	0.519	0.458	0.588	0.598	0.534
	FAITHRP3	0.657	0.694	0.509	0.661	0.607	0.920	0.643	0.640	0.570	0.670	0.614	0.523
	FAITHRP4	0.686	0.700	0.532	0.679	0.641	0.901	0.618	0.628	0.582	0.685	0.621	0.530
	UNBIASD3	0.454	0.610	0.415	0.518	0.513	0.663	0.870	0.522	0.514	0.455	0.405	0.376
	UNBIASD4	0.430	0.521	0.519	0.533	0.524	0.544	0.886	0.506	0.676	0.364	0.316	0.268
	UNBIASD5	0.400	0.475	0.513	0.530	0.532	0.523	0.858	0.481	0.680	0.326	0.310	0.288
	MATERL2	0.367	0.384	0.452	0.472	0.410	0.444	0.522	0.724	0.688	0.292	0.257	0.142
	MATERL3	0.489	0.502	0.342	0.473	0.400	0.617	0.443	0.865	0.470	0.437	0.396	0.289
	MATERL4	0.413	0.493	0.323	0.477	0.438	0.549	0.457	0.819	0.472	0.398	0.385	0.293
	COMPLT2	0.457	0.457	0.528	0.521	0.511	0.534	0.612	0.576	0.881	0.411	0.354	0.262
	COMPLT4	0.441	0.459	0.540	0.526	0.548	0.501	0.614	0.570	0.882	0.361	0.295	0.238
	COMPLT5	0.553	0.473	0.562	0.613	0.557	0.551	0.619	0.566	0.852	0.460	0.452	0.320
	RELEVNT2	0.748	0.512	0.439	0.597	0.544	0.640	0.368	0.386	0.407	0.882	0.649	0.590
	RELEVNT3	0.614	0.499	0.360	0.483	0.469	0.543	0.290	0.387	0.319	0.811	0.618	0.493
	RELEVNT4	0.766	0.573	0.493	0.646	0.631	0.699	0.477	0.450	0.485	0.894	0.714	0.670
FEEDBCK3	0.600	0.498	0.382	0.452	0.591	0.591	0.338	0.392	0.354	0.646	0.846	0.550	
FEEDBCK4	0.630	0.447	0.351	0.476	0.519	0.546	0.302	0.377	0.352	0.680	0.851	0.693	
FEEDBCK5	0.600	0.556	0.357	0.484	0.545	0.586	0.366	0.320	0.356	0.588	0.805	0.607	
PREDICT3	0.606	0.409	0.357	0.484	0.500	0.514	0.305	0.288	0.276	0.621	0.656	0.889	
PREDICT4	0.607	0.456	0.410	0.439	0.549	0.541	0.346	0.279	0.290	0.602	0.675	0.906	
PREDICT5	0.612	0.454	0.356	0.456	0.515	0.552	0.330	0.269	0.287	0.624	0.676	0.913	

Table 2. Model Cross-Loading Matrix. Item loadings were robust and highest on their target constructs, suggesting outer model convergent and discriminant validity.

	USEFUL	RELEVANT	FEEDBACK	PREDICT	FAITHFUL	COMPLETE	NEUTRAL	ERROR FREE	UNDERSTANDABLE	COMPARABLE	TIMELY	VERIFIABLE
USEFUL	0.751											
RELEVANT	0.682	0.745										
FEEDBACK	0.536	0.588	0.695									
PREDICT	0.454	0.465	0.549	0.815								
FAITHFUL	0.524	0.534	0.472	0.353	0.789							
COMPLETE	0.31	0.224	0.18	0.099	0.37	0.76						
NEUTRAL	0.243	0.198	0.16	0.131	0.448	0.498	0.759					
ERROR FREE	0.281	0.224	0.191	0.095	0.454	0.429	0.335	0.648				
UNDERSTANDABLE	0.356	0.253	0.189	0.171	0.287	0.389	0.3	0.203	0.8			
COMPARABLE	0.498	0.408	0.436	0.333	0.44	0.383	0.36	0.263	0.43	0.661		
TIMELY	0.479	0.45	0.318	0.259	0.514	0.404	0.365	0.342	0.328	0.354	0.778	
VERIFIABLE	0.402	0.376	0.355	0.237	0.561	0.282	0.423	0.331	0.228	0.45	0.423	0.791

Table 3. Latent Variable Average Variance Explained (AVE). Latent variable AVEs (diagonal, bold) were acceptable and greater than the squared correlations with other latent constructs, suggesting good inner model discriminant validity.

DISCUSSION

Experienced investor perceptions of the financial reporting information they generally used supported much of the causal model created from the FASB/IASB characteristics for decision-useful information. Relevance, a fundamental characteristic, had a very strong and significant path to Usefulness. Predictive and Feedback Value were strongly and significantly predictive of Relevance. Understandability, Timeliness, and Comparability all had significant paths to Usefulness. However, consistent with their role as optional enhancing information characteristics of decision usefulness, their path values were considerably weaker than that of Relevance. It is interesting to note that the limited FASB/IASB interpretation of “enhanced” characteristics is borne out by the model. For example, in the true absence of understandability, timeliness, or comparability, one could reasonably expect information to be unusable, not just of diminished usefulness. Yet user ratings of these characteristics support the FASB/IASB interpretation of enhancing characteristics as optional. Finally, as described in the FASB/IASB Exposure Draft, Neutral and Materially Error Free were significantly predictive of Faithfully Representative.

However, other information characteristics considered vital to decision makers and fundamental to information usefulness or quality were not supported in the model. Verifiability of information is classified in the FASB/IASB Exposure Draft as an enhancing characteristic and its presence should distinguish more useful information from less useful information. Yet, unlike the other enhancing characteristics, its path to Usefulness was non-significant and close to zero (Figure 2). Information verifiability is a somewhat complex concept, but perhaps no less so than “materially error free”. It seems unlikely that the respondents did not understand the concept, or rating items such as “Is readily verifiable.” Completeness of information is described in the Exposure Draft as a determinant of Faithfully Representative, yet its path to it in the causal model was weak and non-significant. As described above it is possible that the concept of completeness is confounded with the concept of materially error-free. If so, the strong model path from the construct Materially Error Free to Faithful Representativeness may have obscured any predictive association by Completeness.

The most surprising result is that Faithful Representativeness, a fundamental characteristic, failed to significantly predict Usefulness. Without one or both fundamental characteristics, according to the description (IASB, 2008), financial reporting information (FRI) should not be perceived as useful to decision-making. Yet despite the lack of association, the model

strongly and significantly predicted user perceptions of Usefulness ($R^2 = 76.0$, $p < 0.01$ by F-test). This is even more surprising because Faithful Representativeness (complete, and without material error or bias; in conformity with the thing of interest) is very similar to one of the most frequent, consistent, and strongly associated characteristics from Information Systems models of information quality characteristics – Accuracy (e.g. Bovee, Roberts, Srivastava, 2008; Wang, Strong, 1996; Wixom, Todd, 2005).

It seems unlikely the respondents did not understand the concepts of completeness, verifiability, or whether the information they used was faithfully representative. This is supported by the outer model loadings of items on these constructs. It may be that the financial reporting information the participants used did not sufficiently have these qualities, yet was still deemed useful by them. However, given the practical importance of the faithful representativeness of financial reporting information in a business decision-making context, this too seems unlikely.

Study participants, as investors, may have recognized the importance of faithful representativeness and verifiability in the information they used, yet had little ability to assess whether these characteristics were met. From their point of view, verifiability, faithful representativeness, and completeness of complex financial reporting information may be the responsibility of accounting. If participants lacked ability or responsibility to evaluate these characteristics, their ratings of them may have been less associated with their other perceptions of the information they used. If so, this suggests the model may mix characteristics specific to different stakeholders throughout the information product flow: regulatory Boards, information producers, assurers, and end consumers (e.g. see Bovee, et al., 2008). Information characteristics associated with responsibilities, skills and access common for one group may have theoretical or practical associations with characteristics for another group, but little meaning to the other group itself, and therefore little predictive value.

For example, an Information Systems view of stakeholders in the information product process includes gatherers, custodians, and consumers (Lee, Strong, 2003-4). In the financial reporting context, information gatherers and custodians have the responsibility, skills and access necessary to assess characteristics such as verifiability, completeness, and faithful representativeness. The information consumer lacks the information access, the assessment responsibility, and possibly the assessment skills. Conversely, the consumer may be better able to assess relevance, understandability, timeliness and usefulness of the information, whereas information gatherers and custodians (and attest professionals) are less able (Bovee, Mak, Srivastava, 2003; Bovee, Roberts, Srivastava, 2008). This is important to producers of information products, since customer perceptions are often used to evaluate product quality and the allocation of resources for production and quality improvement.

Finally, participant ratings of these non-significant characteristics may be confounded by participant reliance on one or more proxy variables not captured by the model developed here. For example, rather than individually evaluating information completeness, verifiability, or faithful representativeness, study participants may instead base perception of these characteristics on the degree of belief or trust they place in the information source or an attest professional (e.g. Bovee, Srivastava, Mak, 2003). The description related model would therefore lack the proper target construct and causal chain to decision usefulness.

LIMITATIONS

The study data was collected by online survey questionnaire. Online surveys limit the ability to control sample demographics or unsolicited study participation. However, participant demographics suggested they meet the definition of investors as ‘users’ in the proposed international accounting standard (IASB, 2008). Unfortunately, variety within the sample may limit generalization of the results to specific user subgroups. The survey items were derived directly from the related accounting standards and reviewed for face validity by both accounting and information systems professionals. However, responses based on evaluations of actual examples of information (real or hypothetical) might yield different results.

Partial least squares (PLS) analysis is limited in its ability to explicate causal relationships in models. In addition, there are no convenient ‘fit’ statistics for PLS results – the primary measure of model fit is the amount of variance explained in the target constructs. However, the method is robust to data deviations from assumptions of multivariate normality and to small sample sizes. Also, the assumptions of the method have a good theoretical fit with the theory and formative assumptions of information usefulness, making PLS an appropriate method of analysis.

The study scope is limited to validating the FASB/IASB descriptions of decision-useful information characteristics (IASB, 2008). Further work is required to integrate the results into the larger nomographic net of information quality (e.g. Bovee, 2004; Bovee et al, 2008).

CONCLUSIONS

A vital heuristic describing and relating the characteristics of decision-useful information in a critical area – financial reporting – is emerging as part of an international accounting standard that will have far reaching impact in the near future. This study developed a causal model based on the accounting standard descriptions, explicated the model logic, and empirically tested the model from the perspective of financial reporting information users as described in the standard. The model significantly predicted user perceptions of key constructs (Usefulness, Relevance, and Faithful Representativeness of information). Most model paths between characteristics were significant and of a magnitude consistent with the theoretical approach classifying financial reporting information characteristics as ‘fundamental’ or ‘enhancing’ to decision usefulness.

However, theoretically and practically important concepts and relationships from the description of FRI usefulness characteristics were not supported. The standard describes Verifiability as ‘enhancing’ Usefulness, Completeness as a important to Faithfully Representative, and Faithfully Representative as required for Usefulness. Yet none of the paths was significant or predictive. FRI producers and other practitioners should interpret evaluations based on the FASB/IASB descriptions with caution. It may represent a mix of constructs and relationships important for different stakeholders in the financial reporting information flow. End users of financial reporting information may not be capable of evaluating these characteristics, or may use proxy constructs for them not captured by the model. Further research is needed to evaluate the model from the perspective of these other stakeholders (e.g. financial analysts), and to explore the importance and relationship of constructs external to the model such as trust in the information source.

REFERENCES

1. American Accounting Association (1966). *A Statement of Basic Accounting Theory*. American Accounting Association, Evanston, IL, USA.
2. Arens, A.J., Elder, R.J., and Beasley, M.S. (2005). *Auditing and Assurance Services: An Integrated Approach, 11th Ed.* Prentice-Hall, Englewood Cliffs, NJ, USA.
3. Bovee, M. W., Mak, B., Srivastava, R. P. (2003) A Conceptual Framework and Belief-Function Approach to Assessing Overall Information Quality, *International Journal of Intelligent Systems*, 18, pp. 51-74.
4. Bovee, M. W. (2004). Empirical Validation of the Structure of an Information Quality Model, *Proceedings of the 9th International Conference on Information Quality*, Cambridge, MA, pp. 358-372.
5. Bovee, M.W., Roberts, T.L., and Srivastava, R.P. (2008). Attributes of Information Quality: A Theoretical Model and Empirical Validation. Under review. Available on request.
6. Chin, W.W. (1998) The Partial Least Squares Approach to Structural Equation Modeling, in *Modern Methods for Business Research*, G.A. Marcoulides (ed.), Erlbaum Associates, Mahwah, NJ, USA.
7. Chin, W.W., & T. Frye (2003). PLS-Graph version 3.0. Software program licensed and distributed by Soft Modeling, Inc. Installed using Build 1130 with 200 variable limit.
8. DeLone, W.H and E.R. McLean (2003). The DeLone and McLean Model of Information Systems Success: A Ten Year Update. *Journal of Management Information Systems* 19, 4, 9-30.
9. Eckerson, Wayne W. (2002) Achieving Business Success through a Commitment to High Quality Data, TDWI Report Series, The Data Warehousing Institute, pg. 5.
10. English, L. P. (1999) *Improving Data Warehouse and Business Information Quality: Methods for Reducing Costs and Increasing Profits*. John Wiley and Sons, Inc, New York, New York, USA.
11. English, L. P. (2007), Fixing A Broken Election Process: An Information Quality Mandate, *Information Impact*, <http://www.infoimpact.com/articles.cfm>, last viewed 24 Feb 2007.
12. Financial Accounting Standards Board (1993). Statement of Financial Accounting Concepts No. 2, Qualitative Characteristics of Accounting Information, *Original Pronouncements, Accounting Standards as of June 1, 1993, Volume II (AICPA Pronouncements, FASB Interpretations, FASB Concepts Statements, FASB Technical Bulletins)*, Financial Accounting Standards Board, CN, USA.
13. Fisher, C.W. and B. R. Kingma (2001). Criticality of data quality as exemplified in two disasters. *Information & Management* 39, 2, 109-116.
14. GAO-Government Accountability Office (2006), Medicare: Communication to Beneficiaries on the Prescription Drug Benefit Could be Improved, GAO-06-654, May 3.

15. Gefen, D. and Straub, D (2005). A Practical Guide to Factorial Validity Using PLS-Graph: Tutorial and Annotated Example, *Communications of the Association for Information Systems* 16, 91-109.
16. Gelinas, Sutton, and Fedorowicz (2004), *Business Processes & Information Technology*, South-Western, Mason, OH, USA.
17. Gore, Pelham (1992). *The FASB Conceptual Framework Project, 1973-1985: An Analysis*. Manchester University Press, Manchester, UK.
18. Grody, A.D., Harmantzis, F., and Kaple, G.J. (2006). Operational Risk and Reference Data: Exploring Costs, Capital Requirements and Risk Mitigation, *Journal of Operational Risk* 1(3). Available at SSRN (<http://ssrn.com/abstract=849224>)
19. Harvey, M. (2008), Probe into how Google mix-up caused \$1 billion run on United, *Times Online*, September 12, 2008, http://technology.timesonline.co.uk/tol/news/tech_and_web/article4742147.ece (last visited 15 January 2009).
20. Horngren, C.T., Sundem, G.L., and Elliott, J.A. (2001). *Introduction to Financial Accounting, 8th Edition*. Prentice Hall, Upper Saddle River, NJ, USA.
21. International Accounting Standards Board (1989), *Framework for the Preparation and Presentation of Financial Statements*, International Accounting Standards Committee Foundation, London, UK.
22. International Accounting Standards Board (2008). *Exposure Draft of An improved Conceptual Framework for Financial Reporting*, International Accounting Standards Committee Foundation, London, UK.
23. Lee, Y.W, and Strong, D.M. (2003-4). Knowing-Why About Data Processes and Data Quality. *Journal of Management Information Systems* 20(3), 13-39.
24. Madden, M. (2006). Internet Penetration and Impact, Data Memo, PEW Internet and American Life Project, http://www.pewinternet.org/PPF/r/182/report_display.asp, last visited 7 October, 2007.
25. Meyers, Steven Lee (2000). CIA Fires Officer Blamed in Bombing of Chinese Embassy, *The New York Times*, April 9, pg. A1.
26. Mock, T.J. (1971). Concepts of Information Value and Accounting. *The Accounting Review* 46, 4, 765-778.
27. Office of Management and Budget (OMB) Executive Office of the President (2001). Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, http://www.whitehouse.gov/omb/fedreg/final_information_quality_guidelines.html, October 21.
28. Wang, R.Y. and D.M. Strong (1996). Beyond Accuracy, What Data Quality Means to Data Consumers. *Journal of Management Information Systems* 12, 4, 5-34.
29. Wixom, B.H. and P.A. Todd (2005) A Theoretical Integration of User Satisfaction and Technology Acceptance. *Information Systems Research* 16, 1, 85-102.