Content Validity

SUMMARY Content validity is more a matter of logic than of statistics. However, a nomological net demonstrates that between 84% and 92% of the survey responses can be directly traced to specific dimensions of the underlying theory. In addition, 100% of the 50 members of the expert panel agree that the response structure incorporated in the survey is not contaminated by respondent misunderstanding. These findings suggest that the content validity is at least equal and perhaps superior to other theories within the discipline.

Content validity is concerned with sample-population representativeness (Cronbach, 1971). It is sample-oriented. Behavior is viewed as a sample when it is a subgroup of the same kind of behaviors of the larger population (Goodenough, 1949) which is the real focus of interest.

For example, computer literacy includes skills in operating systems, word processing, spreadsheet, database, graphics, the internet, and more. However, it is difficult, if not impossible, to administer a test covering all aspects of computing. Therefore, only selected tasks are "sampled" from the population of computer skills (Cronbach, 1971). It is *inferred* that the sample is representative of the larger body of skills labeled "computer literacy". This process is based on generalization—a form of inferential logic. The larger population of computer skills are "inferred" from the results of the sample.

The reason for pursuit of content validity is to insure that the judgments made on the basis of the instrument are truly appropriate to

the underlying theory or concept. In the case of the computer literacy example, omitting items such as typing and Internet skills may lead to errors of judgments that are based on the findings. In other words, content validity can be seen as concerned with the applicability of the instrument to its intended and actual use.

Organizational Engineering fundamentally differs from other theories in its area in that it is deductive in structure. It postulates that all information processors, including humans, must locate themselves at a point in the method and mode dimensions. The survey instrument is designed to locate and measure these dimensional preferences.

For example, one of the responses in the survey is "I make plans." It is set against the alternatives of "I complete the things I start," "I respond fast," and "I imagine things." Each of these responses implies a particular preference on the method-mode continuums. If the respondent makes repeated selections placing himself or herself in the same position, the theory claims justification in assigning a systematic preference to that posture.

It is reasonable to interpret content validity as pertaining to the correspondence of the survey responses to the underlying theoretical constructs. The behavioral inferences are then derived from the theory and are validated in other sections of this study (e.g., construct validity, concurrent validity, discriminant validity, predictive validity, etc.). These other portions of this study validate the behavioral correspondence between the theory and the resultant behavior or:

Theory ⟶ Behavior

Demonstrating correspondence of the content of the survey to the theory would extend the linkage. This correspondence between the theory and its representation in the survey can be tested by following a variant of Cronbach and Meel's nomological protocol (Cronbach and Meehl, 1955). They argue that theoretical constructs can be related to observables, thus creating a network of theoretical constructs, observables, and relationships. "This network would include the theoretical framework for what you are trying to measure, an empirical framework for how you are going to measure it, and specification of the linkages among and between these two frameworks" (Trochim, 1999a).

Using a variant of this procedure, the author "mapped" the survey responses back to the underlying method and mode dimensions of the theory. The intent of this exercise was to gain assurance that the responses directly related to the concepts in the underlying theory. A positive finding provides assurance of the fidelity of the survey to the theory. This, in turn, provides assurance that the judgments made on the basis of the survey represent the intended domain of the theory. The results of this codification are outlined in Table 5.

Table 5

ORGANIZATIONAL ENGINEERING NOMOLOGICAL NET

Reponses attributable to	Strategic Styles			
	RS	LP	HA	RI
Method or Mode	12	13	12	11
Method and Mode	10	9	8	9
Inference	2	2	4	4
Percent Inference	8%	8%	16%	16%
Percent Direct	92%	92%	84%	84%

The categories of Method *OR* Mode mean that the survey response can be directly traced to either the method or mode component of the theory. For example, the response "I'm logical" directly speaks to the theoretical method concept of structure.

The category Method *AND* Mode differentiates the response on *both* the method and mode simultaneously. For example, "I react fast" speaks simultaneously to unpatterned method as a source of resolution strategy and the action mode as the direction of response.

The final category, inference, represents responses not *directly* traceable to underlying theoretical constructs. For example, the response "I'm playful" is a probable attribution to behavior using the unpatterned-action strategy of the RS strategic style. However, other interpretations are also plausible and the response was categorized as inferential.

About 84% to 92% of the responses on the survey were *directly* traced to the underlying theoretical construct as judged by the author

of this study. It is recognized that this finding is judgmental rather than definitive. However, the reader also has access to the instrument (Appendix 4) and the fully specified theory (Salton, 2000). This transparency allows the reader to construct his or her own Nomological Net and validate or dissent from these findings. While differences in specifics may arise, it is the author's opinion that the same overall results will be obtained. Therefore, it may be concluded that the following relationships have been demonstrated:

Survey Instrument ⟶ Theory ⟶ Behavior

The final step in this process involved making sure that the instrument itself was understandable to the respondents. To this end, the expert panel was asked:

In your opinion, do the responses contained in the Survey represent reasonable trade-offs that are understandable to the respondent?

No_____   Yes ___

A response of "yes" would indicate that the resultant answers were not contaminated by misunderstandings. The results of this query are provided in Table 6.

The unvarying expert judgment is that respondents understand the "trade-offs" that are asked. This lends support to a judgment that the results are uncontaminated by misunderstanding of the questions asked. This result allows the respondents to be added to the chain of reasoning.

Respondent ⟶ Survey Instrument ⟶ Theory ⟶ Behavior

In final analysis, content validity is more of a matter of judgment rather than of statistics. "In content validity, you essentially check the operationalization against the relevant content domain for the construct" (Trochim, 1999b). In the author's view, the content validity of Organizational Engineering is at least as valid as other theories in the area, and perhaps stronger than most.

Table 6

EXPERT PANEL ESTIMATE OF UNDERSTANDABILITY

Question	Number of Experts		
	Yes	No	No Response
"...understandable to the respondent?"	50	0	50
Percentage	100%	0%	0%