

RELIABILITY & VARIANCE EXTRACTED

Fornell, Claes and David F. Larcker (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," Journal of Marketing Research, 18 (1), 39-50.

Fornell and Larcker (1981)

Variance Extracted .5 cutoff

$$\frac{(\text{sum of squared standardized loading})}{(\text{sum of squared standardized loading} + \text{sum of indicator measurement error})}$$

Composite Reliability .7 cutoff

$$\frac{(\text{sum of standardized loading})^2}{(\text{sum of standardized loading})^2 + (\text{sum of indicator measurement error})}$$

THETA-DELTA

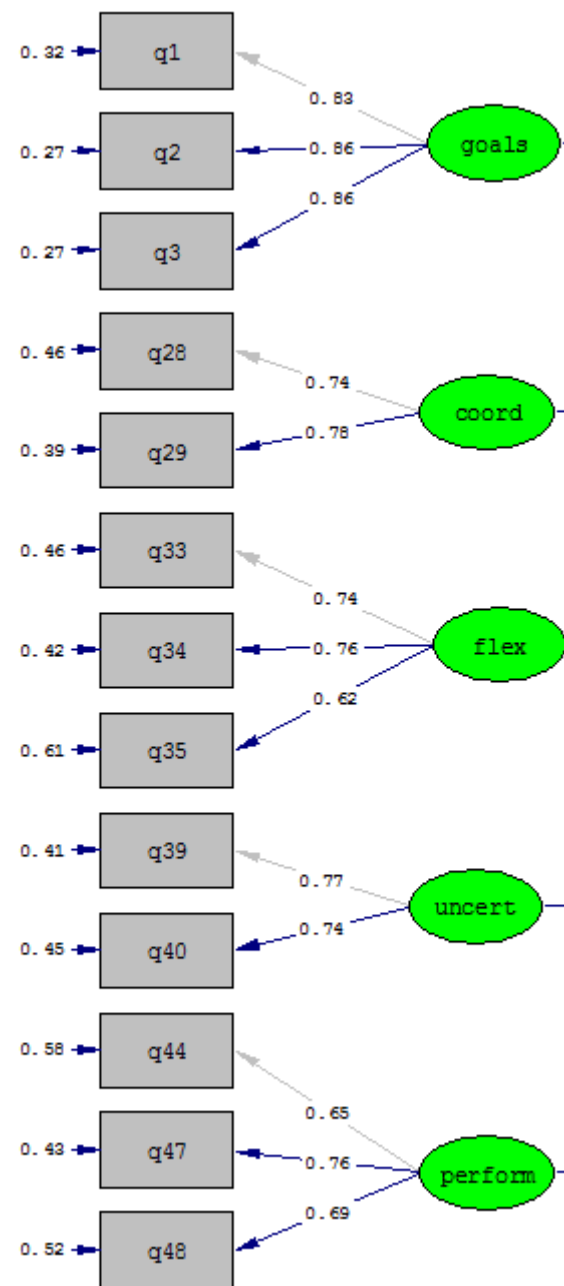
q1	q2	q3	q28	q29	q33
0.317	0.268	0.268	0.456	0.386	0.456
(0.076)	(0.072)	(0.071)	(0.083)	(0.084)	(0.082)
4.182	3.714	3.760	5.525	4.620	5.579

THETA-DELTA

q34	q35	q39	q40	q44	q47
0.425	0.611	0.414	0.448	0.581	0.430
(0.089)	(0.080)	(0.085)	(0.088)	(0.079)	(0.082)
4.786	7.621	4.867	5.067	7.388	5.225

THETA-DELTA

q48
0.521
(0.082)
6.328



Variance Extracted “goals”

$$\frac{(\text{sum of squared standardized loading})}{(\text{sum of squared standardized loading} + \text{sum of indicator measurement error})}$$

$$\frac{(.83^2 + .86^2 + .86^2)}{((.83^2 + .86^2 + .86^2) + (.32 + .27 + .27))}$$

$$\frac{(.69 + .74 + .74)}{((.69 + .74 + .74) + (.32 + .27 + .27))}$$

$$\frac{2.17}{(2.17 + .86)} = \frac{2.17}{3.03} = .72 > .5$$

Composite Reliability “goals”

$$\frac{(\text{sum of standardized loading})^2}{(\text{sum of standardized loading})^2 + \text{sum of indicator measurement error}}$$

$$\frac{(.83 + .86 + .86)^2}{((.83 + .86 + .86)^2 + (.32 + .27 + .27))}$$

$$\frac{6.50^2}{(6.50^2 + .86)}$$

$$\frac{42.25}{(42.25 + .86)} = \frac{42.25}{43.11} = .98 > .7$$

BUYER LAMBDA-X					
	goal	coord	flex	uncert	perform
Q1	0,83				
Q2	0,86				
Q3	0,86				
Q28		0,74			
Q29		0,78			
Q33			0,74		
Q34			0,76		
Q35			0,62		
Q39				0,77	
Q40				0,74	
Q44					0,65
Q47					0,76
Q48					0,69

THETA DELTA					
	goal	coord	flex	uncert	perform
Q1	0,32				
Q2	0,27				
Q3	0,27				
Q28		0,46			
Q29		0,39			
Q33			0,46		
Q34			0,42		
Q35			0,61		
Q39				0,41	
Q40				0,45	
Q44					0,58
Q47					0,43
Q48					0,52

PARAMETER SUM					
	goal	coord	flex	uncert	perform
	2,55	1,52	2,12	1,51	2,10
PARAMETER SUM SQR					
	goal	coord	flex	uncert	perform
	2,17	1,16	1,51	1,14	1,48
THETA DELTA SUM					
	goal	coord	flex	uncert	perform
	0,86	0,85	1,49	0,86	1,53
COMPOSITE RELIABILITY (Cutoff > .7)					
	goal	coord	flex	uncert	perform
	0,88	0,73	0,75	0,73	0,74
VARIANCE EXTRACTED (Cutoff > .5)					
	goal	coord	flex	uncert	perform
	0,72	0,58	0,50	0,57	0,49

- The measurement model is excellent, strongly supporting construct validity.
- Move on to structural model.