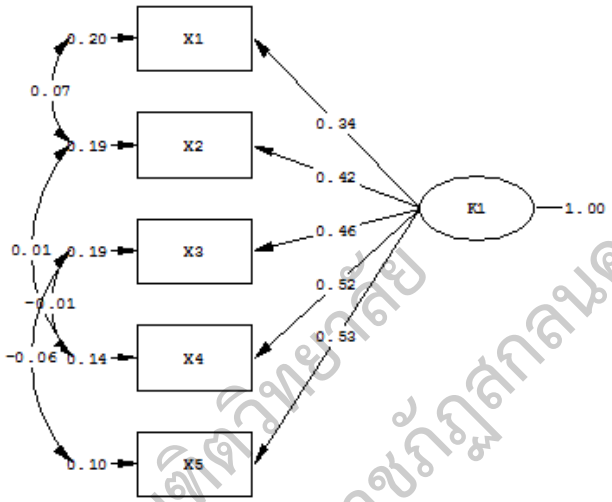
ภาคผนวก จ

ผลการวิเคราะห์องค์ประกอบเชิงยืนยัน
โดยใช้โปรแกรมลิสเรล 8.52 (LISREL version 8.52)



Chi-Square=0.03, df=1, P-value=0.85294, RMSEA=0.000

DATE: 2/18/2018

TIME: 16:19

L I S R E L 8.52

BY

Karl G. J"reskog & Dag S"rbom

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Phone: (800)247-6113, (847)675-0720, Fax: (847)675-2140

Website: www.ssicentral.com

The following lines were read from file D:\1 lisrel\K1.LPJ:

TI K1

!DA NI=5 NO=360 NG=1 MA=CM

SY='D:\1 lisrel\K1.dsf' NG=1

SE

1 2 3 4 5 /

MO NX=5 NK=1 LX=FU,FI PH=SY,FR TD=SY,FI

LK

K1

FR LX(1,1) LX(2,1) LX(3,1) LX(4,1) LX(5,1)

FR TD 1 1 TD 2 2 TD 3 3 TD 4 4 TD 5 5 TD 2 1

FR TD 5 3 TD 4 2 TD 4 3

PD

OU ME=ML AM PC RS EF FS SS IT=250 AD = OFF

TI K1

Number of Input Variables 5
Number of Y – Variables 0
Number of X – Variables 5
Number of ETA – Variables 0
Number of KSI – Variables 1
Number of Observations 360

TI K1

Number of Iterations = 11

LISREL Estimates (Maximum Likelihood)

LAMBDA-X

	K1
X1	0.34
	(0.03)
	11.75
X2	0.42
	(0.03)
	13.24
X3	0.46
	(0.04)
	11.30

X4 0.52
(0.03)
15.99

X5 0.53
(0.03)
17.06

PHI

K1

1.00

THETA-DELTA

	X1	X2	X3	X4	X5
X1	0.20				
	(0.02)				
	12.02				
X2	0.07	0.19			
	(0.01)	(0.02)			
	5.07	10.08			
X3	- -	- -	0.19		
			(0.03)		
			6.26		

X4	- -	0.01	-0.01	0.14
		(0.01)	(0.02)	(0.02)
		0.83	-0.77	6.84
X5	- -	- -	-0.06	- - 0.10
			(0.02)	(0.02)
			-2.81	4.87

Squared Multiple Correlations for X - Variables

X1	X2	X3	X4	X5
0.37	0.48	0.53	0.66	0.74

Goodness of Fit Statistics

Degrees of Freedom = 1

Minimum Fit Function Chi-Square = 0.034 (P = 0.85)

Normal Theory Weighted Least Squares Chi-Square = 0.034 (P = 0.85)

Estimated Non-centrality Parameter (NCP) = 0.0

90 Percent Confidence Interval for NCP = (0.0 ; 2.18)

Minimum Fit Function Value = 0.00

Population Discrepancy Function Value (F0) = 0.0

90 Percent Confidence Interval for F0 = (0.0 ; 0.0061)

Root Mean Square Error of Approximation (RMSEA) = 0.0

90 Percent Confidence Interval for RMSEA = (0.0 ; 0.078)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.91

Expected Cross-Validation Index (ECVI) = 0.081

90 Percent Confidence Interval for ECVI = (0.081 ; 0.087)

ECVI for Saturated Model = 0.084

ECVI for Independence Model = 3.11

Chi-Square for Independence Model with 10 Degrees of Freedom = 1107.60

Independence AIC = 1117.60

Model AIC = 28.03

Saturated AIC = 30.00

Independence CAIC = 1142.03

Model CAIC = 96.44

Saturated CAIC = 103.29

Normed Fit Index (NFI) = 1.00

Non-Normed Fit Index (NNFI) = 1.01

Parsimony Normed Fit Index (PNFI) = 0.100

Comparative Fit Index (CFI) = 1.00

Incremental Fit Index (IFI) = 1.00

Relative Fit Index (RFI) = 1.00

Critical N (CN) = 69316.47

Root Mean Square Residual (RMR) = 0.00042

Standardized RMR = 0.0012

Goodness of Fit Index (GFI) = 1.00

Adjusted Goodness of Fit Index (AGFI) = 1.00

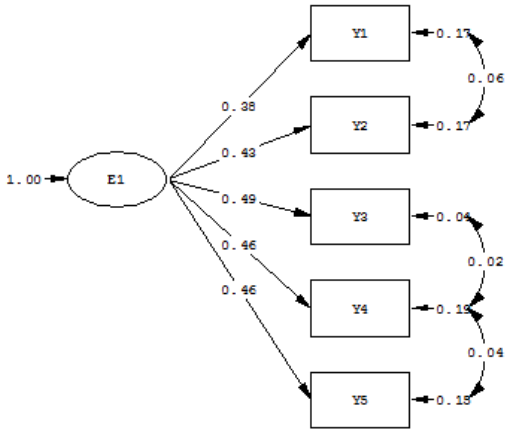
Parsimony Goodness of Fit Index (PGFI) = 0.067

TI K1

Standardized Solution

LAMBDA-X

	K1
X1	0.34
X2	0.42
X3	0.46
X4	0.52
X5	0.53



Chi-Square=0.10, df=2, P-value=0.95216, RMSEA=0.000

DATE: 2/18/2018

TIME: 16:30

L I S R E L 8.52

BY

Karl G. J"reskog & Dag S"rbom

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The following lines were read from file D:\1 lisrel\E1.LPJ:

```
TI E1
!DA NI=5 NO=360 NG=1 MA=CM
SY='D:\1 lisrel\E1.dsf' NG=1
SE
1 2 3 4 5 /
MO NY=5 NE=1 LY=FU,FI PS=DI,FR TE=SY,FI
LE
E1
FR LY(1,1) LY(2,1) LY(3,1) LY(4,1) LY(5,1)
FR TE 1 1 TE 2 2 TE 3 3 TE 4 4 TE 5 5 TE 2 1
FR TE 5 4 TE 4 3
PD
OU ME=ML AM PC RS EF FS SS IT=250
```

TI E1

Number of Input Variables 5
Number of Y – Variables 5
Number of X – Variables 0
Number of ETA – Variables 1
Number of KSI – Variables 0
Number of Observations 360

TI E1

Number of Iterations = 11

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

	E1
Y1	0.38
Y2	0.43
	(0.03)
	15.08
Y3	0.49
	(0.04)
	13.10

Y4 0.46
(0.04)
10.72

Y5 0.46
(0.04)
12.66

Covariance Matrix of ETA

	E1
	1.00

PSI

	E1
	1.00
	(0.15)
	6.74

THETA-EPS

	Y1	Y2	Y3	Y4	Y5
Y1	0.17				
	(0.02)				
	11.52				

Y2	0.06	0.17			
	(0.01)	(0.02)			
	5.06	10.90			
Y3	- -	- -	0.04		
			(0.01)		
			3.82		
Y4	- -	- -	0.02	0.19	
			(0.01)	(0.02)	
			1.69	8.48	
Y5	- -	- -	- -	-0.04	0.15
				(0.01)	(0.01)
				3.49	10.06

Squared Multiple Correlations for Y - Variables

Y1	Y2	Y3	Y4	Y5
0.45	0.52	0.85	0.53	0.59

Goodness of Fit Statistics

Degrees of Freedom = 2

Minimum Fit Function Chi-Square = 0.098 (P = 0.95)

Normal Theory Weighted Least Squares Chi-Square = 0.098 (P = 0.95)

Estimated Non-centrality Parameter (NCP) = 0.0

90 Percent Confidence Interval for NCP = (0.0 ; 0.0)

Minimum Fit Function Value = 0.00027

Population Discrepancy Function Value (F0) = 0.0

90 Percent Confidence Interval for F0 = (0.0 ; 0.0)

Root Mean Square Error of Approximation (RMSEA) = 0.0

90 Percent Confidence Interval for RMSEA = (0.0 ; 0.0)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.98

Expected Cross-Validation Index (ECVI) = 0.078

90 Percent Confidence Interval for ECVI = (0.078 ; 0.078)

ECVI for Saturated Model = 0.084

ECVI for Independence Model = 3.87

Chi-Square for Independence Model with 10 Degrees of Freedom = 1380.68

Independence AIC = 1390.68

Model AIC = 26.10

Saturated AIC = 30.00

Independence CAIC = 1415.11

Model CAIC = 89.62

Saturated CAIC = 103.29

Normed Fit Index (NFI) = 1.00

Non-Normed Fit Index (NNFI) = 1.01

Parsimony Normed Fit Index (PNFI) = 0.20

Comparative Fit Index (CFI) = 1.00

Incremental Fit Index (IFI) = 1.00

Relative Fit Index (RFI) = 1.00

Critical N (CN) = 33724.25

Root Mean Square Residual (RMR) = 0.00052

Standardized RMR = 0.0015

Goodness of Fit Index (GFI) = 1.00

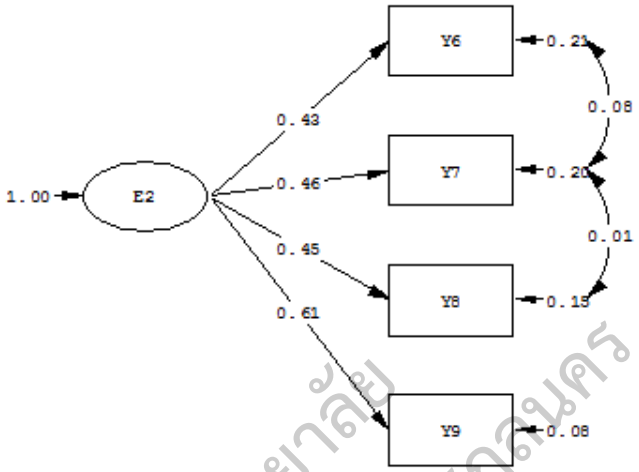
Adjusted Goodness of Fit Index (AGFI) = 1.00

Parsimony Goodness of Fit Index (PGFI) = 0.13

Standardized Solution

LAMBDA-Y

	E1
Y1	0.38
Y2	0.43
Y3	0.49
Y4	0.46
Y5	0.46



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

DATE: 2/18/2018

TIME: 16:38

L I S R E L 8.52

BY

Karl G. J"reskog & Dag S"rbom

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The following lines were read from file D:\1 lisrel\E2.LPJ:

TI E2

!DA NI=4 NO=360 NG=1 MA=CM

SY='D:\1 lisrel\E2.dsf' NG=1

SE

1 2 3 4 /

MO NY=4 NE=1 LY=FU,FI PS=DI,FR TE=SY,FI

LE

E2

FR LY(1,1) LY(2,1) LY(3,1) LY(4,1)

FR TE 1 1 TE 2 2 TE 3 3 TE 4 4 TE 2 1 TE 3 2

PD

OU ME=ML AM PC RS EF FS SS IT=250

TI E2

Number of Input Variables 4
Number of Y – Variables 4
Number of X – Variables 0
Number of ETA – Variables 1
Number of KSI – Variables 0
Number of Observations 360

TI E2

Number of Iterations = 11

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

	E2
Y6	0.43
Y7	0.46
	(0.03)
	15.13

Y8 0.45
(0.04)
12.61

Y9 0.61
(0.05)
12.41

THETA-EPS

	Y6	Y7	Y8	Y9
Y6	0.21			
	(0.02)			
	11.08			
Y7	0.08	0.20		
	(0.02)	(0.02)		
	4.92	9.76		
Y8	- -	0.01	0.15	
		(0.01)	(0.02)	
		0.92	9.11	
Y9	- -	- -	- -	0.08
				(0.02)
				3.44

Squared Multiple Correlations for Y – Variables

Y6	Y7	Y8	Y9
0.47	0.52	0.58	0.83

Goodness of Fit Statistics

Degrees of Freedom = 0

Minimum Fit Function Chi–Square = 0.00 (P = 1.00)

Normal Theory Weighted Least Squares Chi–Square = 0.00 (P = 1.00)

The Model is Saturated, the Fit is Perfect !

TI E2

Modification Indices and Expected Change

No Non–Zero Modification Indices for LAMBDA–Y

No Non–Zero Modification Indices for PSI

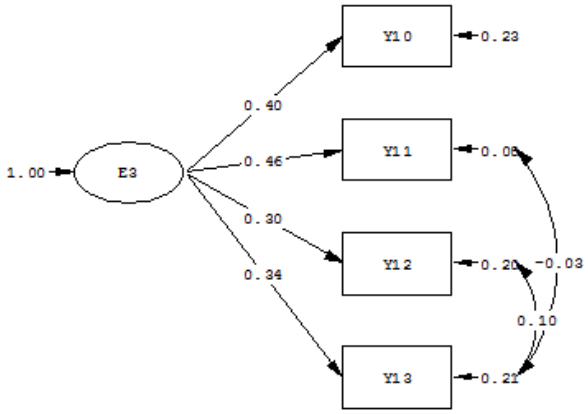
No Non–Zero Modification Indices for THETA–EPS

TI E2

Standardized Solution

LAMBDA-Y

	E2
Y6	0.43
Y7	0.46
Y8	0.45
Y9	0.61



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

DATE: 2/18/2018

TIME: 16:47

L I S R E L 8.52

BY

Karl G. J”reskog & Dag S”rbo

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The following lines were read from file D:\1 lisrel\E3.LPJ:

```
TI E3
!DA NI=4 NO=360 NG=1 MA=CM
SY='D:\1 lisrel\E3.dsf' NG=1
SE
1 2 3 4 /
MO NY=4 NE=1 LY=FU,FI PS=DI,FR TE=SY,FI
LE
E3
```

FR LY(1,1) LY(2,1) LY(3,1) LY(4,1)

FR TE 1 1 TE 2 2 TE 3 3 TE 4 4 TE 4 3 TE 4 2

PD

OU ME=ML AM PC RS EF FS SS IT=250

TI E3

Number of Input Variables 4
Number of Y – Variables 4
Number of X – Variables 0
Number of ETA – Variables 1
Number of KSI – Variables 0
Number of Observations 360

TI E3

Number of Iterations = 8

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

	E3
Y10	0.40
Y11	0.46
	(0.06)
	7.80

Y12	0.30			
	(0.04)			
	8.40			
Y13	0.34			
	(0.05)			
	6.71			

THETA-EPS

	Y10	Y11	Y12	Y13
Y10	0.23			
	(0.02)			
	9.22			
Y11	- -	0.08		
		(0.03)		
		3.30		
Y12	- -	- -	0.20	
			(0.02)	
			11.06	
Y13	- -	-0.03	0.10	0.21
		(0.02)	(0.02)	(0.03)
		-1.59	6.02	8.19

Squared Multiple Correlations for Y – Variables

Y10	Y11	Y12	Y13
0.41	0.72	0.31	0.36

Goodness of Fit Statistics

Degrees of Freedom = 0

Minimum Fit Function Chi–Square = 0.00 (P = 1.00)

Normal Theory Weighted Least Squares Chi–Square = 0.00 (P = 1.00)

The Model is Saturated, the Fit is Perfect !

TI E3

Modification Indices and Expected Change

No Non–Zero Modification Indices for LAMBDA–Y

No Non–Zero Modification Indices for PSI

No Non–Zero Modification Indices for THETA–EPS

LAMBDA-Y

	E3
Y10	0.40
Y11	0.46
Y12	0.30
Y13	0.34