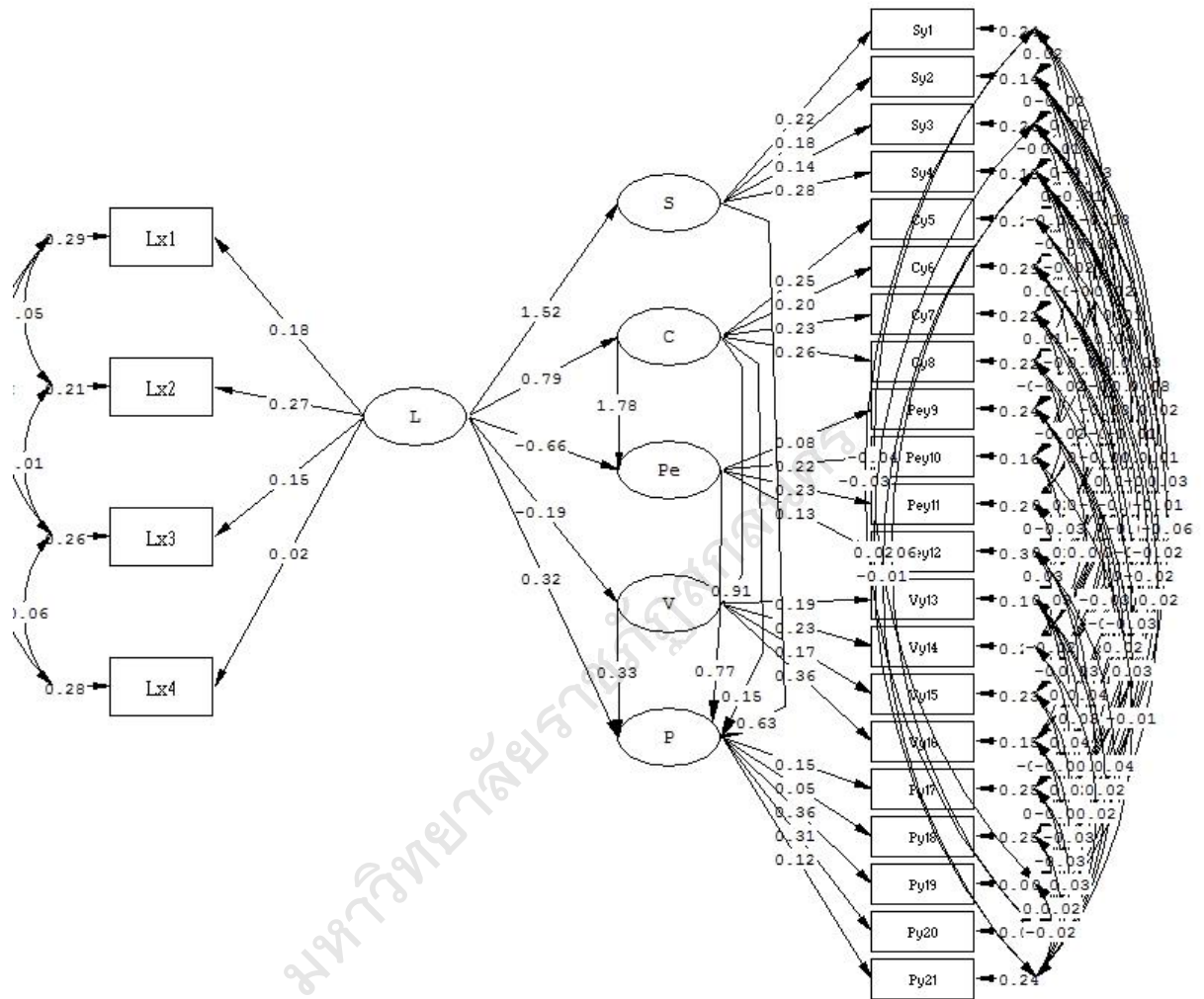


## ภาคผนวก ฎ

ผลการวิเคราะห์รูปแบบความสัมพันธ์เชิงสาเหตุของปัจจัยที่ส่งผล  
ต่อการเป็นชุมชนแห่งการเรียนรู้วิชาชีพของโรงเรียนประถมศึกษาสังกัดสำนักงาน  
คณะกรรมการการศึกษาขั้นพื้นฐานในภาคตะวันออกเฉียงเหนือ



โมเดลและชุดคำสั่งภายหลังการปรับ



Chi-Square=158.37, df=145, P-value=0.21149, RMSEA=0.013

DATE: 2/ 2/2020  
TIME: 15:07

L I S R E L 8.72

BY

Karl G. J"reskog & Dag S"rbom

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The following lines were read from file D:\PLC1.LPJ:

```

TI PLC1
!DA NI=25 NO=580 MA=CM
SY='D:\PLC1.dsf' NG=1
SE
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
23 24 25 1 2 3 4 /
MO NX=4 NY=21 NK=1 NE=5 BE=FU GA=FI PS=SY TE=SY TD=SY
LE
S C Pe V P
LK
L
FR LY(1,1) LY(2,1) LY(3,1) LY(4,1) LY(5,2) LY(6,2) LY(7,2)
LY(8,2) LY(9,3)
FR LY(10,3) LY(11,3) LY(12,3) LY(13,4) LY(14,4) LY(15,4) LY(16,4)
LY(17,5) LY(18,5)
FR LY(19,5) LY(20,5) LY(21,5) LX(1,1) LX(2,1) LX(3,1) LX(4,1)
BE(3,2) BE(4,2)
FR BE(5,1) BE(5,2) BE(5,3) BE(5,4) GA(1,1) GA(2,1) GA(3,1)
GA(4,1) GA(5,1)
FR TE 1 1 TE 2 2 TE 3 3 TE 4 4 TE 5 5 TE 6 6 TE 7 7 TE 8 8 TE 9 9
TE 10 10 TE 11 11
FR TE 12 12 TE 13 13 TE 14 14 TE 15 15 TE 16 16 TE 17 17 TE 18 18
TE 19 19 TE 20 20
FR TE 21 21 TD 1 1 TD 2 2 TD 3 3 TD 4 4 TE 15 2 TE 14 3 TE 15 9
TD 2 1 TE 20 19
FR TE 20 13 TE 13 3 TD 4 3 TE 20 6 TE 9 2 TE 13 7 TE 19 8 TE 18
15 TE 21 12 TE 13 5
FR TE 20 9 TE 19 9 TE 19 15 TE 18 14 TE 18 9 TE 12 11 TE 10 3 TE
13 10 TE 20 17

```

```

FR TE 21 19 TE 18 12 TE 17 16 TE 7 6 TE 6 2 TE 15 6 TE 14 2 TE 16
4 TE 5 1
FR TE 9 1 TE 6 3 TE 20 4 TE 19 4 TE 4 1 TD 3 2 TE 18 3 TE 18 13
TE 20 18 TE 3 2
FR TE 11 5 TE 15 13 TE 10 7 TD 3 1 TE 21 10 TE 17 9 TE 9 4 TE 18
7 TE 7 1 TE 16 2
FR TE 12 3 TE 15 7 TE 19 1 TE 13 12 TE 19 5 TE 8 7 TE 17 6 TE 20
1 TE 14 12
FR TE 21 17 TE 14 8 TE 20 16 TE 17 7 TE 13 4 TE 14 6 TE 9 8 TE 16
13 TE 17 12
FR TE 6 4 TH 2 2 TE 18 4 TE 12 10 TE 10 6 TE 7 4 TE 11 2 TE 7 2
TE 21 18
FR TE 8 4 TE 21 13 TE 18 17 TE 21 14 TE 21 3 TE 11 8 TE 11 4 TE
13 11 TE 19 16
FR TE 2 1 TE 17 4 TH 1 2 TH 2 10 TH 4 9 TH 4 1 TH 2 2 TH 3 7 TH 3
6 TE 3 4
FR TH 3 21 TH 2 1 TH 4 15 TH 4 3 TH 3 4 TE 12 2 TE 17 13 TE 17 7
TH 2 19
FR TH 3 3 TH 2 3 TE 16 6 TH 2 20 TH 3 13 TE 19 6 TE 18 6 TE 15 4
TE 21 4 TE 17 3
FR TD 4 1 TE 5 2 TE 14 5
PD
OU AM PC RS EF FS SS SC AD=OFF

```

TI PLC1

```

Number of Input Variables 25
Number of Y - Variables 21
Number of X - Variables 4
Number of ETA - Variables 5
Number of KSI - Variables 1
Number of Observations 580

```

TI PLC1

Number of Iterations =331

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

	S	C	Pe	V	P
Sy1	0.22	- -	- -	- -	- -
Sy2	0.18 (0.02) 8.44	- -	- -	- -	- -
Sy3	0.14 (0.02) 6.07	- -	- -	- -	- -
Sy4	0.28 (0.03)	- -	- -	- -	- -

		8.32				
Cy5	--	0.25	--	--	--	
Cy6	--	0.20 (0.03) 5.91	--	--	--	
Cy7	--	0.23 (0.03) 7.34	--	--	--	
Cy8	--	0.26 (0.03) 8.09	--	--	--	
Pey9	--	--	0.08	--	--	
Pey10	--	--	0.22 (0.06) 3.91	--	--	
Pey11	--	--	0.23 (0.06) 3.81	--	--	
Pey12	--	--	0.13 (0.04) 3.34	--	--	
Vy13	--	--	--	0.19	--	
Vy14	--	--	--	0.23 (0.03) 6.65	--	
Vy15	--	--	--	0.17 (0.03) 5.50	--	
Vy16	--	--	--	0.36 (0.05) 7.02	--	
Py17	--	--	--	--	0.15	
Py18	--	--	--	--	0.05 (0.02) 2.08	
Py19	--	--	--	--	0.36 (0.06) 5.59	

Py20	- -	- -	- -	- -	0.31 (0.06) 5.47
Py21	- -	- -	- -	- -	0.12 (0.03) 4.48

## LAMBDA-X

	L
	-----
Lx1	0.18 (0.02) 7.74
Lx2	0.27 (0.03) 10.52
Lx3	0.15 (0.03) 5.92
Lx4	0.02 (0.02) 1.03

## BETA

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
S	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -
Pe	- -	1.78 (0.55) 3.25	- -	- -	- -
V	- -	0.91 (0.20) 4.49	- -	- -	- -
P	-0.63 (0.20) -3.14	0.15 (0.34) 0.45	0.77 (0.34) 2.27	0.33 (0.27) 1.22	- -

## GAMMA

	L
S	1.52 (0.15) 10.08
C	0.79 (0.09) 8.71
Pe	-0.66 (0.33) -2.01
V	-0.19 (0.15) -1.29
P	0.32 (0.22) 1.43

## Covariance Matrix of ETA and KSI

	S	C	Pe	V	P
L	1.00	1.20	1.12	0.80	1.16
S	1.00				
C	1.20	1.00			
Pe	1.12	1.25	1.00		
V	0.80	0.76	1.00	1.00	
P	1.16	0.87	0.82	0.88	1.00
L	1.52	0.79	0.74	0.53	0.23

## PHI

L
1.00

## PSI

Note: This matrix is diagonal.

S	C	Pe	V	P
-1.30 (0.34)	0.38 (0.12)	-0.74 (0.44)	0.41 (0.14)	0.60 (0.26)
-3.81	3.21	-1.69	2.97	2.31



## Squared Multiple Correlations for Structural Equations

S	C	Pe	V	P
-----	-----	-----	-----	-----
2.30	0.62	1.74	0.59	0.40

## Squared Multiple Correlations for Reduced Form

S	C	Pe	V	P
-----	-----	-----	-----	-----
2.30	0.62	0.55	0.28	0.05

## Reduced Form

	L
S	1.52 (0.15) 10.08
C	0.79 (0.09) 8.71
Pe	0.74 (0.19) 3.84
V	0.53 (0.08) 6.46
P	0.23 (0.10) 2.24

## THETA-EPS

	Sy1	Sy2	Sy3	Sy4	Cy5
Cy6	-----	-----	-----	-----	-----
Sy1	0.24 (0.02) 15.24				
Sy2	0.02 (0.01) 2.39	0.14 (0.01) 15.82			
Sy3	- -	0.02 (0.01) 2.42	0.26 (0.02) 17.07		

	Sy4	-0.02 (0.01) -1.84	- -	-0.01 (0.01) -0.78	0.18 (0.02) 11.65	
	Cy5	0.02 (0.01) 1.46	0.01 (0.01) 1.26	- -	- -	0.27 (0.02) 16.42
0.29 (0.02) 15.94	Cy6	- -	0.02 (0.01) 2.53	0.02 (0.01) 1.85	-0.05 (0.01) -4.03	- -
0.02 (0.01) 1.63	Cy7	-0.03 (0.01) -2.60	-0.01 (0.01) -1.65	- -	-0.03 (0.01) -2.94	- -
- -	Cy8	- -	- -	- -	-0.02 (0.01) -2.10	- -
- -	Pey9	-0.03 (0.01) -3.11	0.03 (0.01) 3.85	- -	-0.02 (0.01) -2.02	- -
-0.03 (0.01) -3.11	Pey10	- -	- -	-0.03 (0.01) -3.06	- -	- -
- -	Pey11	- -	0.02 (0.01) 2.06	- -	-0.02 (0.01) -1.71	0.02 (0.01) 1.40
- -	Pey12	- -	0.01 (0.01) 1.87	0.04 (0.01) 3.08	- -	- -
- -	Vy13	- -	- -	0.04 (0.01) 4.58	-0.02 (0.01) -2.46	-0.03 (0.01) -2.74

Vy14	- -	0.03	0.06	- -	-0.01
-0.03		(0.01)	(0.01)		(0.01)
(0.01)		4.89	5.70		-1.16
-2.41					
Vy15	- -	0.08	- -	-0.01	- -
0.03		(0.01)		(0.01)	
(0.01)		9.81		-1.12	
3.05					
Vy16	- -	0.02	- -	0.01	- -
-0.02		(0.01)		(0.01)	
(0.01)		2.81		0.76	
-2.01					
Py17	- -	- -	0.01	-0.02	- -
-0.01			(0.01)	(0.01)	
(0.01)			1.32	-1.73	
-1.03					
Py18	- -	- -	0.03	-0.01	- -
-0.02			(0.01)	(0.01)	
(0.01)			3.21	-1.52	
-1.48					
Py19	-0.04	- -	- -	-0.06	-0.02
-0.02	(0.01)			(0.01)	(0.01)
(0.01)	-4.04			-4.72	-2.09
-1.51					
Py20	-0.03	- -	- -	-0.06	- -
0.02	(0.01)			(0.01)	
(0.01)	-3.17			-5.62	
2.49					
Py21	- -	- -	0.02	-0.01	- -
- -			(0.01)	(0.01)	
			1.72	-1.28	

THETA-EPS					
	Cy7	Cy8	Pey9	Pey10	Pey11
Pey12	-----	-----	-----	-----	-----
Cy7	0.22 (0.01) 15.58				
Cy8	0.01 (0.01) 1.20	0.22 (0.01) 15.61			
Pey9	- -	-0.02 (0.01) -1.92	0.24 (0.01) 17.04		
Pey10	-0.02 (0.01) -2.56	- -	- -	0.16 (0.01) 13.41	
Pey11	- -	-0.02 (0.01) -1.50	- -	- -	0.26 (0.02) 15.20
Pey12	- -	- -	- -	0.02 (0.01) 2.06	0.05 (0.01) 4.31
0.31 (0.02) 17.00					
Vy13	0.03 (0.01) 3.39	- -	- -	-0.03 (0.01) -3.28	0.01 (0.01) 1.56
0.03 (0.01) 2.88					
Vy14	- -	0.02 (0.01) 2.38	- -	- -	- -
0.03 (0.01) 3.05					
Vy15	-0.02 (0.01) -1.75	- -	0.06 (0.01) 5.74	- -	- -
- -					

--	Vy16	--	--	--	--	--
0.03	Py17	0.02	--	-0.03	--	--
(0.01)		(0.01)		(0.01)		
2.93		1.56		-2.62		
0.04	Py18	0.02	--	-0.03	--	--
(0.01)		(0.01)		(0.01)		
3.51		2.14		-3.04		
--	Py19	--	-0.03	0.02	--	--
			(0.01)	(0.01)		
			-4.59	2.96		
--	Py20	--	--	0.03	--	--
				(0.01)		
				3.94		
0.04	Py21	--	--	--	-0.01	--
(0.01)					(0.01)	
3.90					-1.36	

## THETA-EPS

Py18	Vy13	Vy14	Vy15	Vy16	Py17
-----	-----	-----	-----	-----	-----
Vy13	0.18 (0.01) 14.97				
Vy14	--	0.20 (0.01) 15.72			
Vy15	-0.02 (0.01) -2.49	--	0.23 (0.01) 16.50		
Vy16	-0.02	--	--	0.15	

		(0.01)			(0.02)	
		-2.42			9.16	
	Py17	0.01	- -	- -	-0.02	0.25
		(0.01)			(0.01)	(0.01)
		1.48			-2.08	16.59
	Py18	0.03	0.04	-0.03	- -	0.02
0.25		(0.01)	(0.01)	(0.01)		(0.01)
(0.01)		3.65	4.89	-3.62		1.91
17.06						
	Py19	- -	- -	0.02	-0.02	- -
- -				(0.01)	(0.01)	
				3.60	-1.58	
	Py20	0.03	- -	- -	-0.03	-0.03
0.01		(0.01)			(0.01)	(0.01)
(0.01)		4.26			-2.98	-3.67
2.25						
	Py21	0.02	0.02	- -	- -	0.03
0.02		(0.01)	(0.01)			(0.01)
(0.01)		2.05	1.80			2.53
2.15						

THETA-EPS

	Py19	Py20	Py21
	-----	-----	-----
Py19	0.08 (0.02) 4.28		
Py20	0.00 (0.02) 0.26	0.07 (0.01) 5.08	
Py21	-0.02 (0.01) -2.11	- -	0.24 (0.01) 16.79

Squared Multiple Correlations for Y - Variables

	Sy1	Sy2	Sy3	Sy4	Cy5
Cy6					

0.12	0.18	0.19	0.07	0.31	0.19
------	------	------	------	------	------

Squared Multiple Correlations for Y - Variables

Pey12	Cy7	Cy8	Pey9	Pey10	Pey11
0.05	0.19	0.24	0.03	0.24	0.17

Squared Multiple Correlations for Y - Variables

Py18	Vy13	Vy14	Vy15	Vy16	Py17
0.01	0.17	0.21	0.12	0.46	0.09

Squared Multiple Correlations for Y - Variables

Py19	Py20	Py21
0.61	0.56	0.06

THETA-DELTA-EPS

Cy6	Sy1	Sy2	Sy3	Sy4	Cy5
Lx1	-	-0.03	-	-	-
		(0.01)			
		-2.94			
Lx2	-0.03	-0.05	-0.03	-	-
	(0.01)	(0.01)	(0.01)		
	-2.30	-4.93	-2.59		
Lx3	-	-	-0.04	-0.05	-
-0.04			(0.01)	(0.01)	
(0.01)			-3.29	-3.77	
-3.28					
Lx4	-0.04	-	0.01	-	-
	(0.01)		(0.01)		

-3.39

1.09

## THETA-DELTA-EPS

	Cy7	Cy8	Pey9	Pey10	Pey11
Pey12	-----	-----	-----	-----	-----
Lx1	- -	- -	- -	- -	- -
Lx2	- -	- -	- -	0.00	- -
Lx3	-0.04	- -	- -	(0.01)	- -
	(0.01)			0.16	
Lx4	- -	- -	0.04	- -	- -
			(0.01)		
			3.65		

## THETA-DELTA-EPS

	Vy13	Vy14	Vy15	Vy16	Py17
Py18	-----	-----	-----	-----	-----
Lx1	- -	- -	- -	- -	- -
Lx2	- -	- -	- -	- -	- -
Lx3	-0.02	- -	- -	- -	- -
	(0.01)				
	-2.25				
Lx4	- -	- -	0.02	- -	- -
			(0.01)		
			2.37		

## THETA-DELTA-EPS

Py19	Py20	Py21
-----	-----	-----



Lx1	- -	- -	- -
Lx2	0.00 (0.01) 0.29	0.02 (0.01) 2.86	- -
Lx3	- -	- -	-0.03 (0.01) -2.94
Lx4	- -	- -	- -

## THETA-DELTA

	Lx1	Lx2	Lx3	Lx4
Lx1	0.29 (0.02) 16.90			
Lx2	0.05 (0.01) 4.29	0.21 (0.02) 14.14		
Lx3	0.02 (0.01) 1.22	0.01 (0.01) 0.89	0.26 (0.02) 16.32	
Lx4	-0.02 (0.01) -1.71	- -	-0.06 (0.01) -5.00	0.28 (0.02) 17.04

## Squared Multiple Correlations for X - Variables

Lx1	Lx2	Lx3	Lx4
0.10	0.26	0.08	0.00

## Goodness of Fit Statistics

Degrees of Freedom = 145  
 Minimum Fit Function Chi-Square = 158.53 (P = 0.21)  
 Normal Theory Weighted Least Squares Chi-Square = 158.37 (P = 0.21)  
 Estimated Non-centrality Parameter (NCP) = 13.37  
 90 Percent Confidence Interval for NCP = (0.0 ; 48.08)

Minimum Fit Function Value = 0.27  
 Population Discrepancy Function Value (F0) = 0.023

0.083) 90 Percent Confidence Interval for F0 = (0.0 ;  
 Root Mean Square Error of Approximation (RMSEA) =  
 0.013 90 Percent Confidence Interval for RMSEA = (0.0 ;  
 0.024) P-Value for Test of Close Fit (RMSEA < 0.05) = 1.00  
  
 Expected Cross-Validation Index (ECVI) = 0.90  
 0.96) 90 Percent Confidence Interval for ECVI = (0.87 ;  
 ECVI for Saturated Model = 1.12  
 ECVI for Independence Model = 10.01  
  
 Chi-Square for Independence Model with 300 Degrees of Freedom  
 = 5745.77  
  
 Independence AIC = 5795.77  
 Model AIC = 518.37  
 Saturated AIC = 650.00  
 Independence CAIC = 5929.85  
 Model CAIC = 1483.72  
 Saturated CAIC = 2392.98  
  
 Normed Fit Index (NFI) = 0.97  
 Non-Normed Fit Index (NNFI) = 0.99  
 Parsimony Normed Fit Index (PNFI) = 0.47  
 Comparative Fit Index (CFI) = 1.00  
 Incremental Fit Index (IFI) = 1.00  
 Relative Fit Index (RFI) = 0.94  
  
 Critical N (CN) = 685.92  
  
 Root Mean Square Residual (RMR) = 0.0088  
 Standardized RMR = 0.033  
 Goodness of Fit Index (GFI) = 0.98  
 Adjusted Goodness of Fit Index (AGFI) = 0.95  
 Parsimony Goodness of Fit Index (PGFI) = 0.44

#### Summary Statistics for Standardized Residuals

Smallest Standardized Residual = -3.06  
 Median Standardized Residual = 0.34  
 Largest Standardized Residual = 4.44

#### Stemleaf Plot

- 3|100  
 - 2|998775  
 - 2|4320  
 - 1|9999887777666665  
 - 1|444444433333322222211111110000000  
 - 0|99999887777776666666555555555

```

- 0|44444444444444443333333322222111111100000000
  0|111111111111222222222333333344444444444444444
  0|555555555555666666666666777777778888889999999999
  1|00000011111111222222333333344444
  1|555555556666777788888999
  2|00111234444444
  2|555556667778889
  3|122
  3|56
  4|4

```

Largest Negative Standardized Residuals

Residual for	Py19 and	Sy4	-3.03
Residual for	Py20 and	Sy4	-2.95
Residual for	Lx1 and	Py19	-3.06
Residual for	Lx2 and	Sy3	-2.91
Residual for	Lx2 and	Py20	-3.02
Residual for	Lx3 and	Sy3	-2.70
Residual for	Lx3 and	Vy13	-2.77
Residual for	Lx4 and	Sy4	-2.70

Largest Positive Standardized Residuals

Residual for	Pey9 and	Sy2	3.12
Residual for	Pey9 and	Pey9	3.61
Residual for	Vy15 and	Pey9	2.95
Residual for	Py17 and	Sy3	2.68
Residual for	Py20 and	Pey9	2.80
Residual for	Py20 and	Py19	2.75
Residual for	Py21 and	Sy3	2.85
Residual for	Lx2 and	Sy4	3.22
Residual for	Lx3 and	Sy4	2.63
Residual for	Lx3 and	Lx2	2.70
Residual for	Lx4 and	Sy2	4.44
Residual for	Lx4 and	Sy3	2.61
Residual for	Lx4 and	Vy13	2.71
Residual for	Lx4 and	Vy15	3.21
Residual for	Lx4 and	Py20	3.52

TI PLC1

Qplot of Standardized Residuals







No Non-Zero Modification Indices for GAMMA

No Non-Zero Modification Indices for PHI

Modification Indices for PSI

	S	C	Pe	V	P
S	- -				
C	0.54	- -			
Pe	0.64	- -	- -		
V	0.10	- -	0.08	- -	
P	- -	- -	- -	- -	- -

Expected Change for PSI

	S	C	Pe	V	P
S	- -				
C	0.17	- -			
Pe	0.14	- -	- -		
V	-0.04	- -	-0.06	- -	
P	- -	- -	- -	- -	- -

Standardized Expected Change for PSI

	S	C	Pe	V	P
--	---	---	----	---	---

S	- -				
C	0.17	- -			
Pe	0.14	- -	- -		
V	-0.04	- -	-0.06	- -	
P	- -	- -	- -	- -	- -

## Modification Indices for THETA-EPS

	Sy1	Sy2	Sy3	Sy4	Cy5
Cy6	-----	-----	-----	-----	-----
-----					
Sy1	- -				
Sy2	- -	- -			
Sy3	0.03	- -	- -		
Sy4	- -	0.03	- -	- -	
Cy5	- -	- -	0.52	0.42	- -
Cy6	0.27	- -	- -	- -	1.64
- -					
Cy7	- -	- -	0.11	- -	0.50
- -					
Cy8	0.71	0.04	0.26	- -	0.94
0.19					
Pey9	- -	- -	0.73	- -	0.23
0.11					
Pey10	0.61	0.97	- -	0.20	0.22
- -					
Pey11	0.10	- -	0.59	- -	- -
0.00					
Pey12	0.01	- -	- -	0.38	0.10
0.25					
Vy13	0.55	0.04	- -	- -	- -
0.37					
Vy14	0.19	- -	- -	0.07	- -
- -					
Vy15	0.27	- -	0.01	- -	1.84
- -					
Vy16	0.42	- -	0.51	- -	0.00
- -					
Py17	0.85	0.06	- -	- -	0.16
- -					
Py18	0.52	0.18	- -	- -	0.10
- -					
Py19	- -	0.49	0.69	- -	- -
- -					
Py20	- -	0.08	0.09	- -	0.58
- -					
Py21	0.72	0.77	- -	- -	0.16
0.04					

## Modification Indices for THETA-EPS

	Cy7	Cy8	Pey9	Pey10	Pey11
Pey12	-----	-----	-----	-----	-----
-----					

	Cy7	- -				
	Cy8	- -	- -			
	PeY9	0.03	- -	- -		
	PeY10	- -	0.28	0.20	- -	
	PeY11	0.00	- -	0.18	0.34	- -
	PeY12	0.07	1.40	0.05	- -	- -
- -						
	Vy13	- -	1.47	0.65	- -	- -
- -						
	Vy14	0.01	- -	0.74	0.01	1.06
- -						
	Vy15	- -	0.00	- -	1.01	0.58
0.23						
	Vy16	0.11	0.03	0.04	0.50	0.01
0.79						
	Py17	- -	0.28	- -	0.74	0.95
- -						
	Py18	- -	0.29	- -	0.04	0.95
- -						
	Py19	0.01	- -	- -	0.00	0.10
0.91						
	Py20	0.69	1.24	- -	0.60	0.02
0.01						
	Py21	0.02	1.46	0.54	- -	0.01
- -						

## Modification Indices for THETA-EPS

	Vy13	Vy14	Vy15	Vy16	Py17
Py18	-----	-----	-----	-----	-----
-----					
	Vy13	- -			
	Vy14	0.77	- -		
	Vy15	- -	0.90	- -	
	Vy16	- -	0.02	0.02	- -
	Py17	- -	1.67	0.05	- -
	Py18	- -	- -	- -	0.29
- -					
	Py19	0.02	0.07	- -	- -
0.30					0.23
	Py20	- -	0.93	1.02	- -
- -					- -
	Py21	- -	- -	1.25	0.35
- -					- -

## Modification Indices for THETA-EPS

	Py19	Py20	Py21
	-----	-----	-----
Py19	- -		
Py20	- -	- -	
Py21	- -	0.05	- -

## Modification Indices for THETA-DELTA-EPS

		Sy1	Sy2	Sy3	Sy4	Cy5
Cy6		-----	-----	-----	-----	-----
	Lx1	0.54	- -	0.72	1.68	0.47
0.03	Lx2	- -	- -	- -	0.68	0.44
5.33	Lx3	0.10	3.08	- -	- -	2.68
- -	Lx4	- -	7.55	- -	3.86	2.65
1.19						

## Modification Indices for THETA-DELTA-EPS

		Cy7	Cy8	Pey9	Pey10	Pey11
Pey12		-----	-----	-----	-----	-----
	Lx1	0.29	1.13	0.22	4.07	1.62
3.00	Lx2	0.66	0.71	2.56	- -	1.40
0.09	Lx3	- -	0.12	0.37	3.83	2.48
0.77	Lx4	0.49	0.53	- -	0.26	0.07
0.78						

## Modification Indices for THETA-DELTA-EPS

		Vy13	Vy14	Vy15	Vy16	Py17
Py18		-----	-----	-----	-----	-----
	Lx1	1.38	1.61	3.02	0.13	0.85
1.37	Lx2	1.49	3.74	1.27	0.55	4.01
0.04	Lx3	- -	0.40	3.37	0.97	2.36
0.34	Lx4	1.24	0.19	- -	0.04	0.07
0.18						

## Modification Indices for THETA-DELTA-EPS

		Py19	Py20	Py21
	Lx1	4.29	0.41	1.86
	Lx2	- -	- -	0.30
	Lx3	0.86	0.13	- -
	Lx4	0.02	2.72	4.29



## Factor Scores Regressions

ETA		Sy1	Sy2	Sy3	Sy4	Cy5
Cy6						
-----		-----	-----	-----	-----	-----
0.24	S	-0.11	-0.37	-0.13	0.01	0.17
0.16	C	0.38	0.11	0.17	0.78	-0.06
0.40	Pe	0.24	-0.24	-0.02	0.60	0.34
0.16	V	0.10	-0.55	-0.11	0.32	0.03
0.11	P	0.53	-0.04	0.08	1.11	-0.06
ETA		Cy7	Cy8	Pey9	Pey10	Pey11
Pey12						
-----		-----	-----	-----	-----	-----
0.00	S	0.18	0.34	-0.12	0.11	0.10
0.02	C	0.19	0.16	0.14	0.50	0.33
-0.08	Pe	0.38	0.44	0.00	0.05	-0.04
-0.02	V	0.00	0.04	-0.02	0.25	0.16
-0.07	P	0.11	0.11	-0.05	-0.11	-0.02
ETA		Vy13	Vy14	Vy15	Vy16	Py17
Py18						
-----		-----	-----	-----	-----	-----
-0.01	S	-0.23	-0.10	-0.16	0.02	0.22
-0.01	C	-0.05	-0.13	-0.15	0.00	0.05
-0.05	Pe	0.33	0.24	0.14	0.47	0.00
-0.06	V	0.27	0.31	0.23	0.63	0.16
-0.04	P	0.03	0.03	0.01	0.30	0.12

ETA

Lx3		Py19	Py20	Py21	Lx1	Lx2
		-----	-----	-----	-----	-----
0.62	S	1.33	0.80	0.31	0.40	0.84
0.22	C	0.55	0.42	0.08	-0.02	-0.01
0.26	Pe	0.41	0.04	0.00	-0.03	-0.07
0.17	V	0.53	0.59	0.06	0.03	-0.07
0.02	P	0.68	0.91	0.03	-0.19	-0.56

ETA

	Lx4
	-----
S	0.24
C	0.08
Pe	0.07
V	0.05
P	0.03

KSI

Cy6		Sy1	Sy2	Sy3	Sy4	Cy5
		-----	-----	-----	-----	-----
0.11	L	0.87	1.23	0.54	1.39	-0.14

KSI

Pey12		Cy7	Cy8	Pey9	Pey10	Pey11
		-----	-----	-----	-----	-----
-0.09	L	0.36	0.05	0.19	0.16	0.01

KSI

Py18		Vy13	Vy14	Vy15	Vy16	Py17
		-----	-----	-----	-----	-----
-0.03	L	0.24	-0.19	-0.25	-0.10	-0.26

KSI

Lx3		Py19	Py20	Py21	Lx1	Lx2
-----	--	------	------	------	-----	-----

0.22	L	-0.40	-0.63	-0.15	-0.14	0.13
------	---	-------	-------	-------	-------	------

KSI

	Lx4
L	0.10

TI PLC1

Standardized Solution

LAMBDA-Y

	S	C	Pe	V	P
Sy1	0.22	- -	- -	- -	- -
Sy2	0.18	- -	- -	- -	- -
Sy3	0.14	- -	- -	- -	- -
Sy4	0.28	- -	- -	- -	- -
Cy5	- -	0.25	- -	- -	- -
Cy6	- -	0.20	- -	- -	- -
Cy7	- -	0.23	- -	- -	- -
Cy8	- -	0.26	- -	- -	- -
Pey9	- -	- -	0.08	- -	- -
Pey10	- -	- -	0.22	- -	- -
Pey11	- -	- -	0.23	- -	- -
Pey12	- -	- -	0.13	- -	- -
Vy13	- -	- -	- -	0.19	- -
Vy14	- -	- -	- -	0.23	- -
Vy15	- -	- -	- -	0.17	- -
Vy16	- -	- -	- -	0.36	- -
Py17	- -	- -	- -	- -	0.15
Py18	- -	- -	- -	- -	0.05
Py19	- -	- -	- -	- -	0.36
Py20	- -	- -	- -	- -	0.31
Py21	- -	- -	- -	- -	0.12

LAMBDA-X

	L
Lx1	0.18
Lx2	0.27
Lx3	0.15
Lx4	0.02

BETA

	S	C	Pe	V	P
S	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -

Pe	- -	1.78	- -	- -	- -
V	- -	0.91	- -	- -	- -
P	-0.63	0.15	0.77	0.33	- -

## GAMMA

		L
	-----	
S	1.52	
C	0.79	
Pe	-0.66	
V	-0.19	
P	0.32	

## Correlation Matrix of ETA and KSI

		S	C	Pe	V	P
L		-----	-----	-----	-----	-----
-----						
S	1.00					
C	1.20	1.00				
Pe	1.12	1.25	1.00			
V	0.80	0.76	1.00	1.00		
P	1.16	0.87	0.82	0.88	1.00	
L	1.52	0.79	0.74	0.53	0.23	1.00

## PSI

Note: This matrix is diagonal.

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
	-1.30	0.38	-0.74	0.41	0.60

## Regression Matrix ETA on KSI (Standardized)

		L
	-----	
S	1.52	
C	0.79	
Pe	0.74	
V	0.53	
P	0.23	

TI PLC1

Completely Standardized Solution

## LAMBDA-Y

		S	C	Pe	V	P
		-----	-----	-----	-----	-----
Sy1	0.42	- -	- -	- -	- -	- -
Sy2	0.43	- -	- -	- -	- -	- -
Sy3	0.26	- -	- -	- -	- -	- -

Sy4	0.55	- -	- -	- -	- -
Cy5	- -	0.43	- -	- -	- -
Cy6	- -	0.34	- -	- -	- -
Cy7	- -	0.43	- -	- -	- -
Cy8	- -	0.48	- -	- -	- -
PeY9	- -	- -	0.17	- -	- -
PeY10	- -	- -	0.49	- -	- -
PeY11	- -	- -	0.42	- -	- -
PeY12	- -	- -	0.22	- -	- -
Vy13	- -	- -	- -	0.41	- -
Vy14	- -	- -	- -	0.46	- -
Vy15	- -	- -	- -	0.34	- -
Vy16	- -	- -	- -	0.68	- -
Py17	- -	- -	- -	- -	0.30
Py18	- -	- -	- -	- -	0.09
Py19	- -	- -	- -	- -	0.78
Py20	- -	- -	- -	- -	0.75
Py21	- -	- -	- -	- -	0.24

LAMBDA-X

	L
Lx1	0.32
Lx2	0.51
Lx3	0.29
Lx4	0.04

BETA

	S	C	Pe	V	P
S	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -
Pe	- -	1.78	- -	- -	- -
V	- -	0.91	- -	- -	- -
P	-0.63	0.15	0.77	0.33	- -

GAMMA

	L
S	1.52
C	0.79
Pe	-0.66
V	-0.19
P	0.32

Correlation Matrix of ETA and KSI

	S	C	Pe	V	P
L	-----	-----	-----	-----	-----
S	1.00				
C	1.20	1.00			

	Pe	1.12	1.25	1.00		
	V	0.80	0.76	1.00	1.00	
	P	1.16	0.87	0.82	0.88	1.00
1.00	L	1.52	0.79	0.74	0.53	0.23

PSI

Note: This matrix is diagonal.

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
	-1.30	0.38	-0.74	0.41	0.60

THETA-EPS

	Sy1	Sy2	Sy3	Sy4	Cy5
Cy6	-----	-----	-----	-----	-----
-----					
Sy1	0.82				
Sy2	0.09	0.81			
Sy3	- -	0.08	0.93		
Sy4	-0.08	- -	-0.03	0.69	
Cy5	0.05	0.04	- -	- -	0.81
Cy6	- -	0.10	0.07	-0.17	- -
0.88					
Cy7	-0.10	-0.06	- -	-0.12	- -
0.06					
Cy8	- -	- -	- -	-0.08	- -
- -					
Pey9	-0.11	0.13	- -	-0.07	- -
- -					
Pey10	- -	- -	-0.11	- -	- -
-0.12					
Pey11	- -	0.07	- -	-0.06	0.05
- -					
Pey12	- -	0.06	0.12	- -	- -
- -					
Vy13	- -	- -	0.16	-0.09	-0.10
- -					
Vy14	- -	0.16	0.21	- -	-0.04
-0.09					
Vy15	- -	0.37	- -	-0.04	- -
0.11					
Vy16	- -	0.10	- -	0.03	- -
-0.07					
Py17	- -	- -	0.05	-0.07	- -
-0.04					
Py18	- -	- -	0.12	-0.06	- -
-0.06					
Py19	-0.18	- -	- -	-0.28	-0.06
-0.06					
Py20	-0.13	- -	- -	-0.31	- -
0.09					
Py21	- -	- -	0.07	-0.05	- -
- -					

## THETA-EPS

	Cy7	Cy8	Pey9	Pey10	Pey11
Pey12					
	-----	-----	-----	-----	-----
	Cy7	0.81			
	Cy8	0.04	0.76		
	Pey9	- -	-0.07	0.97	
	Pey10	-0.10	- -	- -	0.76
	Pey11	- -	-0.05	- -	- -
	Pey12	- -	- -	0.07	0.16
0.95					
	Vy13	0.12	- -	- -	-0.12
0.11					
	Vy14	- -	0.08	- -	- -
0.11					
	Vy15	-0.06	- -	0.22	- -
- -					
	Vy16	- -	- -	- -	- -
- -					
	Py17	0.06	- -	-0.10	- -
0.11					
	Py18	0.08	- -	-0.12	- -
0.14					
	Py19	- -	-0.14	0.10	- -
- -					
	Py20	- -	- -	0.13	- -
- -					
	Py21	- -	- -	- -	-0.05
0.15					

## THETA-EPS

	Vy13	Vy14	Vy15	Vy16	Py17
Py18					
	-----	-----	-----	-----	-----
	Vy13	0.83			
	Vy14	- -	0.79		
	Vy15	-0.08	- -	0.88	
	Vy16	-0.10	- -	- -	0.54
	Py17	0.06	- -	- -	-0.08
	Py18	0.14	0.18	-0.13	- -
0.99					
	Py19	- -	- -	0.10	-0.07
- -					
	Py20	0.13	- -	- -	-0.13
0.07					
	Py21	0.08	0.07	- -	- -
0.08					

## THETA-EPS

Py19	Py20	Py21
------	------	------

	-----	-----	-----
Py19	0.39		
Py20	0.02	0.44	
Py21	-0.07	- -	0.94

## THETA-DELTA-EPS

	Sy1	Sy2	Sy3	Sy4	Cy5
Cy6	-----	-----	-----	-----	-----
-----					
Lx1	- -	-0.11	- -	- -	- -
- -					
Lx2	-0.10	-0.22	-0.10	- -	- -
- -					
Lx3	- -	- -	-0.13	-0.17	- -
-0.12					
Lx4	-0.13	- -	0.04	- -	- -
- -					

## THETA-DELTA-EPS

	Cy7	Cy8	Pey9	Pey10	Pey11
Pey12	-----	-----	-----	-----	-----
-----					
Lx1	- -	- -	- -	- -	- -
- -					
Lx2	- -	- -	- -	0.01	- -
- -					
Lx3	-0.16	- -	- -	- -	- -
- -					
Lx4	- -	- -	0.14	- -	- -
- -					

## THETA-DELTA-EPS

	Vy13	Vy14	Vy15	Vy16	Py17
Py18	-----	-----	-----	-----	-----
-----					
Lx1	- -	- -	- -	- -	- -
- -					
Lx2	- -	- -	- -	- -	- -
- -					
Lx3	-0.08	- -	- -	- -	- -
- -					
Lx4	- -	- -	0.08	- -	- -
- -					

## THETA-DELTA-EPS

	Py19	Py20	Py21
	-----	-----	-----
Lx1	- -	- -	- -
Lx2	0.01	0.11	- -



Lx3        - -        - -        -0.11  
 Lx4        - -        - -        - -

THETA-DELTA

	Lx1	Lx2	Lx3	Lx4
Lx1	0.90			
Lx2	0.17	0.74		
Lx3	0.05	0.04	0.92	
Lx4	-0.06	- -	-0.20	1.00

Regression Matrix ETA on KSI (Standardized)

	L
S	1.52
C	0.79
Pe	0.74
V	0.53
P	0.23

TI PLC1

Total and Indirect Effects

Total Effects of KSI on ETA

	L
S	1.52 (0.15) 10.08
C	0.79 (0.09) 8.71
Pe	0.74 (0.19) 3.84
V	0.53 (0.08) 6.46
P	0.23 (0.10) 2.24

Indirect Effects of KSI on ETA

	L

S	- -
C	- -
Pe	1.40 (0.45) 3.12
V	0.72 (0.17) 4.32
P	-0.09 (0.22) -0.41

Total Effects of ETA on ETA

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
S	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -
Pe	- -	1.78 (0.55) 3.25	- -	- -	- -
V	- -	0.91 (0.20) 4.49	- -	- -	- -
P	-0.63 (0.20) -3.14	1.83 (0.55) 3.30	0.77 (0.34) 2.27	0.33 (0.27) 1.22	- -

Largest Eigenvalue of B\*B' (Stability Index) is 4.019

Indirect Effects of ETA on ETA

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
S	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -
Pe	- -	- -	- -	- -	- -
V	- -	- -	- -	- -	- -
P	- -	1.67 (0.57)	- -	- -	- -

2.95

## Total Effects of ETA on Y

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
Sy1	0.22	- -	- -	- -	- -
Sy2	0.18 (0.02) 8.44	- -	- -	- -	- -
Sy3	0.14 (0.02) 6.07	- -	- -	- -	- -
Sy4	0.28 (0.03) 8.32	- -	- -	- -	- -
Cy5	- -	0.25	- -	- -	- -
Cy6	- -	0.20 (0.03) 5.91	- -	- -	- -
Cy7	- -	0.23 (0.03) 7.34	- -	- -	- -
Cy8	- -	0.26 (0.03) 8.09	- -	- -	- -
Pey9	- -	0.15 (0.05) 3.25	0.08	- -	- -
Pey10	- -	0.40 (0.08) 4.84	0.22 (0.06) 3.91	- -	- -
Pey11	- -	0.41 (0.09) 4.79	0.23 (0.06) 3.81	- -	- -
Pey12	- -	0.23 (0.06) 3.89	0.13 (0.04) 3.34	- -	- -
Vy13	- -	0.17 (0.04)	- -	0.19	- -

			4.49			
Vy14	- -	0.21 (0.04) 4.80	- -	0.23 (0.03) 6.65	- -	
Vy15	- -	0.16 (0.04) 4.43	- -	0.17 (0.03) 5.50	- -	
Vy16	- -	0.33 (0.06) 5.34	- -	0.36 (0.05) 7.02	- -	
Py17	-0.10 (0.03) -3.14	0.28 (0.09) 3.30	0.12 (0.05) 2.27	0.05 (0.04) 1.22	0.15	
Py18	-0.03 (0.02) -1.85	0.09 (0.05) 1.87	0.04 (0.02) 1.57	0.02 (0.01) 1.08	0.05 (0.02) 2.08	
Py19	-0.23 (0.06) -3.51	0.66 (0.17) 3.81	0.28 (0.11) 2.46	0.12 (0.09) 1.25	0.36 (0.06) 5.59	
Py20	-0.19 (0.05) -3.53	0.56 (0.14) 3.86	0.24 (0.10) 2.48	0.10 (0.08) 1.24	0.31 (0.06) 5.47	
Py21	-0.08 (0.03) -3.02	0.23 (0.07) 3.15	0.10 (0.04) 2.24	0.04 (0.03) 1.23	0.12 (0.03) 4.48	

## Indirect Effects of ETA on Y

	S	C	Pe	V	P
	-----	-----	-----	-----	-----
Sy1	- -	- -	- -	- -	- -
Sy2	- -	- -	- -	- -	- -
Sy3	- -	- -	- -	- -	- -
Sy4	- -	- -	- -	- -	- -
Cy5	- -	- -	- -	- -	- -
Cy6	- -	- -	- -	- -	- -
Cy7	- -	- -	- -	- -	- -

Cy8	- -	- -	- -	- -	- -
Pey9	- -	0.15 (0.05) 3.25	- -	- -	- -
Pey10	- -	0.40 (0.08) 4.84	- -	- -	- -
Pey11	- -	0.41 (0.09) 4.79	- -	- -	- -
Pey12	- -	0.23 (0.06) 3.89	- -	- -	- -
Vy13	- -	0.17 (0.04) 4.49	- -	- -	- -
Vy14	- -	0.21 (0.04) 4.80	- -	- -	- -
Vy15	- -	0.16 (0.04) 4.43	- -	- -	- -
Vy16	- -	0.33 (0.06) 5.34	- -	- -	- -
Py17	-0.10 (0.03) -3.14	0.28 (0.09) 3.30	0.12 (0.05) 2.27	0.05 (0.04) 1.22	- -
Py18	-0.03 (0.02) -1.85	0.09 (0.05) 1.87	0.04 (0.02) 1.57	0.02 (0.01) 1.08	- -
Py19	-0.23 (0.06) -3.51	0.66 (0.17) 3.81	0.28 (0.11) 2.46	0.12 (0.09) 1.25	- -
Py20	-0.19 (0.05) -3.53	0.56 (0.14) 3.86	0.24 (0.10) 2.48	0.10 (0.08) 1.24	- -
Py21	-0.08 (0.03) -3.02	0.23 (0.07) 3.15	0.10 (0.04) 2.24	0.04 (0.03) 1.23	- -

## Total Effects of KSI on Y

	L
	-----
Sy1	0.34 (0.03) 10.08
Sy2	0.27 (0.03) 9.83
Sy3	0.21 (0.03) 6.73
Sy4	0.42 (0.03) 13.30
Cy5	0.20 (0.02) 8.71
Cy6	0.15 (0.02) 6.42
Cy7	0.18 (0.02) 8.08
Cy8	0.20 (0.02) 9.08
Pey9	0.06 (0.02) 3.84
Pey10	0.17 (0.02) 9.06
Pey11	0.17 (0.02) 7.89
Pey12	0.10 (0.02) 5.19

Vy13	0.10 (0.02) 6.46
Vy14	0.12 (0.02) 7.13
Vy15	0.09 (0.02) 5.87
Vy16	0.19 (0.02) 8.30
Py17	0.03 (0.02) 2.24
Py18	0.01 (0.01) 1.58
Py19	0.08 (0.03) 2.45
Py20	0.07 (0.03) 2.44
Py21	0.03 (0.01) 2.22

TI PLC1

Standardized Total and Indirect Effects

Standardized Total Effects of KSI on ETA

	L -----
S	1.52
C	0.79
Pe	0.74
V	0.53
P	0.23

Standardized Indirect Effects of KSI on ETA

L

	-----
S	- -
C	- -
Pe	1.40
V	0.72
P	-0.09

## Standardized Total Effects of ETA on ETA

	-----	S	-----	C	-----	Pe	-----	V	-----	P
S	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pe	- -	- -	1.78	- -	- -	- -	- -	- -	- -	- -
V	- -	- -	0.91	- -	- -	- -	- -	- -	- -	- -
P	-0.63	- -	1.83	0.77	- -	0.33	- -	- -	- -	- -

## Standardized Indirect Effects of ETA on ETA

	-----	S	-----	C	-----	Pe	-----	V	-----	P
S	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
C	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Pe	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
V	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
P	- -	- -	1.67	- -	- -	- -	- -	- -	- -	- -

## Standardized Total Effects of KSI on Y

	-----	L
Sy1	0.34	
Sy2	0.27	
Sy3	0.21	
Sy4	0.42	
Cy5	0.20	
Cy6	0.15	
Cy7	0.18	
Cy8	0.20	
Pey9	0.06	
Pey10	0.17	
Pey11	0.17	
Pey12	0.10	
Vy13	0.10	
Vy14	0.12	
Vy15	0.09	
Vy16	0.19	
Py17	0.03	
Py18	0.01	
Py19	0.08	
Py20	0.07	
Py21	0.03	

## Completely Standardized Total Effects of KSI on Y

L



```
-----  
Sy1      0.64  
Sy2      0.66  
Sy3      0.39  
Sy4      0.84  
Cy5      0.34  
Cy6      0.27  
Cy7      0.34  
Cy8      0.38  
Pey9     0.13  
Pey10    0.36  
Pey11    0.31  
Pey12    0.17  
Vy13     0.22  
Vy14     0.24  
Vy15     0.18  
Vy16     0.36  
Py17     0.07  
Py18     0.02  
Py19     0.18  
Py20     0.17  
Py21     0.06
```

Time used: 0.469 Seconds

มหาวิทยาลัยราชภัฏวไลยอลงกรณ์