ภาคผนวก ญ

ผลการวิเคราะห์รูปแบบความสัมพันธ์เชิงสาเหตุปัจจัยบทบาทการบริหาร
เทคโนโลยีสารสนเทศและการสื่อสารของผู้บริหารสถานศึกษาขั้นพื้นฐาน
ที่ส่งผลต่อประสิทธิผลของโรงเรียน
โดยใช้โปรแกรม LISREL for Version 8.52

```
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                         L I S R E L  8.52

                                 BY

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   The following lines were read from file D:\ISE\2\1\ISE.LPJ:

   TI ISE
   !DA NI=18 NO=417 NG=1 MA=CM
   SY='D:\ISE\2\1\ISE.dsf' NG=1
   SE
   5 6 7 8 9 10 11 12 13 14 15 16 17 18 1 2 3 4 /
   MO NX=4 NY=14 NK=1 NE=4 LY=FU,FI LX=FU,FI BE=FU,FI GA=FU,FI PH=SY,FR PS=DI,FR
   TE=SY TD=SY
   LE
   LEA PLA PRD EFF
   LK
   VIS
   FR LY(1,1) LY(2,1) LY(3,1) LY(4,1) LY(5,2) LY(6,2) LY(7,2) LY(8,3) LY(9,3)
   FR LY(10,3) LY(11,4) LY(12,4) LY(13,4) LY(14,4) LX(1,1) LX(2,1) LX(3,1) LX(4,1)
   FR BE(2,1) BE(3,1) BE(4,1) BE(4,2) BE(4,3) GA(1,1) GA(2,1) GA(3,1) GA(4,1)
   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
   FR TE 11 11 TE 12 12 TE 13 13 TE 14 14 TD 1 1 TD 2 2 TD 3 3 TD 4 4
   FR TE 4 3 TE 6 5 TE 9 8 TE 3 2 TD 2 1 TE 4 2 TH 1 6 TE 12 2 TE 14 12 TE 14 11 TE
   11 4
   FR TE 13 11 TE 9 7 TE 8 1 TH 3 1 TD 4 3 TE 12 8 TE 10 8 TE 13 2 TE 9 1 TE 7 2 TE
   12 6
   FR TE 11 6 TE 13 1 TE 14 10 TE 12 3 TE 14 3
   PD
   OU ME=ML AM PC RS EF FS SS SC IT=250

   TI ISE

                         Number of Input Variables 18
                         Number of Y - Variables   14
                         Number of X - Variables    4
                         Number of ETA - Variables  4
                         Number of KSI - Variables  1
                         Number of Observations   417

   TI ISE

        Covariance Matrix

                  TELY1      TEMY2      TEAY3      TEEY4      PLSY5      PLMY6
                --------   --------   --------   --------   --------   --------
        TELY1     0.25
        TEMY2     0.17       0.28
        TEAY3     0.16       0.19       0.28
        TEEY4     0.17       0.18       0.22       0.31
        PLSY5     0.08       0.07       0.06       0.05       0.25
        PLMY6     0.08       0.07       0.07       0.07       0.14       0.27
        PLLY7     0.10       0.07       0.08       0.09       0.07       0.10
```

PDSY8	0.12	0.13	0.13	0.14	0.06	0.06
PDCY9	0.13	0.13	0.12	0.13	0.07	0.07
PDAY10	0.15	0.13	0.13	0.14	0.08	0.09
ACHY11	0.08	0.08	0.07	0.10	0.04	0.05
STUY12	0.09	0.11	0.09	0.09	0.04	0.05
SATY13	0.08	0.09	0.09	0.09	0.05	0.04
LORY14	0.10	0.09	0.10	0.10	0.06	0.06
CVIX1	0.15	0.13	0.13	0.13	0.06	0.05
PVIX2	0.16	0.14	0.14	0.13	0.06	0.07
FVIX3	0.17	0.13	0.13	0.14	0.06	0.08
PRTX4	0.16	0.14	0.14	0.15	0.05	0.07

Covariance Matrix

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
	--------	--------	--------	--------	--------	--------
PLLY7	0.24					
PDSY8	0.08	0.31				
PDCY9	0.10	0.21	0.31			
PDAY10	0.10	0.16	0.19	0.29		
ACHY11	0.05	0.08	0.09	0.09	0.19	
STUY12	0.04	0.07	0.09	0.09	0.09	0.17
SATY13	0.04	0.08	0.08	0.09	0.08	0.11
LORY14	0.05	0.09	0.10	0.11	0.07	0.09
CVIX1	0.10	0.14	0.13	0.15	0.09	0.09
PVIX2	0.10	0.14	0.15	0.15	0.08	0.10
FVIX3	0.10	0.15	0.14	0.15	0.08	0.08
PRTX4	0.09	0.13	0.13	0.14	0.08	0.09

Covariance Matrix

	SATY13	LORY14	CVIX1	PVIX2	FVIX3	PRTX4
	--------	--------	--------	--------	--------	--------
SATY13	0.17					
LORY14	0.11	0.22				
CVIX1	0.09	0.09	0.29			
PVIX2	0.11	0.11	0.22	0.35		
FVIX3	0.10	0.10	0.20	0.22	0.32	
PRTX4	0.09	0.11	0.19	0.20	0.22	0.28

TI ISE

Parameter Specifications

LAMBDA-Y

	LEA	PLA	PRD	EFF
	--------	--------	--------	--------
TELY1	0	0	0	0
TEMY2	1	0	0	0
TEAY3	2	0	0	0
TEEY4	3	0	0	0
PLSY5	0	0	0	0
PLMY6	0	4	0	0
PLLY7	0	5	0	0
PDSY8	0	0	0	0
PDCY9	0	0	6	0
PDAY10	0	0	7	0
ACHY11	0	0	0	0
STUY12	0	0	0	8
SATY13	0	0	0	9
LORY14	0	0	0	10

LAMBDA-X

```
                 VIS
              --------
   CVIX1          11
   PVIX2          12
   FVIX3          13
   PRTX4          14
```

BETA

	LEA	PLA	PRD	EFF
LEA	0	0	0	0
PLA	15	0	0	0
PRD	16	0	0	0
EFF	17	18	19	0

GAMMA

	VIS
LEA	20
PLA	21
PRD	22
EFF	23

PSI

LEA	PLA	PRD	EFF
24	25	26	27

THETA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
TELY1	28					
TEMY2	0	29				
TEAY3	0	30	31			
TEEY4	0	32	33	34		
PLSY5	0	0	0	0	35	
PLMY6	0	0	0	0	36	37
PLLY7	0	38	0	0	0	0
PDSY8	40	0	0	0	0	0
PDCY9	42	0	0	0	0	0
PDAY10	0	0	0	0	0	0
ACHY11	0	0	0	48	0	49
STUY12	0	51	52	0	0	53
SATY13	56	57	0	0	0	0
LORY14	0	0	60	0	0	0

THETA-EPS

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
PLLY7	39					
PDSY8	0	41				
PDCY9	43	44	45			
PDAY10	0	46	0	47		
ACHY11	0	0	0	0	50	
STUY12	0	54	0	0	0	55
SATY13	0	0	0	0	58	0
LORY14	0	0	0	61	62	63

THETA-EPS

	SATY13	LORY14
SATY13	59	
LORY14	0	64

THETA-DELTA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
CVIX1	0	0	0	0	0	65
PVIX2	0	0	0	0	0	0
FVIX3	69	0	0	0	0	0
PRTX4	0	0	0	0	0	0

THETA-DELTA-EPS

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
CVIX1	0	0	0	0	0	0
PVIX2	0	0	0	0	0	0
FVIX3	0	0	0	0	0	0
PRTX4	0	0	0	0	0	0

THETA-DELTA-EPS

	SATY13	LORY14
CVIX1	0	0
PVIX2	0	0
FVIX3	0	0
PRTX4	0	0

THETA-DELTA

	CVIX1	PVIX2	FVIX3	PRTX4
CVIX1	66			
PVIX2	67	68		
FVIX3	0	0	70	
PRTX4	0	0	71	72

TI ISE

Number of Iterations = 23

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

	LEA	PLA	PRD	EFF
TELY1	0.43	- -	- -	- -
TEMY2	0.39	- -	- -	- -
	(0.02)			
	15.85			
TEAY3	0.37	- -	- -	- -
	(0.02)			
	15.13			
TEEY4	0.39	- -	- -	- -
	(0.03)			
	15.05			
PLSY5	- -	0.22	- -	- -
PLMY6	- -	0.29	- -	- -
		(0.04)		
		8.08		
PLLY7	- -	0.35	- -	- -

```
                        (0.06)
                         6.36

PDSY8       - -        - -        0.42       - -

PDCY9       - -        - -        0.43       - -
                                 (0.03)
                                 14.54

PDAY10      - -        - -        0.44       - -
                                 (0.03)
                                 12.78

ACHY11      - -        - -        - -        0.29

STUY12      - -        - -        - -        0.32
                                            (0.03)
                                            11.41

SATY13      - -        - -        - -        0.32
                                            (0.03)
                                            11.92

LORY14      - -        - -        - -        0.34
                                            (0.03)
                                            10.36


        LAMBDA-X

              VIS
            --------
CVIX1        0.44
            (0.02)
            18.99

PVIX2        0.47
            (0.03)
            18.29

FVIX3        0.46
            (0.02)
            19.29

PRTX4        0.44
            (0.02)
            19.09


        BETA

           LEA       PLA       PRD       EFF
         --------  --------  --------  --------
LEA        - -       - -       - -       - -

PLA        0.46      - -       - -       - -
          (0.13)
           3.57

PRD        0.54      - -       - -       - -
          (0.10)
           5.53

EFF        0.40     -0.13      0.20      - -
          (0.13)   (0.09)    (0.10)
           3.17    -1.51      2.03
```

```
        GAMMA

                 VIS
              --------
LEA          0.78
            (0.05)
             15.09

PLA          0.25
            (0.12)
              2.10

PRD          0.31
            (0.09)
              3.51

EFF          0.27
            (0.09)
              2.99


    Covariance Matrix of ETA and KSI

             LEA       PLA       PRD       EFF       VIS
          --------  --------  --------  --------  --------
LEA          1.00
PLA          0.66      1.00
PRD          0.79      0.55      1.00
EFF          0.68      0.41      0.64      1.00
VIS          0.78      0.61      0.74      0.65      1.00

    PHI

                 VIS
              --------
               1.00

    PSI
    Note: This matrix is diagonal.

             LEA       PLA       PRD       EFF
          --------  --------  --------  --------
             0.38      0.54      0.34      0.47
            (0.05)    (0.16)    (0.07)    (0.08)
             7.29      3.46      4.77      5.98


    Squared Multiple Correlations for Structural Equations

             LEA       PLA       PRD       EFF
          --------  --------  --------  --------
             0.62      0.46      0.66      0.53

    Squared Multiple Correlations for Reduced Form

             LEA       PLA       PRD       EFF
          --------  --------  --------  --------
             0.62      0.38      0.54      0.43

    Reduced Form

                 VIS
              --------
LEA          0.78
            (0.05)
             15.09
```

```
        PLA      0.61
                (0.10)
                 6.14

        PRD      0.74
                (0.06)
                12.04

        EFF      0.65
                (0.06)
                10.24
```

THETA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
TELY1	0.06 (0.01) 7.66					
TEMY2	- -	0.13 (0.01) 11.70				
TEAY3	- -	0.05 (0.01) 5.18	0.14 (0.01) 12.19			
TEEY4	- -	0.03 (0.01) 3.24	0.08 (0.01) 7.65	0.16 (0.01) 12.23		
PLSY5	- -	- -	- -	- -	0.20 (0.02) 12.68	
PLMY6	- -	- -	- -	- -	0.07 (0.01) 5.78	0.19 (0.02) 11.40
PLLY7	- -	-0.01 (0.01) -1.96	- -	- -	- -	- -
PDSY8	-0.03 (0.01) -3.90	- -	- -	- -	- -	- -
PDCY9	-0.02 (0.01) -2.25	- -	- -	- -	- -	- -
PDAY10	- -	- -	- -	- -	- -	- -
ACHY11	- -	- -	- -	0.02 (0.01) 2.47	- -	0.02 (0.01) 2.26
STUY12	- -	0.02 (0.01) 3.63	0.01 (0.00) 1.79	- -	- -	0.02 (0.01) 2.60
SATY13	-0.01 (0.00) -2.13	0.01 (0.01) 1.34	- -	- -	- -	- -
LORY14	- -	- -	0.01	- -	- -	- -

```
                                                  (0.01)
                                                   1.61


          THETA-EPS

                 PLLY7      PDSY8      PDCY9     PDAY10     ACHY11     STUY12
               --------   --------   --------   --------   --------   --------
   PLLY7          0.11
                 (0.02)
                  6.94

   PDSY8          - -        0.14
                           (0.02)
                            7.58

   PDCY9          0.02       0.03       0.13
                 (0.01)     (0.01)     (0.01)
                  2.12       2.48       9.92

   PDAY10         - -       -0.02       - -        0.10
                           (0.01)                (0.01)
                           -2.20                  7.76

   ACHY11         - -        - -        - -        - -        0.10
                                                            (0.01)
                                                            10.48

   STUY12         - -       -0.01       - -        - -        - -        0.07
                           (0.01)                                      (0.01)
                           -2.44                                        9.28

   SATY13         - -        - -        - -        - -       -0.02       - -
                                                            (0.01)
                                                            -2.50

   LORY14         - -        - -        - -        0.01      -0.03      -0.02
                                                 (0.01)     (0.01)     (0.01)
                                                  1.75      -3.55      -2.87


          THETA-EPS

                SATY13     LORY14
               --------   --------
   SATY13         0.07
                 (0.01)
                  9.13

   LORY14         - -        0.10
                           (0.01)
                            9.64


       Squared Multiple Correlations for Y - Variables

            TELY1      TEMY2      TEAY3      TEEY4      PLSY5      PLMY6
          --------   --------   --------   --------   --------   --------
            0.75       0.54       0.50       0.49       0.19       0.30

       Squared Multiple Correlations for Y - Variables

            PLLY7      PDSY8      PDCY9     PDAY10     ACHY11     STUY12
          --------   --------   --------   --------   --------   --------
            0.52       0.56       0.58       0.67       0.46       0.60



   Squared Multiple Correlations for Y - Variables
```

```
                    SATY13    LORY14
                   --------  --------
                     0.61      0.52

        THETA-DELTA-EPS

            TELY1     TEMY2     TEAY3     TEEY4     PLSY5     PLMY6
          --------  --------  --------  --------  --------  --------
CVIX1       - -       - -       - -       - -       - -      -0.02
                                                            (0.01)
                                                            -3.45


PVIX2       - -       - -       - -       - -       - -       - -

FVIX3       0.02      - -       - -       - -       - -       - -
           (0.01)
            3.07

PRTX4       - -       - -       - -       - -       - -       - -


        THETA-DELTA-EPS

            PLLY7     PDSY8     PDCY9     PDAY10    ACHY11    STUY12
          --------  --------  --------  --------  --------  --------
CVIX1       - -       - -       - -       - -       - -       - -

PVIX2       - -       - -       - -       - -       - -       - -

FVIX3       - -       - -       - -       - -       - -       - -

PRTX4       - -       - -       - -       - -       - -       - -


        THETA-DELTA-EPS

            SATY13    LORY14
          --------  --------
CVIX1       - -       - -

PVIX2       - -       - -

FVIX3       - -       - -

PRTX4       - -       - -


        THETA-DELTA

            CVIX1     PVIX2     FVIX3     PRTX4
          --------  --------  --------  --------
CVIX1       0.10
           (0.01)
            9.77

PVIX2       0.02      0.13
           (0.01)    (0.01)
            1.79     10.23

FVIX3       - -       - -       0.10
                               (0.01)
                                9.57

PRTX4       - -       - -       0.02      0.09
                               (0.01)    (0.01)
                                2.51      9.72


        Squared Multiple Correlations for X - Variables

            CVIX1     PVIX2     FVIX3     PRTX4
```

```
        --------  --------  --------  --------
          0.66      0.63      0.68      0.67
```

Goodness of Fit Statistics

Degrees of Freedom = 99
Minimum Fit Function Chi-Square = 99.98 (P = 0.45)
Normal Theory Weighted Least Squares Chi-Square = 96.99 (P = 0.54)
Estimated Non-centrality Parameter (NCP) = 0.0
90 Percent Confidence Interval for NCP = (0.0 ; 24.99)

Minimum Fit Function Value = 0.24
Population Discrepancy Function Value (F0) = 0.0
90 Percent Confidence Interval for F0 = (0.0 ; 0.060)
Root Mean Square Error of Approximation (RMSEA) = 0.0
90 Percent Confidence Interval for RMSEA = (0.0 ; 0.025)
P-Value for Test of Close Fit (RMSEA < 0.05) = 1.00

Expected Cross-Validation Index (ECVI) = 0.58
90 Percent Confidence Interval for ECVI = (0.58 ; 0.64)
ECVI for Saturated Model = 0.82
ECVI for Independence Model = 27.17

Chi-Square for Independence Model with 153 Degrees of Freedom = 11267.91
Independence AIC = 11303.91
Model AIC = 240.99
Saturated AIC = 342.00
Independence CAIC = 11394.51
Model CAIC = 603.37
Saturated CAIC = 1202.66

Normed Fit Index (NFI) = 0.99
Non-Normed Fit Index (NNFI) = 1.00
Parsimony Normed Fit Index (PNFI) = 0.64
Comparative Fit Index (CFI) = 1.00
Incremental Fit Index (IFI) = 1.00
Relative Fit Index (RFI) = 0.99

Critical N (CN) = 561.26

Root Mean Square Residual (RMR) = 0.0067
Standardized RMR = 0.026
Goodness of Fit Index (GFI) = 0.97
Adjusted Goodness of Fit Index (AGFI) = 0.96
Parsimony Goodness of Fit Index (PGFI) = 0.56

TI ISE

Fitted Covariance Matrix

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
TELY1	0.25					
TEMY2	0.17	0.28				
TEAY3	0.16	0.19	0.28			
TEEY4	0.17	0.18	0.22	0.31		
PLSY5	0.06	0.06	0.05	0.06	0.25	
PLMY6	0.08	0.07	0.07	0.07	0.14	0.27
PLLY7	0.10	0.08	0.09	0.09	0.08	0.10
PDSY8	0.11	0.13	0.12	0.13	0.05	0.07
PDCY9	0.13	0.13	0.12	0.13	0.05	0.07
PDAY10	0.15	0.14	0.13	0.14	0.05	0.07
ACHY11	0.09	0.08	0.07	0.09	0.03	0.05
STUY12	0.10	0.11	0.09	0.09	0.03	0.05
SATY13	0.09	0.09	0.08	0.09	0.03	0.04
LORY14	0.10	0.09	0.09	0.09	0.03	0.04
CVIX1	0.15	0.13	0.13	0.14	0.06	0.05
PVIX2	0.16	0.14	0.14	0.15	0.06	0.08
FVIX3	0.17	0.14	0.14	0.14	0.06	0.08

```
PRTX4        0.15        0.13        0.13        0.13        0.06        0.08
```

Fitted Covariance Matrix

```
              PLLY7       PDSY8       PDCY9      PDAY10      ACHY11      STUY12
            --------    --------    --------    --------    --------    --------
   PLLY7       0.24
   PDSY8       0.08        0.31
   PDCY9       0.10        0.21        0.31
  PDAY10       0.09        0.16        0.19        0.29
  ACHY11       0.04        0.08        0.08        0.08        0.19
  STUY12       0.05        0.07        0.09        0.09        0.09        0.17
  SATY13       0.05        0.09        0.09        0.09        0.08        0.10
  LORY14       0.05        0.09        0.09        0.11        0.07        0.09
   CVIX1       0.09        0.14        0.14        0.14        0.08        0.09
   PVIX2       0.10        0.15        0.15        0.15        0.09        0.10
   FVIX3       0.10        0.14        0.15        0.15        0.09        0.10
   PRTX4       0.09        0.13        0.14        0.14        0.08        0.09
```

Fitted Covariance Matrix

```
              SATY13      LORY14       CVIX1       PVIX2       FVIX3       PRTX4
            --------    --------    --------    --------    --------    --------
  SATY13       0.17
  LORY14       0.11        0.22
   CVIX1       0.09        0.10        0.29
   PVIX2       0.10        0.10        0.22        0.35
   FVIX3       0.10        0.10        0.20        0.22        0.32
   PRTX4       0.09        0.10        0.19        0.21        0.22        0.28
```

Fitted Residuals

```
              TELY1       TEMY2       TEAY3       TEEY4       PLSY5       PLMY6
            --------    --------    --------    --------    --------    --------
   TELY1       0.00
   TEMY2       0.00        0.00
   TEAY3       0.00        0.00        0.00
   TEEY4       0.00        0.00        0.00        0.00
   PLSY5       0.02        0.01        0.00        0.00        0.00
   PLMY6       0.00       -0.01        0.00        0.00        0.00        0.00
   PLLY7       0.00        0.00        0.00        0.00       -0.01        0.00
   PDSY8       0.00        0.00        0.01        0.01        0.01        0.00
   PDCY9       0.00        0.00        0.00        0.00        0.02        0.01
  PDAY10       0.00       -0.01        0.00        0.00        0.03        0.02
  ACHY11       0.00        0.00        0.00        0.00        0.01        0.00
  STUY12      -0.01        0.00        0.00        0.00        0.01        0.00
  SATY13       0.00        0.00        0.00        0.00        0.02        0.00
  LORY14       0.00        0.00        0.01        0.01        0.03        0.02
   CVIX1       0.00        0.00        0.00       -0.01        0.00        0.00
   PVIX2       0.00        0.00        0.00       -0.01        0.00       -0.01
   FVIX3       0.00       -0.01       -0.01        0.00       -0.01        0.00
   PRTX4       0.01        0.00        0.01        0.01        0.00       -0.01
```

Fitted Residuals

```
              PLLY7       PDSY8       PDCY9      PDAY10      ACHY11      STUY12
            --------    --------    --------    --------    --------    --------
   PLLY7       0.00
   PDSY8       0.00        0.00
   PDCY9       0.00        0.00        0.00
  PDAY10       0.01        0.00        0.00        0.00
  ACHY11       0.00        0.00        0.01        0.01        0.00
  STUY12      -0.01        0.00        0.00       -0.01        0.00        0.00
  SATY13      -0.01       -0.01       -0.01        0.00        0.00        0.00
  LORY14       0.00        0.00        0.01        0.00        0.00        0.00
   CVIX1       0.01        0.00       -0.01        0.00        0.00       -0.01
   PVIX2       0.00        0.00        0.01        0.00       -0.01        0.00
   FVIX3       0.00        0.01        0.00        0.00        0.00       -0.02
   PRTX4       0.00       -0.01        0.00        0.00        0.00        0.00
```

Fitted Residuals

	SATY13	LORY14	CVIX1	PVIX2	FVIX3	PRTX4
	--------	--------	--------	--------	--------	--------
SATY13	0.00					
LORY14	0.00	0.00				
CVIX1	0.00	-0.01	0.00			
PVIX2	0.01	0.01	0.00	0.00		
FVIX3	0.00	0.00	0.00	0.00	0.00	
PRTX4	0.00	0.01	0.00	0.00	0.00	0.00

Summary Statistics for Fitted Residuals

Smallest Fitted Residual =   -0.02
 Median Fitted Residual =   0.00
 Largest Fitted Residual =   0.03

Stemleaf Plot

```
-14|12
-12|91
-10|1
- 8|820
- 6|953554420
- 4|98862000987653221
- 2|777665200099887643332111
- 0|975332110098875444322210000000
  0|11223455677789999000001112345699
  2|0224556678899058889
  4|4660257
  6|151455
  8|43
 10|0133
 12|02569
 14|4423
 16|37
 18|9
 20|
 22|
 24|
 26|4
 28|5
```

Standardized Residuals

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
	--------	--------	--------	--------	--------	--------
TELY1	-2.21					
TEMY2	-0.34	0.07				
TEAY3	-1.79	0.18	0.61			
TEEY4	-0.73	0.49	0.12	-0.30		
PLSY5	2.27	1.37	0.27	-0.51	- -	
PLMY6	0.03	-0.97	-0.59	-0.41	0.23	-0.37
PLLY7	-1.18	-1.47	-0.44	-0.47	-1.57	0.41
PDSY8	1.57	0.00	1.61	0.81	1.31	-0.41
PDCY9	-0.70	-0.54	-0.28	0.18	1.45	0.51
PDAY10	-0.76	-1.06	0.60	0.14	2.82	1.75
ACHY11	-0.60	-0.22	-0.39	0.08	1.59	0.56
STUY12	-1.57	-0.68	-0.11	0.53	1.54	-0.15
SATY13	-0.14	0.22	0.64	0.80	2.34	0.13
LORY14	0.41	0.13	1.06	0.94	3.00	1.85
CVIX1	0.61	-0.58	-0.44	-1.40	0.11	-0.61
PVIX2	-0.24	-0.36	-0.14	-1.59	-0.27	-1.62
FVIX3	-0.90	-2.14	-1.16	-0.56	-0.71	-0.04
PRTX4	2.45	0.73	1.51	1.92	-0.51	-0.79

Standardized Residuals

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
	--------	--------	--------	--------	--------	--------
PLLY7	0.00					
PDSY8	0.31	0.92				

```
    PDCY9       0.72       0.66       0.95
    PDAY10      1.82       1.45       1.97       1.61
    ACHY11      0.65      -0.14       1.02       1.27      -0.51
    STUY12     -1.43      -1.11      -0.38      -1.08      -0.39      -0.73
    SATY13     -1.33      -0.99      -1.12      -0.99       0.53       0.83
    LORY14      0.10       0.15       1.01       0.81       0.99      -0.14
    CVIX1       1.22       0.04      -0.82       0.70       0.33      -1.09
    PVIX2       0.36      -0.23       0.88      -0.45      -1.15       0.47
    FVIX3      -0.61       0.86      -0.32       0.35      -0.69      -2.66
    PRTX4      -0.19      -1.14      -0.37      -0.55       0.00       0.26
```

            Standardized Residuals

```
               SATY13     LORY14      CVIX1      PVIX2      FVIX3      PRTX4
              --------   --------   --------   --------   --------   --------
    SATY13     -0.15
    LORY14     -1.25      -0.35
    CVIX1       0.38      -0.94       0.98
    PVIX2       1.52       1.44       1.35        - -
    FVIX3      -0.24       0.40       0.02       1.33       1.35
    PRTX4      -0.88       1.78       0.21      -1.16       1.23        - -
```

Summary Statistics for Standardized Residuals

Smallest Standardized Residual =   -2.66
 Median Standardized Residual =   0.00
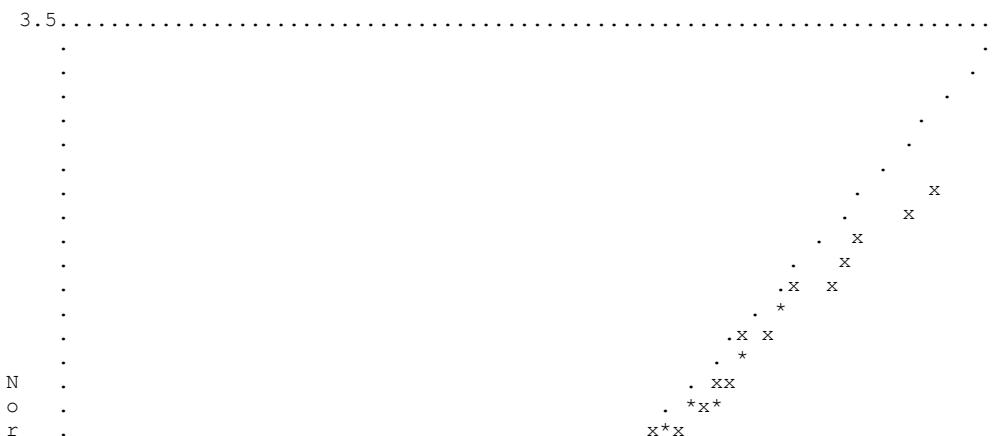 Largest Standardized Residual =   3.00

Stemleaf Plot

```
 - 2|7
 - 2|21
 - 1|866665
 - 1|44332221111111000
 - 0|999888777776666666555555
 - 0|4444444444433333222221111111110000000000
   0|111111111222222333334444
   0|5555566666677778888999999
   1|0000012233344444
   1|5555666688899
   2|033
   2|58
   3|0
```
Largest Negative Standardized Residuals
Residual for   FVIX3 and   STUY12 -2.66
Largest Positive Standardized Residuals
Residual for   PDAY10 and   PLSY5   2.82
Residual for   LORY14 and   PLSY5   3.00
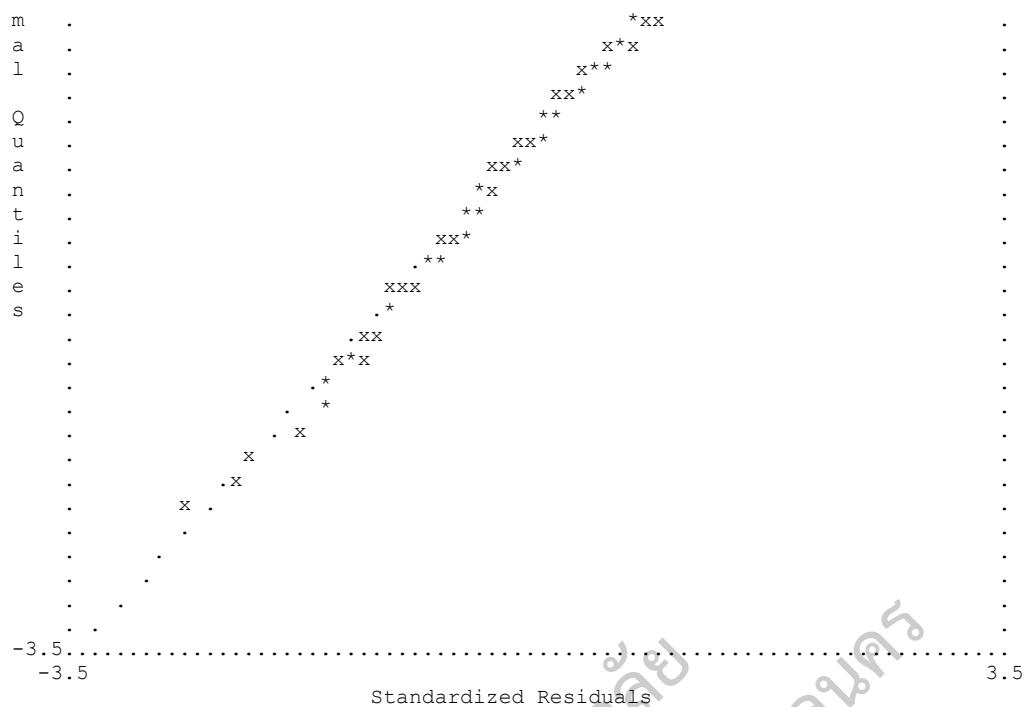
TI ISE

                   Qplot of Standardized Residuals

```
  3.5.........................................................................
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     .                                                               .    . .
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     .                                                   .     x            .
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     .                                                .     x               .
     .                                              .x   x                  .
     .                                            . *                       .
     .                                           .x x                       .
     .                                          . *                         .
  N  .                                        . xx                          .
  o  .                                       . *x*                          .
  r  .                                      x*x                             .
```

```
m  .                                              *xx                    .
a  .                                            x*x                      .
l  .                                           x**                       .
   .                                         xx*                         .
Q  .                                        **                           .
u  .                                      xx*                            .
a  .                                    xx*                              .
n  .                                   *x                                .
t  .                                  **                                 .
i  .                                xx*                                  .
l  .                              .**                                    .
e  .                            xxx                                      .
s  .                           .*                                        .
   .                         .xx                                         .
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-3.5....................................................................
   -3.5                                                              3.5
                    Standardized Residuals


TI ISE

Modification Indices and Expected Change

        Modification Indices for LAMBDA-Y

               LEA        PLA        PRD        EFF
             --------   --------   --------   --------
      TELY1    - -        0.02       1.42       0.54
      TEMY2    - -        0.16       0.80       0.15
      TEAY3    - -        0.02       1.07       0.01
      TEEY4    - -        0.63       0.02       0.89
      PLSY5    7.17       - -        6.51       8.80
      PLMY6    2.61       - -        0.70       0.62
      PLLY7    4.53       - -        0.22       3.19
      PDSY8    1.05       0.05       - -        0.89
      PDCY9    0.32       0.05       - -        0.63
      PDAY10   0.15       5.18       - -        0.06
      ACHY11   0.04       0.98       1.62       - -
      STUY12   1.03       1.77       1.16       - -
      SATY13   0.07       0.26       1.50       - -
      LORY14   1.23       1.44       1.81       - -


        Expected Change for LAMBDA-Y

               LEA        PLA        PRD        EFF
             --------   --------   --------   --------
      TELY1    - -       -0.01      -0.08      -0.03
      TEMY2    - -       -0.02      -0.04      -0.01
      TEAY3    - -        0.00       0.04       0.00
      TEEY4    - -       -0.03      -0.01       0.03
      PLSY5    0.11       - -        0.08       0.08
      PLMY6   -0.08       - -       -0.03      -0.03
      PLLY7   -0.29       - -        0.02      -0.08
      PDSY8    0.13      -0.01       - -       -0.04
      PDCY9   -0.06      -0.01       - -        0.03
      PDAY10  -0.05       0.09       - -       -0.01
      ACHY11   0.01       0.03       0.05       - -
      STUY12  -0.04      -0.03      -0.04       - -
      SATY13  -0.01      -0.01      -0.04       - -
      LORY14   0.05       0.04       0.06       - -
```

```
        Standardized Expected Change for LAMBDA-Y

                 LEA       PLA       PRD       EFF
               --------  --------  --------  --------
     TELY1        - -     -0.01     -0.08     -0.03
     TEMY2        - -     -0.02     -0.04     -0.01
     TEAY3        - -      0.00      0.04      0.00
     TEEY4        - -     -0.03     -0.01      0.03
     PLSY5       0.11      - -       0.08      0.08
     PLMY6      -0.08      - -      -0.03     -0.03
     PLLY7      -0.29      - -       0.02     -0.08
     PDSY8       0.13     -0.01      - -      -0.04
     PDCY9      -0.06     -0.01      - -       0.03
     PDAY10     -0.05      0.09      - -      -0.01
     ACHY11      0.01      0.03      0.05      - -
     STUY12     -0.04     -0.03     -0.04      - -
     SATY13     -0.01     -0.01     -0.04      - -
     LORY14      0.05      0.04      0.06      - -

     Completely Standardized Expected Change for LAMBDA-Y

                 LEA       PLA       PRD       EFF
               --------  --------  --------  --------
     TELY1        - -     -0.01     -0.16     -0.06
     TEMY2        - -     -0.04     -0.08     -0.03
     TEAY3        - -      0.01      0.07      0.01
     TEEY4        - -     -0.05     -0.01      0.05
     PLSY5       0.21      - -       0.16      0.16
     PLMY6      -0.16      - -      -0.06     -0.05
     PLLY7      -0.60      - -       0.05     -0.16
     PDSY8       0.23     -0.02      - -      -0.07
     PDCY9      -0.11     -0.02      - -       0.05
     PDAY10     -0.09      0.16      - -      -0.02
     ACHY11      0.02      0.07      0.10      - -
     STUY12     -0.10     -0.08     -0.09      - -
     SATY13     -0.03     -0.03     -0.10      - -
     LORY14      0.10      0.08      0.12      - -
```

No Non-Zero Modification Indices for LAMBDA-X

```
        Modification Indices for BETA

                 LEA       PLA       PRD       EFF
               --------  --------  --------  --------
     LEA          - -       - -       - -       - -
     PLA          - -       - -      3.59      3.59
     PRD          - -      3.59       - -      3.59
     EFF          - -       - -       - -       - -

          Expected Change for BETA

                 LEA       PLA       PRD       EFF
               --------  --------  --------  --------
     LEA          - -       - -       - -       - -
     PLA          - -       - -      0.25      1.25
     PRD          - -      0.16       - -     -1.22
     EFF          - -       - -       - -       - -

        Standardized Expected Change for BETA

                 LEA       PLA       PRD       EFF
               --------  --------  --------  --------
     LEA          - -       - -       - -       - -
     PLA          - -       - -      0.25      1.25
     PRD          - -      0.16       - -     -1.22
     EFF          - -       - -       - -       - -
```

No Non-Zero Modification Indices for GAMMA

No Non-Zero Modification Indices for PHI

```
Modification Indices for PSI

             LEA        PLA        PRD        EFF
          --------   --------   --------   --------
 LEA         - -
 PLA         - -         - -
 PRD         - -        3.59        - -
 EFF         - -         - -        - -        - -


  Expected Change for PSI

             LEA        PLA        PRD        EFF
          --------   --------   --------   --------
 LEA         - -
 PLA         - -         - -
 PRD         - -        0.09        - -
 EFF         - -         - -        - -        - -


  Standardized Expected Change for PSI

             LEA        PLA        PRD        EFF
          --------   --------   --------   --------
 LEA         - -
 PLA         - -         - -
 PRD         - -        0.09        - -
 EFF         - -         - -        - -        - -


  Modification Indices for THETA-EPS

           TELY1      TEMY2      TEAY3      TEEY4      PLSY5      PLMY6
          --------   --------   --------   --------   --------   --------
 TELY1       - -
 TEMY2      1.45        - -
 TEAY3      0.76        - -        - -
 TEEY4      0.09        - -        - -        - -
 PLSY5      2.42       0.85       0.03       2.26        - -
 PLMY6      0.27       0.78       0.02       0.28        - -        - -
 PLLY7      1.21        - -       0.07       0.00       2.35       2.35
 PDSY8       - -       0.07       1.87       0.02       0.48       0.90
 PDCY9       - -       0.15       1.64       0.23       0.01       0.00
 PDAY10     1.25       0.49       0.91       0.25       0.53       0.79
 ACHY11     0.29       0.07       0.48        - -       0.33        - -
 STUY12     0.06        - -        - -       0.63       0.00        - -
 SATY13      - -        - -       0.11       0.04       1.39       0.44
 LORY14     0.00       0.15        - -       0.10       1.31       0.39


  Modification Indices for THETA-EPS

           PLLY7      PDSY8      PDCY9      PDAY10     ACHY11     STUY12
          --------   --------   --------   --------   --------   --------
 PLLY7       - -
 PDSY8      0.05        - -
 PDCY9       - -        - -        - -
 PDAY10     1.79        - -        - -        - -
 ACHY11     0.77       0.36       0.44       1.71        - -
 STUY12     0.85        - -       0.17       0.46       0.10        - -
 SATY13     0.70       0.01       0.92       0.08        - -       1.39
 LORY14     0.25       0.34       1.38        - -        - -        - -


  Modification Indices for THETA-EPS

           SATY13     LORY14
          --------   --------
 SATY13      - -
 LORY14     1.50        - -


  Expected Change for THETA-EPS

           TELY1      TEMY2      TEAY3      TEEY4      PLSY5      PLMY6
          --------   --------   --------   --------   --------   --------
```

```
 TELY1        - -
 TEMY2       0.01          - -
 TEAY3      -0.01          - -           - -
 TEEY4       0.00          - -           - -          - -
 PLSY5       0.01         0.01          0.00        -0.01          - -
 PLMY6       0.00        -0.01          0.00         0.00          - -          - -
 PLLY7      -0.01          - -          0.00         0.00        -0.02         0.02
 PDSY8        - -         0.00          0.01         0.00         0.01        -0.01
 PDCY9        - -         0.00         -0.01         0.00         0.00         0.00
 PDAY10     -0.01         0.00          0.01         0.00         0.01         0.01
 ACHY11      0.00         0.00          0.00          - -         0.00          - -
 STUY12      0.00          - -           - -         0.01         0.00          - -
 SATY13       - -          - -          0.00         0.00         0.01         0.00
 LORY14      0.00         0.00           - -         0.00         0.01         0.00
```

Expected Change for THETA-EPS

```
             PLLY7        PDSY8         PDCY9        PDAY10       ACHY11        STUY12
            --------     --------      --------     --------     --------     --------
 PLLY7        - -
 PDSY8       0.00          - -
 PDCY9        - -          - -           - -
 PDAY10      0.01          - -           - -          - -
 ACHY11      0.01         0.00          0.00         0.01          - -
 STUY12     -0.01          - -          0.00         0.00         0.00          - -
 SATY13      0.00         0.00         -0.01         0.00          - -         0.01
 LORY14      0.00         0.00          0.01          - -          - -          - -
```

Expected Change for THETA-EPS

```
            SATY13       LORY14
           --------     --------
 SATY13      - -
 LORY14     -0.01         - -
```

Completely Standardized Expected Change for THETA-EPS

```
             TELY1        TEMY2         TEAY3        TEEY4        PLSY5        PLMY6
            --------     --------      --------     --------     --------     --------
 TELY1        - -
 TEMY2       0.03          - -
 TEAY3      -0.02          - -           - -
 TEEY4       0.01          - -           - -          - -
 PLSY5       0.04         0.02          0.00        -0.04          - -
 PLMY6      -0.01        -0.02          0.00         0.01          - -          - -
 PLLY7      -0.03          - -          0.01         0.00        -0.07         0.09
 PDSY8        - -        -0.01          0.03         0.00         0.02        -0.03
 PDCY9        - -         0.01         -0.02         0.01         0.00         0.00
 PDAY10     -0.03        -0.02          0.02        -0.01         0.02         0.02
 ACHY11     -0.01         0.01         -0.02          - -         0.02          - -
 STUY12     -0.01          - -           - -         0.02         0.00          - -
 SATY13       - -          - -          0.01         0.00         0.03        -0.02
 LORY14      0.00        -0.01           - -         0.01         0.04         0.02
```

Completely Standardized Expected Change for THETA-EPS

```
             PLLY7        PDSY8         PDCY9        PDAY10       ACHY11        STUY12
            --------     --------      --------     --------     --------     --------
 PLLY7        - -
 PDSY8      -0.01          - -
 PDCY9        - -          - -           - -
 PDAY10      0.04          - -           - -          - -
 ACHY11      0.03        -0.02          0.02         0.04          - -
 STUY12     -0.03          - -          0.01        -0.02        -0.02          - -
 SATY13     -0.02         0.00         -0.02        -0.01          - -         0.05
 LORY14     -0.02        -0.02          0.03          - -          - -          - -
```

Completely Standardized Expected Change for THETA-EPS

```
            SATY13       LORY14
           --------     --------
```

```
SATY13        - -
LORY14     -0.06        - -
```

Modification Indices for THETA-DELTA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
CVIX1	0.32	0.00	0.11	1.94	0.10	- -
PVIX2	0.15	0.07	0.34	1.74	0.01	1.61
FVIX3	- -	1.69	0.32	0.06	2.85	2.82
PRTX4	0.93	0.28	0.00	3.03	0.16	0.26

Modification Indices for THETA-DELTA-EPS

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
CVIX1	1.79	0.18	2.11	1.93	1.72	0.88
PVIX2	0.19	0.36	2.33	1.37	2.72	1.27
FVIX3	0.33	1.91	0.34	0.70	0.00	4.43
PRTX4	0.07	1.59	0.20	1.67	0.09	2.70

Modification Indices for THETA-DELTA-EPS

	SATY13	LORY14
CVIX1	1.06	5.07
PVIX2	0.93	0.72
FVIX3	1.44	0.09
PRTX4	5.56	3.47

Expected Change for THETA-DELTA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
CVIX1	0.00	0.00	0.00	-0.01	0.00	- -
PVIX2	0.00	0.00	0.00	-0.01	0.00	-0.01
FVIX3	- -	-0.01	0.00	0.00	-0.01	0.01
PRTX4	0.01	0.00	0.00	0.01	0.00	0.00

Expected Change for THETA-DELTA-EPS

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
CVIX1	0.01	0.00	-0.01	0.01	0.01	0.00
PVIX2	0.00	0.00	0.01	-0.01	-0.01	0.01
FVIX3	0.00	0.01	0.00	0.01	0.00	-0.01
PRTX4	0.00	-0.01	0.00	-0.01	0.00	0.01

Expected Change for THETA-DELTA-EPS

	SATY13	LORY14
CVIX1	0.00	-0.01
PVIX2	0.01	0.01
FVIX3	0.01	0.00
PRTX4	-0.01	0.01

Completely Standardized Expected Change for THETA-DELTA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
CVIX1	0.01	0.00	0.01	-0.03	-0.01	- -
PVIX2	-0.01	0.01	0.01	-0.03	0.00	-0.03
FVIX3	- -	-0.03	-0.01	0.00	-0.04	0.04
PRTX4	0.02	0.01	0.00	0.03	-0.01	-0.01

Completely Standardized Expected Change for THETA-DELTA-EPS

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
CVIX1	0.04	0.01	-0.03	0.03	0.03	-0.02

```
PVIX2        0.01       -0.01        0.03       -0.03       -0.04        0.03
FVIX3       -0.01        0.03       -0.01        0.02        0.00       -0.04
PRTX4       -0.01       -0.03        0.01       -0.03       -0.01        0.03
```

Completely Standardized Expected Change for THETA-DELTA-EPS

	SATY13	LORY14
CVIX1	0.02	-0.05
PVIX2	0.02	0.02
FVIX3	0.03	-0.01
PRTX4	-0.05	0.04

Modification Indices for THETA-DELTA

	CVIX1	PVIX2	FVIX3	PRTX4
CVIX1	- -			
PVIX2	- -	- -		
FVIX3	0.02	1.57	- -	
PRTX4	0.03	1.43	- -	- -

Expected Change for THETA-DELTA

	CVIX1	PVIX2	FVIX3	PRTX4
CVIX1	- -			
PVIX2	- -	- -		
FVIX3	0.00	0.01	- -	
PRTX4	0.00	-0.01	- -	- -

Completely Standardized Expected Change for THETA-DELTA

	CVIX1	PVIX2	FVIX3	PRTX4
CVIX1	- -			
PVIX2	- -	- -		
FVIX3	0.00	0.03	- -	
PRTX4	0.00	-0.03	- -	- -

TI ISE

Factor Scores Regressions

ETA

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
LEA	0.92	0.25	0.12	0.17	0.01	0.05
PLA	0.23	0.20	0.00	0.04	0.16	0.42
PRD	0.38	-0.01	0.01	0.01	0.01	0.01
EFF	0.25	-0.12	-0.02	0.00	0.05	-0.12

ETA

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
LEA	0.12	0.22	0.07	0.09	0.03	0.00
PLA	0.94	0.10	-0.08	0.08	-0.06	-0.12
PRD	-0.01	0.51	0.32	0.70	0.01	0.11
EFF	0.00	0.13	0.01	-0.02	0.56	0.72

ETA

	SATY13	LORY14	CVIX1	PVIX2	FVIX3	PRTX4
LEA	0.18	0.03	0.10	0.07	-0.08	0.11
PLA	0.03	-0.03	0.18	0.04	0.03	0.08
PRD	0.09	-0.04	0.06	0.04	-0.01	0.07
EFF	0.66	0.60	0.01	0.04	0.00	0.05

KSI

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
VIS	0.09	0.04	0.02	0.03	-0.01	0.08

KSI

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
VIS	0.06	0.07	0.03	0.08	0.03	0.04

KSI

	SATY13	LORY14	CVIX1	PVIX2	FVIX3	PRTX4
VIS	0.07	0.04	0.45	0.34	0.39	0.41

TI ISE

Standardized Solution

LAMBDA-Y

	LEA	PLA	PRD	EFF
TELY1	0.43	- -	- -	- -
TEMY2	0.39	- -	- -	- -
TEAY3	0.37	- -	- -	- -
TEEY4	0.39	- -	- -	- -
PLSY5	- -	0.22	- -	- -
PLMY6	- -	0.29	- -	- -
PLLY7	- -	0.35	- -	- -
PDSY8	- -	- -	0.42	- -
PDCY9	- -	- -	0.43	- -
PDAY10	- -	- -	0.44	- -
ACHY11	- -	- -	- -	0.29
STUY12	- -	- -	- -	0.32
SATY13	- -	- -	- -	0.32
LORY14	- -	- -	- -	0.34

LAMBDA-X

	VIS
CVIX1	0.44
PVIX2	0.47
FVIX3	0.46
PRTX4	0.44

BETA

	LEA	PLA	PRD	EFF
LEA	- -	- -	- -	- -
PLA	0.46	- -	- -	- -
PRD	0.54	- -	- -	- -
EFF	0.40	-0.13	0.20	- -

GAMMA

	VIS
LEA	0.78
PLA	0.25
PRD	0.31
EFF	0.27

Correlation Matrix of ETA and KSI

```
          LEA       PLA       PRD       EFF       VIS
        --------  --------  --------  --------  --------
LEA       1.00
PLA       0.66      1.00
PRD       0.79      0.55      1.00
EFF       0.68      0.41      0.64      1.00
VIS       0.78      0.61      0.74      0.65      1.00
```

     PSI
    Note: This matrix is diagonal.

```
          LEA       PLA       PRD       EFF
        --------  --------  --------  --------
          0.38      0.54      0.34      0.47
```

     Regression Matrix ETA on KSI (Standardized)

```
          VIS
        --------
LEA       0.78
PLA       0.61
PRD       0.74
EFF       0.65
```

TI ISE

Completely Standardized Solution

     LAMBDA-Y

```
          LEA       PLA       PRD       EFF
        --------  --------  --------  --------
TELY1     0.86      - -       - -       - -
TEMY2     0.73      - -       - -       - -
TEAY3     0.71      - -       - -       - -
TEEY4     0.70      - -       - -       - -
PLSY5     - -       0.44      - -       - -
PLMY6     - -       0.55      - -       - -
PLLY7     - -       0.72      - -       - -
PDSY8     - -       - -       0.75      - -
PDCY9     - -       - -       0.76      - -
PDAY10    - -       - -       0.82      - -
ACHY11    - -       - -       - -       0.68
STUY12    - -       - -       - -       0.78
SATY13    - -       - -       - -       0.78
LORY14    - -       - -       - -       0.72
```

     LAMBDA-X

```
          VIS
        --------
CVIX1     0.81
PVIX2     0.80
FVIX3     0.82
PRTX4     0.82
```

     BETA

```
          LEA       PLA       PRD       EFF
        --------  --------  --------  --------
LEA       - -       - -       - -       - -
PLA       0.46      - -       - -       - -
PRD       0.54      - -       - -       - -
EFF       0.40     -0.13      0.20      - -
```

     GAMMA

```
          VIS
        --------
LEA       0.78
PLA       0.25
```

```
PRD        0.31
EFF        0.27
```

Correlation Matrix of ETA and KSI

	LEA	PLA	PRD	EFF	VIS
LEA	1.00				
PLA	0.66	1.00			
PRD	0.79	0.55	1.00		
EFF	0.68	0.41	0.64	1.00	
VIS	0.78	0.61	0.74	0.65	1.00

PSI
Note: This matrix is diagonal.

LEA	PLA	PRD	EFF
0.38	0.54	0.34	0.47

THETA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
TELY1	0.25					
TEMY2	- -	0.46				
TEAY3	- -	0.16	0.50			
TEEY4	- -	0.10	0.26	0.51		
PLSY5	- -	- -	- -	- -	0.81	
PLMY6	- -	- -	- -	- -	0.28	0.70
PLLY7	- -	-0.05	- -	- -	- -	- -
PDSY8	-0.10	- -	- -	- -	- -	- -
PDCY9	-0.06	- -	- -	- -	- -	- -
PDAY10	- -	- -	- -	- -	- -	- -
ACHY11	- -	- -	- -	0.06	- -	0.08
STUY12	- -	0.10	0.04	- -	- -	0.08
SATY13	-0.05	0.03	- -	- -	- -	- -
LORY14	- -	- -	0.04	- -	- -	- -

THETA-EPS

	PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12
PLLY7	0.48					
PDSY8	- -	0.44				
PDCY9	0.06	0.10	0.42			
PDAY10	- -	-0.08	- -	0.33		
ACHY11	- -	- -	- -	- -	0.54	
STUY12	- -	-0.06	- -	- -	- -	0.40
SATY13	- -	- -	- -	- -	-0.09	- -
LORY14	- -	- -	- -	0.05	-0.14	-0.10

THETA-EPS

	SATY13	LORY14
SATY13	0.39	
LORY14	- -	0.48

THETA-DELTA-EPS

	TELY1	TEMY2	TEAY3	TEEY4	PLSY5	PLMY6
CVIX1	- -	- -	- -	- -	- -	-0.09
PVIX2	- -	- -	- -	- -	- -	- -
FVIX3	0.06	- -	- -	- -	- -	- -
PRTX4	- -	- -	- -	- -	- -	- -

THETA-DELTA-EPS

PLLY7	PDSY8	PDCY9	PDAY10	ACHY11	STUY12

```
          --------  --------  --------  --------  --------  --------
CVIX1        - -       - -       - -       - -       - -       - -
PVIX2        - -       - -       - -       - -       - -       - -
FVIX3        - -       - -       - -       - -       - -       - -
PRTX4        - -       - -       - -       - -       - -       - -

        THETA-DELTA-EPS

          SATY13    LORY14
          --------  --------
CVIX1        - -       - -
PVIX2        - -       - -
FVIX3        - -       - -
PRTX4        - -       - -

        THETA-DELTA

          CVIX1     PVIX2     FVIX3     PRTX4
          --------  --------  --------  --------
CVIX1       0.34
PVIX2       0.05      0.37
FVIX3        - -       - -      0.32
PRTX4        - -       - -      0.07      0.33
```

Regression Matrix ETA on KSI (Standardized)

```
              VIS
           --------
    LEA      0.78
    PLA      0.61
    PRD      0.74
    EFF      0.65
```

TI ISE

Total and Indirect Effects

Total Effects of KSI on ETA

```
              VIS
           --------
    LEA      0.78
            (0.05)
            15.09

    PLA      0.61
            (0.10)
             6.14

    PRD      0.74
            (0.06)
            12.04

    EFF      0.65
            (0.06)
            10.24
```

Indirect Effects of KSI on ETA

```
              VIS
           --------
    LEA      - -

    PLA      0.36
            (0.10)
             3.52

    PRD      0.43
            (0.08)
             5.39
```

```
EFF          0.38
            (0.08)
             4.82


    Total Effects of ETA on ETA

            LEA        PLA        PRD        EFF
          --------   --------   --------   --------
LEA         - -        - -        - -        - -

PLA         0.46       - -        - -        - -
           (0.13)
            3.57

PRD         0.54       - -        - -        - -
           (0.10)
            5.53

EFF         0.45      -0.13       0.20       - -
           (0.09)    (0.09)     (0.10)
            4.78     -1.51       2.03


Largest Eigenvalue of B*B' (Stability Index) is   0.685

    Indirect Effects of ETA on ETA

            LEA        PLA        PRD        EFF
          --------   --------   --------   --------
LEA         - -        - -        - -        - -

PLA         - -        - -        - -        - -

PRD         - -        - -        - -        - -

EFF         0.05       - -        - -        - -
           (0.07)
            0.66


    Total Effects of ETA on Y

            LEA        PLA        PRD        EFF
          --------   --------   --------   --------
TELY1       0.43       - -        - -        - -

TEMY2       0.39       - -        - -        - -
           (0.02)
           15.85

TEAY3       0.37       - -        - -        - -
           (0.02)
           15.13

TEEY4       0.39       - -        - -        - -
           (0.03)
           15.05

PLSY5       0.10       0.22       - -        - -
           (0.03)
            3.57

PLMY6       0.13       0.29       - -        - -
           (0.04)    (0.04)
            3.73      8.08

PLLY7       0.16       0.35       - -        - -
           (0.04)    (0.06)
            3.91      6.36
```

PDSY8	0.23 (0.04) 5.53	- -	0.42	- -
PDCY9	0.23 (0.04) 5.61	- -	0.43 (0.03) 14.54	- -
PDAY10	0.24 (0.04) 5.85	- -	0.44 (0.03) 12.78	- -
ACHY11	0.13 (0.03) 4.78	-0.04 (0.03) -1.51	0.06 (0.03) 2.03	0.29
STUY12	0.14 (0.03) 4.92	-0.04 (0.03) -1.51	0.07 (0.03) 2.03	0.32 (0.03) 11.41
SATY13	0.14 (0.03) 4.88	-0.04 (0.03) -1.51	0.07 (0.03) 2.03	0.32 (0.03) 11.92
LORY14	0.15 (0.03) 4.91	-0.04 (0.03) -1.51	0.07 (0.03) 2.02	0.34 (0.03) 10.36

Indirect Effects of ETA on Y

	LEA	PLA	PRD	EFF
	--------	--------	--------	-------
TELY1	- -	- -	- -	- -
TEMY2	- -	- -	- -	- -
TEAY3	- -	- -	- -	- -
TEEY4	- -	- -	- -	- -
PLSY5	0.10 (0.03) 3.57	- -	- -	- -
PLMY6	0.13 (0.04) 3.73	- -	- -	- -
PLLY7	0.16 (0.04) 3.91	- -	- -	- -
PDSY8	0.23 (0.04) 5.53	- -	- -	- -
PDCY9	0.23 (0.04) 5.61	- -	- -	- -
PDAY10	0.24 (0.04) 5.85	- -	- -	- -
ACHY11	0.13 (0.03) 4.78	-0.04 (0.03) -1.51	0.06 (0.03) 2.03	- -
STUY12	0.14	-0.04	0.07	- -

```
                 (0.03)    (0.03)    (0.03)
                  4.92     -1.51      2.03

 SATY13           0.14     -0.04      0.07       - -
                 (0.03)    (0.03)    (0.03)
                  4.88     -1.51      2.03

 LORY14           0.15     -0.04      0.07       - -
                 (0.03)    (0.03)    (0.03)
                  4.91     -1.51      2.02


         Total Effects of KSI on Y

                   VIS
                 --------
   TELY1          0.34
                 (0.02)
                 15.09

   TEMY2          0.31
                 (0.02)
                 12.97

   TEAY3          0.29
                 (0.02)
                 12.56

   TEEY4          0.31
                 (0.02)
                 12.52

   PLSY5          0.13
                 (0.02)
                  6.14

   PLMY6          0.18
                 (0.02)
                  7.21

   PLLY7          0.22
                 (0.02)
                  9.10

   PDSY8          0.31
                 (0.03)
                 12.04

   PDCY9          0.31
                 (0.03)
                 12.19

  PDAY10          0.33
                 (0.02)
                 13.19

  ACHY11          0.19
                 (0.02)
                 10.24

  STUY12          0.21
                 (0.02)
                 11.28

  SATY13          0.21
                 (0.02)
                 11.27

  LORY14          0.22
                 (0.02)
                 10.76
```

```
TI ISE

Standardized Total and Indirect Effects

        Standardized Total Effects of KSI on ETA

            VIS
          --------
    LEA     0.78
    PLA     0.61
    PRD     0.74
    EFF     0.65

        Standardized Indirect Effects of KSI on ETA

            VIS
          --------
    LEA     - -
    PLA     0.36
    PRD     0.43
    EFF     0.38

        Standardized Total Effects of ETA on ETA

            LEA       PLA       PRD       EFF
          --------  --------  --------  --------
    LEA     - -       - -       - -       - -
    PLA     0.46      - -       - -       - -
    PRD     0.54      - -       - -       - -
    EFF     0.45     -0.13      0.20      - -

        Standardized Indirect Effects of ETA on ETA

            LEA       PLA       PRD       EFF
          --------  --------  --------  --------
    LEA     - -       - -       - -       - -
    PLA     - -       - -       - -       - -
    PRD     - -       - -       - -       - -
    EFF     0.05      - -       - -       - -

        Standardized Total Effects of ETA on Y

            LEA       PLA       PRD       EFF
          --------  --------  --------  --------
  TELY1     0.43      - -       - -       - -
  TEMY2     0.39      - -       - -       - -
  TEAY3     0.37      - -       - -       - -
  TEEY4     0.39      - -       - -       - -
  PLSY5     0.10      0.22      - -       - -
  PLMY6     0.13      0.29      - -       - -
  PLLY7     0.16      0.35      - -       - -
  PDSY8     0.23      - -       0.42      - -
  PDCY9     0.23      - -       0.43      - -
 PDAY10     0.24      - -       0.44      - -
 ACHY11     0.13     -0.04      0.06      0.29
 STUY12     0.14     -0.04      0.07      0.32
 SATY13     0.14     -0.04      0.07      0.32
 LORY14     0.15     -0.04      0.07      0.34

        Completely Standardized Total Effects of ETA on Y

            LEA       PLA       PRD       EFF
          --------  --------  --------  --------
  TELY1     0.86      - -       - -       - -
  TEMY2     0.73      - -       - -       - -
  TEAY3     0.71      - -       - -       - -
  TEEY4     0.70      - -       - -       - -
  PLSY5     0.20      0.44      - -       - -
  PLMY6     0.26      0.55      - -       - -
```

PLLY7	0.33	0.72	- -	- -
PDSY8	0.41	- -	0.75	- -
PDCY9	0.41	- -	0.76	- -
PDAY10	0.45	- -	0.82	- -
ACHY11	0.30	-0.09	0.14	0.68
STUY12	0.35	-0.10	0.16	0.78
SATY13	0.35	-0.10	0.16	0.78
LORY14	0.32	-0.10	0.15	0.72

Standardized Indirect Effects of ETA on Y

	LEA	PLA	PRD	EFF
TELY1	- -	- -	- -	- -
TEMY2	- -	- -	- -	- -
TEAY3	- -	- -	- -	- -
TEEY4	- -	- -	- -	- -
PLSY5	0.10	- -	- -	- -
PLMY6	0.13	- -	- -	- -
PLLY7	0.16	- -	- -	- -
PDSY8	0.23	- -	- -	- -
PDCY9	0.23	- -	- -	- -
PDAY10	0.24	- -	- -	- -
ACHY11	0.13	-0.04	0.06	- -
STUY12	0.14	-0.04	0.07	- -
SATY13	0.14	-0.04	0.07	- -
LORY14	0.15	-0.04	0.07	- -

Completely Standardized Indirect Effects of ETA on Y

	LEA	PLA	PRD	EFF
TELY1	- -	- -	- -	- -
TEMY2	- -	- -	- -	- -
TEAY3	- -	- -	- -	- -
TEEY4	- -	- -	- -	- -
PLSY5	0.20	- -	- -	- -
PLMY6	0.26	- -	- -	- -
PLLY7	0.33	- -	- -	- -
PDSY8	0.41	- -	- -	- -
PDCY9	0.41	- -	- -	- -
PDAY10	0.45	- -	- -	- -
ACHY11	0.30	-0.09	0.14	- -
STUY12	0.35	-0.10	0.16	- -
SATY13	0.35	-0.10	0.16	- -
LORY14	0.32	-0.10	0.15	- -

Standardized Total Effects of KSI on Y

	VIS
TELY1	0.34
TEMY2	0.31
TEAY3	0.29
TEEY4	0.31
PLSY5	0.13
PLMY6	0.18
PLLY7	0.22
PDSY8	0.31
PDCY9	0.31
PDAY10	0.33
ACHY11	0.19
STUY12	0.21
SATY13	0.21
LORY14	0.22

Completely Standardized Total Effects of KSI on Y

	VIS
TELY1	0.68

```
TEMY2      0.58
TEAY3      0.55
TEEY4      0.55
PLSY5      0.27
PLMY6      0.34
PLLY7      0.44
PDSY8      0.55
PDCY9      0.56
PDAY10     0.60
ACHY11     0.44
STUY12     0.51
SATY13     0.51
LORY14     0.47

             Time used:    0.094 Seconds
```