**ภาคผนวก ช**

**ค่าลิสเรล**

 LISREL 8.80 (STUDENT EDITION)

 BY

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 Scientific Software International, Inc.

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 Lincolnwood, IL 60712, U.S.A.

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 The following lines were read from file C:\Users\Administrator\Desktop\2 Dr ซันโย 3 บท OK\ซันโย.spl:

 A Model of KM

 Observed Variables: KM COOPERATION IT PROGRESS STORAGE

 Correlation matrix:

 1.00

 .454 1.00

 .363 .024 1.00

 .350 .177 -.012 1.00

 .614 .464 .134 .235 1.00

 Sample Size: 319

 Relationships

 KM = COOPERATION IT PROGRESS STORAGE

 PROGRESS = COOPERATION STORAGE

 STORAGE = COOPERATION IT

 Options: me = ml

 lisrel output: sc rs ef mi

 Path Diagram

 End of problem

 A Model of KM

 Correlation Matrix

 KM PROGRESS STORAGE COOPERAT IT

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 KM 1.00

 PROGRESS 0.35 1.00

 STORAGE 0.61 0.23 1.00

 COOPERAT 0.45 0.18 0.46 1.00

 IT 0.36 -0.01 0.13 0.02 1.00

A Model of KM

 Parameter Specifications

 BETA

 KM PROGRESS STORAGE

 -------- -------- --------

 KM 0 1 2

 PROGRESS 0 0 3

 STORAGE 0 0 0

 GAMMA

 COOPERAT IT

 -------- --------

 KM 4 5

 PROGRESS 6 0

 STORAGE 7 8

 PHI

 COOPERAT IT

 -------- --------

 COOPERAT 9

 IT 10 11

 PSI

 KM PROGRESS STORAGE

 -------- -------- --------

 12 13 14

 A Model of KM

 Number of Iterations = 5

 LISREL Estimates (Maximum Likelihood)

 BETA

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - 0.22 0.42

 (0.04) (0.04)

 5.51 9.63

 PROGRESS - - - - 0.19

 (0.06)

 3.17

 STORAGE - - - - - -

 GAMMA

 COOPERAT IT

 -------- --------

 KM 0.21 0.30

 (0.04) (0.04)

 4.90 7.90

 PROGRESS 0.09 - -

 (0.06)

 1.41

 STORAGE 0.46 0.12

 (0.05) (0.05)

 9.34 2.49

 Covariance Matrix of Y and X

 KM PROGRESS STORAGE COOPERAT IT

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 KM 1.01

 PROGRESS 0.36 1.00

 STORAGE 0.61 0.23 1.00

 COOPERAT 0.45 0.18 0.46 1.00

 IT 0.37 0.03 0.13 0.02 1.00

 PHI

 COOPERAT IT

 -------- --------

 COOPERAT 1.00

 (0.08)

 12.57

 IT 0.02 1.00

 (0.06) (0.08)

 0.43 12.57

 PSI

 Note: This matrix is diagonal.

 KM PROGRESS STORAGE

 -------- -------- --------

 0.46 0.94 0.77

 (0.04) (0.07) (0.06)

 12.57 12.57 12.57

 Squared Multiple Correlations for Structural Equations

 KM PROGRESS STORAGE

 -------- -------- --------

 0.05 0.06 0.23

 Squared Multiple Correlations for Reduced Form

 KM PROGRESS STORAGE

 -------- -------- --------

 0.91 0.03 0.23

 Goodness of Fit Statistics

 Degrees of Freedom = 1

 Minimum Fit Function Chi-Square = 0.56 (P = 0.45)

 Normal Theory Weighted Least Squares Chi-Square = 0.56 (P = 0.46)

 Estimated Non-centrality Parameter (NCP) = 0.0

 90 Percent Confidence Interval for NCP = (0.0 ; 5.68)

 Minimum Fit Function Value = 0.0018

 Population Discrepancy Function Value (F0) = 0.0

 90 Percent Confidence Interval for F0 = (0.0 ; 0.018)

 Root Mean Square Error of Approximation (RMSEA) = 0.0

 90 Percent Confidence Interval for RMSEA = (0.0 ; 0.13)

 P-Value for Test of Close Fit (RMSEA < 0.05) = 0.61

 Expected Cross-Validation Index (ECVI) = 0.092

 90 Percent Confidence Interval for ECVI = (0.092 ; 0.11)

 ECVI for Saturated Model = 0.095

 ECVI for Independence Model = 1.20

 Chi-Square for Independence Model with 10 Degrees of Freedom = 368.21

 Independence AIC = 378.21

 Model AIC = 28.56

 Saturated AIC = 30.00

 Independence CAIC = 402.04

 Model CAIC = 95.27

 Saturated CAIC = 101.48

 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) = 0.98

 Critical N (CN) = 3779.19

 Root Mean Square Residual (RMR) = 0.011

 Standardized RMR = 0.011

 Goodness of Fit Index (GFI) = 1.00

 Adjusted Goodness of Fit Index (AGFI) = 0.99

 Parsimony Goodness of Fit Index (PGFI) = 0.067

A Model of KM

 Fitted Covariance Matrix

 KM PROGRESS STORAGE COOPERAT IT

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 KM 1.01

 PROGRESS 0.36 1.00

 STORAGE 0.61 0.23 1.00

 COOPERAT 0.45 0.18 0.46 1.00

 IT 0.37 0.03 0.13 0.02 1.00

 Fitted Residuals

 KM PROGRESS STORAGE COOPERAT IT

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 KM -0.01

 PROGRESS -0.01 0.00

 STORAGE 0.00 0.00 - -

 COOPERAT 0.00 0.00 - - - -

 IT -0.01 -0.04 - - - - - -

 Summary Statistics for Fitted Residuals

 Smallest Fitted Residual = -0.04

 Median Fitted Residual = 0.00

 Largest Fitted Residual = 0.00

 Stemleaf Plot

 - 4|0

 - 3|

 - 2|

 - 1|2

 - 0|9500000000000

 Standardized Residuals

 KM PROGRESS STORAGE COOPERAT IT

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 KM -0.74

 PROGRESS -0.74 - -

 STORAGE - - - - - -

 COOPERAT - - - - - - - -

 IT -0.74 -0.74 - - - - - -

 Summary Statistics for Standardized Residuals

 Smallest Standardized Residual = -0.74

 Median Standardized Residual = 0.00

 Largest Standardized Residual = 0.00

Stemleaf Plot

 - 6|4444

 - 4|

 - 2|

 - 0|00000000000

 Standardized Residuals

 A Model of KM

 Modification Indices and Expected Change

 Modification Indices for BETA

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - - - - -

 PROGRESS 0.56 - - - -

 STORAGE 0.56 0.56 - -

 Expected Change for BETA

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - - - - -

 PROGRESS -0.14 - - - -

 STORAGE 1.26 0.27 - -

 Standardized Expected Change for BETA

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - - - - -

 PROGRESS -0.13 - - - -

 STORAGE 1.26 0.27 - -

 Modification Indices for GAMMA

 COOPERAT IT

 -------- --------

 KM - - - -

 PROGRESS - - 0.56

 STORAGE - - - -

 Expected Change for GAMMA

 COOPERAT IT

 -------- --------

 KM - - - -

 PROGRESS - - -0.04

 STORAGE - - - -

 Standardized Expected Change for GAMMA

 COOPERAT IT

 -------- --------

 KM - - - -

 PROGRESS - - -0.04

 STORAGE - - - -

 No Non-Zero Modification Indices for PHI

 Modification Indices for PSI

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - -

 PROGRESS - - - -

 STORAGE - - 0.56 - -

 Expected Change for PSI

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - -

 PROGRESS - - - -

 STORAGE - - 0.26 - -

 Standardized Expected Change for PSI

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - -

 PROGRESS - - - -

 STORAGE - - 0.26 - -

 Modification Indices for THETA-EPS

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - -

 PROGRESS - - - -

 STORAGE - - 0.56 0.56

 Expected Change for THETA-EPS

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - -

 PROGRESS - - - -

 STORAGE - - 0.26 -1.32

 Modification Indices for THETA-DELTA-EPS

 KM PROGRESS STORAGE

 -------- -------- --------

 COOPERAT - - 0.56 0.56

 IT - - 0.56 0.56

 Expected Change for THETA-DELTA-EPS

 KM PROGRESS STORAGE

 -------- -------- --------

 COOPERAT - - -0.83 -9.84

 IT - - -0.04 0.21

 Maximum Modification Index is 0.56 for Element ( 1, 3) of THETA DELTA-EPSILON

 A Model of KM

 Standardized Solution

 BETA

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - 0.22 0.42

 PROGRESS - - - - 0.19

 STORAGE - - - - - -

 GAMMA

 COOPERAT IT

 -------- --------

 KM 0.21 0.30

 PROGRESS 0.09 - -

 STORAGE 0.46 0.12

 Correlation Matrix of Y and X

 KM PROGRESS STORAGE COOPERAT IT

 -------- -------- -------- -------- --------

 KM 1.00

 PROGRESS 0.36 1.00

 STORAGE 0.61 0.23 1.00

 COOPERAT 0.45 0.18 0.46 1.00

 IT 0.37 0.03 0.13 0.02 1.00

 PSI

 Note: This matrix is diagonal.

 KM PROGRESS STORAGE

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 0.46 0.94 0.77

 Regression Matrix Y on X (Standardized)

 COOPERAT IT

 -------- --------

 KM 0.44 0.36

 PROGRESS 0.18 0.02

 STORAGE 0.46 0.12

 A Model of KM

 Total and Indirect Effects

 Total Effects of X on Y

 COOPERAT IT

 -------- --------

 KM 0.45 0.36

 (0.05) (0.04)

 9.68 8.11

 PROGRESS 0.18 0.02

 (0.06) (0.01)

 3.19 1.96

 STORAGE 0.46 0.12

 (0.05) (0.05)

 9.34 2.49

 Indirect Effects of X on Y

 COOPERAT IT

 -------- --------

 KM 0.23 0.06

 (0.03) (0.02)

 7.11 2.42

 PROGRESS 0.09 0.02

 (0.03) (0.01)

 3.00 1.96

 STORAGE - - - -

 Total Effects of Y on Y

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - 0.22 0.47

 (0.04) (0.05)

 5.51 10.28

 PROGRESS - - - - 0.19

 (0.06)

 3.17

 STORAGE - - - - - -

 Largest Eigenvalue of B\*B' (Stability Index) is 0.258

 Indirect Effects of Y on Y

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - - - 0.04

 (0.02)

 2.75

 PROGRESS - - - - - -

 STORAGE - - - - - -

 A Model of KM

 Standardized Total and Indirect Effects

 Standardized Total Effects of X on Y

 COOPERAT IT

 -------- --------

 KM 0.44 0.36

 PROGRESS 0.18 0.02

 STORAGE 0.46 0.12

 Standardized Indirect Effects of X on Y

 COOPERAT IT

 -------- --------

 KM 0.23 0.06

 PROGRESS 0.09 0.02

 STORAGE - - - -

 Standardized Total Effects of Y on Y

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - 0.22 0.47

 PROGRESS - - - - 0.19

 STORAGE - - - - - -

 Standardized Indirect Effects of Y on Y

 KM PROGRESS STORAGE

 -------- -------- --------

 KM - - - - 0.04

 PROGRESS - - - - - -

 STORAGE - - - - - -

 Time used: 0.031 Seconds