

ภาคผนวก ช

ผลการวิเคราะห์ข้อมูล

ด้วยโปรแกรม LISREL 8.52

บัณฑิตวิทยาลัย มหาวิทยาลัยราชภัฏสุราษฎร์ธานี

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L I S R E L 8.52

BY

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The following lines were read from file C:\Users\User\Desktop\LCS\LCS.LPJ:

TI LCS

LCS

!DA NI=15 NO=447 NG=1 MA=CM

SY='C:\Users\User\Desktop\LCS\LCS.dsf' NG=1

SE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 /

MO NY=15 NK=1 NE=5 LY=FU,FI BE=FU,FI GA=FU,FI PH=SY,FR PS=DI,FR TE=SY,FI

LE

FLE CRE SCS LED PRO

LK

LCS

FR LY(1,1) LY(2,1) LY(3,1) LY(4,2) LY(5,2) LY(6,2) LY(7,3) LY(8,3) LY(9,3)

FR LY(10,4) LY(11,4) LY(12,4) LY(13,5) LY(14,5) LY(15,5) GA(1,1) GA(2,1) GA(3,1)

FR 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 12 11 TE 9 7 TE 10 9 TE 4 3 TE 13 11 TE
12 5

FR TE 12 6 TE 11 8 TE 12 10 TE 11 9 TE 12 8 TE 3 1 TE 4 2 TE 12 9 TE 13 12 TE 13 4
TE 10 8

FR TE 4 6 TE 5 4 TE 11 6 TE 7 4 TE 9 6 TE 11 2 TE 14 2 TE 14 12 TE 4 1 TE 5 3 TE 11
2 TE 8 6

FR TE 11 2 TE 9 8 TE 6 1 TE 14 4 TE 14 12 TE 7 1 TE 14 5 TE 15 3 TE 14 5 TE 15 12
TE 11 3

FR TE 12 2 TE 14 5 TE 14 2 TE 11 7 TE 11 1 TE 12 1 TE 10 7 TE 8 5 TE 14 8 TE 10 5
TE 14 13

FR TE 10 6 TE 7 5 TE 7 6 TE 9 3 TE 10 2 TE 15 10 TE 7 2 TE 9 2 TE 8 2 TE 14 1 TE
6 3 TE 9 1

PD

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

TI LCS

Number of Input Variables 15

Number of Y - Variables 15

Number of X - Variables 0

Number of ETA - Variables 5

Number of KSI - Variables 1

Number of Observations 447

TI LCS

Number of Iterations = 11

LISREL Estimates (Maximum Likelihood)

LAMBDA-Y

FLE CRE SCS LED PRO

ADA	0.60	--	--	--	--
BFW	0.55	--	--	--	--
	(0.02)				
	34.45				
AEW	0.57	--	--	--	--
	(0.02)				
	31.41				
BMT	--	0.61	--	--	--
BAW	--	0.62	--	--	--
	(0.02)				
	34.64				
BEL	--	0.63	--	--	--
	(0.02)				
	32.37				
BRO	--	--	0.52	--	--
BET	--	--	0.56	--	--
	(0.02)				
	36.31				
BPO	--	--	0.54	--	--
	(0.02)				
	30.95				
IPS	--	--	--	0.60	--
COR	--	--	--	0.53	--
	(0.02)				
	32.63				
AWT	--	--	--	0.50	--
	(0.02)				
	27.83				

AMP	--	--	--	--	0.61
ABI	--	--	--	--	0.60
				(0.01)	
					43.59
ACG	--	--	--	--	0.61
				(0.01)	
					40.85

GAMMA

LCS

FLE	0.94
	(0.04)
	23.15
CRE	0.94
	(0.04)
	23.43
SCS	0.95
	(0.04)
	23.75
LED	1.01
	(0.04)
	26.19
PRO	0.95
	(0.04)
	24.54

Covariance Matrix of ETA and KSI

	FLE	CRE	SCS	LED	PRO	LCS

FLE	1.00					

CRE	0.89	1.00				
SCS	0.90	0.90	1.00			
LED	0.96	0.95	0.97	1.00		
PRO	0.90	0.90	0.91	0.97	1.00	
LCS	0.94	0.94	0.95	1.01	0.95	1.00

PHI

LCS

1.00

PSI

Note: This matrix is diagonal.

FLE	CRE	SCS	LED	PRO
0.11	0.11	0.09	-0.02	0.09
(0.01)	(0.02)	(0.02)	(0.01)	(0.01)
7.35	6.21	5.65	-1.89	7.77

Squared Multiple Correlations for Structural Equations

FLE	CRE	SCS	LED	PRO
0.89	0.89	0.91	1.02	0.91

Squared Multiple Correlations for Reduced Form

FLE	CRE	SCS	LED	PRO
0.89	0.89	0.91	1.02	0.91

W_A_R_N_I_N_G: PSI is not positive definite

THETA-EPS

ADA	BFW	AEW	BMT	BAW	BEL
0.07					

	(0.01)					
	9.89					
BFW	--	0.04				
	(0.00)					
	9.16					
AEW	-0.01	--	0.05			
	(0.00)	(0.01)				
	-2.99	9.28				
BMT	0.01	0.02	0.04	0.06		
	(0.00)	(0.00)	(0.01)	(0.01)		
	2.85	3.80	7.51	5.87		
BAW	--	--	0.02	-0.01	0.05	
		(0.00)	(0.01)	(0.01)		
		4.01	-1.22	8.06		
BEL	-0.01	--	0.01	-0.01	--	0.06
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	
	-1.24	1.39	-1.63	8.89		
BRO	0.01	0.00	--	-0.01	0.01	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	
	1.40	-0.20	-1.86	2.90	2.46	
BET	--	-0.01	--	--	0.01	0.01
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	
	-2.38	2.23	2.94			
BPO	-0.01	-0.01	0.00	--	--	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	
	-1.40	-2.85	-1.11	-1.66		
IPS	--	0.00	--	--	-0.01	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	
	-0.14	-3.06	-2.55			

COR	-0.01	-0.01	0.00	--	--	-0.02
	(0.00)	(0.00)	(0.00)			(0.00)
	-3.35	-3.40	1.32			-4.87
AWT	-0.01	-0.01	--	--	-0.01	-0.03
	(0.00)	(0.00)			(0.00)	(0.00)
	-2.02	-2.76			-1.91	-6.22
AMP	--	--	--	0.01	--	--
			(0.00)			
			4.81			
ABI	0.00	0.00	--	0.00	0.00	--
	(0.00)	(0.00)		(0.00)	(0.00)	
	1.00	0.20		0.35	-1.90	
ACG	--	--	0.01	--	--	--
		(0.00)				
		1.91				
THETA-EPS						
	BRO	BET	BPO	IPS	COR	AWT

BRO	0.04					
	(0.00)					
	9.21					
BET	--	0.04				
		(0.00)				
		8.29				
BPO	-0.01	0.00	0.04			
	(0.00)	(0.01)	(0.01)			
	-3.69	0.55	5.61			

IPS	-0.01	0.01	0.01	0.06		
	(0.00)	(0.00)	(0.00)	(0.01)		
	-1.91	1.32	2.52	10.11		
COR	-0.01	-0.01	0.01	--	0.07	
	(0.00)	(0.00)	(0.00)		(0.01)	
	-3.36	-2.29	2.55		12.52	
AWT	--	0.01	0.02	0.00	0.04	0.09
		(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
		2.61	5.57	0.22	8.41	12.16
AMP	--	--	--	--	0.02	0.03
				(0.00)	(0.00)	
				6.25	6.60	
ABI	--	-0.01	--	--	--	0.02
		(0.00)				(0.00)
		-2.28				4.45
ACG	--	--	--	-0.01	--	0.02
			(0.00)		(0.00)	
			-1.78			4.10
THETA-EPS						
AMP		ABI	ACG			

AMP	0.05					
	(0.00)					
	9.74					
ABI	0.00	0.03				
	(0.00)	(0.00)				
	-1.23	7.33				
ACG	--	--	0.04			
			(0.00)			

10.39

Squared Multiple Correlations for Y – Variables

ADA	BFW	AEW	BMT	BAW	BEL
0.84	0.88	0.86	0.87	0.89	0.88

Squared Multiple Correlations for Y – Variables

BRO	BET	BPO	IPS	COR	AWT
0.87	0.88	0.88	0.86	0.81	0.72

Squared Multiple Correlations for Y – Variables

AMP	ABI	ACG
0.89	0.93	0.90

Goodness of Fit Statistics

Degrees of Freedom = 28

Minimum Fit Function Chi-Square = 17.59 (P = 0.94)

Normal Theory Weighted Least Squares Chi-Square = 17.83 (P = 0.93)

Estimated Non-centrality Parameter (NCP) = 0.0

90 Percent Confidence Interval for NCP = (0.0 ; 1.48)

Minimum Fit Function Value = 0.039

Population Discrepancy Function Value (FO) = 0.0

90 Percent Confidence Interval for FO = (0.0 ; 0.0033)

Root Mean Square Error of Approximation (RMSEA) = 0.0

90 Percent Confidence Interval for RMSEA = (0.0 ; 0.011)

P-Value for Test of Close Fit (RMSEA < 0.05) = 1.00

Expected Cross-Validation Index (ECVI) = 0.48

90 Percent Confidence Interval for ECVI = (0.48 ; 0.48)

ECVI for Saturated Model = 0.54

ECVI for Independence Model = 68.92

Chi-Square for Independence Model with 105 Degrees of Freedom = 30708.13

Independence AIC = 30738.13

Model AIC = 201.83

Saturated AIC = 240.00

Independence CAIC = 30814.67

Model CAIC = 671.27

Saturated CAIC = 852.31

Normed Fit Index (NFI) = 1.00

Non-Normed Fit Index (NNFI) = 1.00

Parsimony Normed Fit Index (PNFI) = 0.27

Comparative Fit Index (CFI) = 1.00

Incremental Fit Index (IFI) = 1.00

Relative Fit Index (RFI) = 1.00

Critical N (CN) = 1225.18

Root Mean Square Residual (RMR) = 0.0021

Standardized RMR = 0.0054

Goodness of Fit Index (GFI) = 0.99

Adjusted Goodness of Fit Index (AGFI) = 0.98

Parsimony Goodness of Fit Index (PGFI) = 0.23

TI LCS

Factor Scores Regressions

	ETA					
	ADA	BFW	AEW	BMT	BAW	BEL
FLE	0.45	0.51	0.59	-0.45	-0.01	0.24
CRE	0.06	0.09	-0.45	0.55	0.48	0.50
SCS	-0.04	0.22	-0.08	0.15	-0.11	-0.12
LED	0.10	0.22	0.01	0.04	0.10	0.12

PRO	-0.01	0.07	0.00	-0.05	0.11	-0.09
-----	-------	------	------	-------	------	-------

ETA

	BRO	BET	BPO	IPS	COR	AWT
--	-----	-----	-----	-----	-----	-----

FLE	-0.08	0.01	0.14	0.09	0.19	0.08
CRE	0.01	-0.18	-0.05	0.33	0.18	0.25
SCS	0.60	0.48	0.57	-0.07	0.40	-0.41
LED	0.16	0.14	0.19	0.13	0.28	-0.16
PRO	0.01	0.16	0.10	0.06	0.21	-0.47

ETA

	AMP	ABI	ACG
--	-----	-----	-----

FLE	0.05	-0.01	-0.05
CRE	-0.30	0.01	0.12
SCS	-0.03	0.18	0.07
LED	0.05	0.25	0.15
PRO	0.45	0.71	0.38

TI LCS

Standardized Solution

LAMBDA-Y

	FLE	CRE	SCS	LED	PRO
--	-----	-----	-----	-----	-----

ADA	0.60	--	--	--	--
BFW	0.55	--	--	--	--
AEW	0.57	--	--	--	--
BMT	--	0.61	--	--	--
BAW	--	0.62	--	--	--
BEL	--	0.63	--	--	--
BRO	--	--	0.52	--	--

BET	--	--	0.56	--	--
BPO	--	--	0.54	--	--
IPS	--	--	--	0.60	--
COR	--	--	--	0.53	--
AWT	--	--	--	0.50	--
AMP	--	--	--	--	0.61
ABI	--	--	--	--	0.60
ACG	--	--	--	--	0.61

GAMMA

LCS

FLE	0.94
CRE	0.94
SCS	0.95
LED	1.01
PRO	0.95

Correlation Matrix of ETA and KSI

	FLE	CRE	SCS	LED	PRO	LCS
FLE	1.00					
CRE	0.89	1.00				
SCS	0.90	0.90	1.00			
LED	0.96	0.95	0.97	1.00		
PRO	0.90	0.90	0.91	0.97	1.00	
LCS	0.94	0.94	0.95	1.01	0.95	1.00

PSI

Note: This matrix is diagonal.

FLE	CRE	SCS	LED	PRO
-----	-----	-----	-----	-----

0.11 0.11 0.09 -0.02 0.09

TI LCS

Completely Standardized Solution

LAMBDA-Y

FLE CRE SCS LED PRO

	FLE	CRE	SCS	LED	PRO
ADA	0.92	--	--	--	--
BFW	0.94	--	--	--	--
AEW	0.93	--	--	--	--
BMT	--	0.93	--	--	--
BAW	--	0.95	--	--	--
BEL	--	0.94	--	--	--
BRO	--	--	0.93	--	--
BET	--	--	0.94	--	--
BPO	--	--	0.94	--	--
IPS	--	--	--	0.93	--
COR	--	--	--	0.90	--
AWT	--	--	--	0.85	--
AMP	--	--	--	--	0.94
ABI	--	--	--	--	0.96
ACG	--	--	--	--	0.95

GAMMA

LCS

FLE	0.94
CRE	0.94
SCS	0.95
LED	1.01
PRO	0.95

Correlation Matrix of ETA and KSI

	FLE	CRE	SCS	LED	PRO	LCS
FLE	1.00					
CRE	0.89	1.00				
SCS	0.90	0.90	1.00			
LED	0.96	0.95	0.97	1.00		
PRO	0.90	0.90	0.91	0.97	1.00	
LCS	0.94	0.94	0.95	1.01	0.95	1.00

PSI

Note: This matrix is diagonal.

	FLE	CRE	SCS	LED	PRO	
	0.11	0.11	0.09	-0.02	0.09	

THETA-EPS

	ADA	BFW	AEW	BMT	BAW	BEL
ADA	0.16					
BFW	--	0.12				
AEW	-0.03	--	0.14			
BMT	0.03	0.04	0.09	0.13		
BAW	--	--	0.04	-0.02	0.11	
BEL	-0.01	--	0.02	-0.02	--	0.12
BRO	0.01	0.00	--	-0.02	0.03	0.03
BET	--	-0.02	--	--	0.02	0.04
BPO	-0.01	-0.03	-0.01	--	--	-0.02
IPS	--	0.00	--	--	-0.03	-0.03
COR	-0.04	-0.04	0.01	--	--	-0.05

AWT	-0.02	-0.03	--	--	-0.02	-0.07
AMP	--	--	--	0.03	--	--
ABI	0.01	0.00	--	0.00	-0.01	--
ACG	--	--	0.01	--	--	--

THETA-EPS

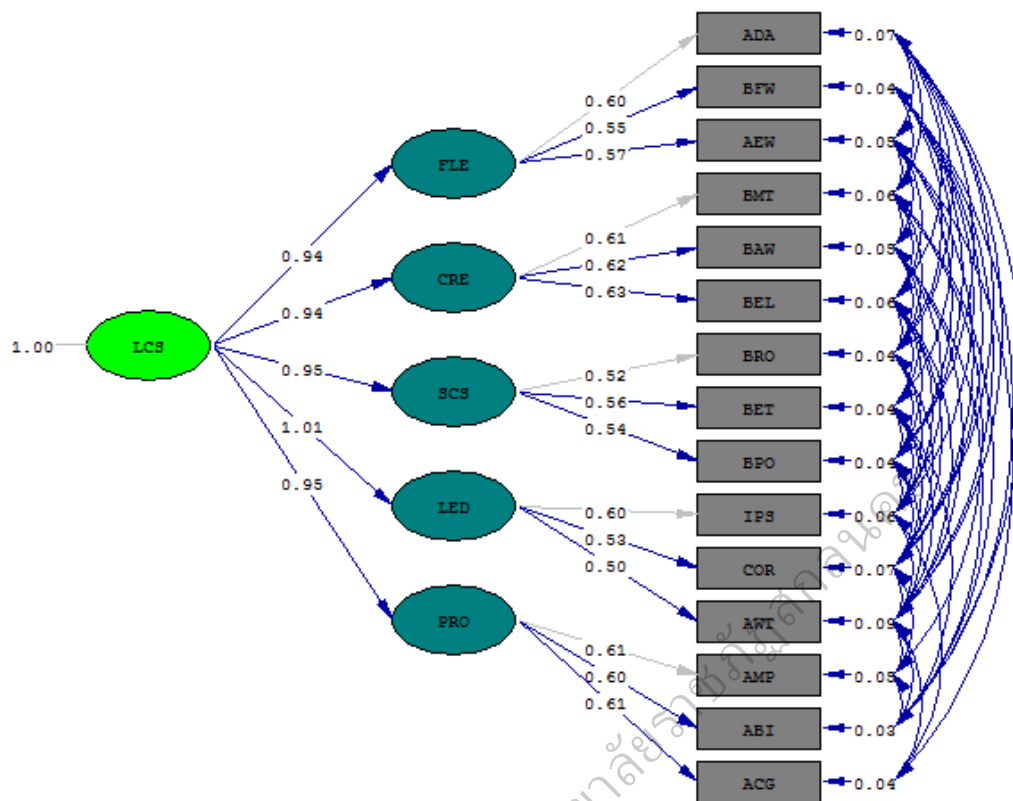
BRO	BET	BPO	IPS	COR	AWT
-----	-----	-----	-----	-----	-----

BRO	0.13					
BET	--	0.12				
BPO	-0.05	0.01	0.12			
IPS	-0.02	0.02	0.03	0.14		
COR	-0.03	-0.03	0.03	--	0.19	
AWT	--	0.03	0.07	0.00	0.13	0.28
AMP	--	--	--	--	0.05	0.08
ABI	--	-0.01	--	--	--	0.05
ACG	--	--	--	-0.01	--	0.05

THETA-EPS

AMP	ABI	ACG
-----	-----	-----

AMP	0.11	
ABI	-0.01	0.07
ACG	--	--
		0.10



Chi-Square=17.83, df=28, P-value=0.93033, RMSEA=0.000