**ภาคผนวก ง**

**ตัวอย่างคำสั่งการวิเคราะห์โมเดลสมการโครงสร้างแบบผสม**

TITLE :SEMLPAMIX

DATA :

FILE IS "D:\datamo4may\datamo.dat";

VARIABLE:

NAMES ARE STT STD REB REC SUP COM SS TS PD PE GM HR ST GA CS AO PN TC

EV LD CA CN CO LI;

USEVARIABLES ARE STT STD REB REC SUP COM SS TS PD PE GM HR ST GA CS

AO PN TC EV LD CA CN CO LI;

CLASSES IS C(4);

ANALYSIS:

TYPE = MIXTURE;

MODEL:

%OVERALL%

CCM BY LD CA CN CO LI;

CN@.001;

CPT BY PN TC EV;

CN@.005;

IOS BY TS SS;

SS@.01;

ATT BY CS AO;

AO@.005;

SPT BY PD PE GM HR ST GA;

ST@.01;

POC BY STT STD REB REC SUP COM;

SUP@.001;

CCM ON POC ATT CPT IOS SPT;

CPT ON IOS;

ATT ON SPT IOS POC;

%C#1%

CCM BY LD CA CN CO LI;

CPT BY PN TC EV;

IOS BY TS SS;

ATT BY CS AO;

SPT BY PD PE GM HR ST GA;

POC BY STT STD REB REC SUP COM;

CCM ON POC ATT CPT IOS SPT;

CPT ON IOS;

ATT ON SPT IOS POC;

%C#2%

CCM BY LD CA CN CO LI;

CPT BY PN TC EV;

IOS BY TS SS;

ATT BY CS AO;

SPT BY PD PE GM HR ST GA;

POC BY STT STD REB REC SUP COM;

CCM ON POC ATT CPT IOS SPT;

CPT ON IOS;

ATT ON SPT IOS POC;

%C#3%

CCM BY LD CA CN CO LI;

CPT BY PN TC EV;

IOS BY TS SS;

ATT BY CS AO;

SPT BY PD PE GM HR ST GA;

POC BY STT STD REB REC SUP COM;

CCM ON POC ATT CPT IOS SPT;

CPT ON IOS;

ATT ON SPT IOS POC;

%C#4%

CCM BY LD CA CN CO LI;

CPT BY PN TC EV;

IOS BY TS SS;

ATT BY CS AO;

SPT BY PD PE GM HR ST GA;

POC BY STT STD REB REC SUP COM;

CCM ON POC ATT CPT IOS SPT;

CPT ON IOS;

ATT ON SPT IOS POC;

SAVEDATA:

FILE = C2\_semmo.txt;

save = cprobabilities;

OUTPUT:

STANDARDIZED SAMPSTAT TECH1 TECH4;

Input data file(s)

D:\datamo4may\datamo.dat

Input data format FREE

THE MODEL ESTIMATION TERMINATED NORMALLY

MODEL FIT INFORMATION

Number of Free Parameters 197

Loglikelihood

H0 Value -3766.052

H0 Scaling Correction Factor 1.2617

for MLR

Information Criteria

Akaike (AIC) 7926.104

Bayesian (BIC) 8836.259

Sample-Size Adjusted BIC 8210.707

(n\* = (n + 2) / 24)

FINAL CLASS COUNTS AND PROPORTIONS FOR THE LATENT CLASSES

BASED ON THE ESTIMATED MODEL

Latent

Classes

1 128.59344 0.17146

2 229.05926 0.30541

3 343.76807 0.45836

4 48.57924 0.06477

FINAL CLASS COUNTS AND PROPORTIONS FOR THE LATENT CLASS PATTERNS

BASED ON ESTIMATED POSTERIOR PROBABILITIES

Latent

Classes

1 128.59344 0.17146

2 229.05926 0.30541

3 343.76807 0.45836

4 48.57924 0.06477

CLASSIFICATION QUALITY

Entropy 0.970

CLASSIFICATION OF INDIVIDUALS BASED ON THEIR MOST LIKELY LATENT CLASS MEMBERSHIP

Class Counts and Proportions

Latent

Classes

1 128 0.17067

2 230 0.30667

3 344 0.45867

4 48 0.06400

Average Latent Class Probabilities for Most Likely Latent Class Membership (Row)

by Latent Class (Column)

1 2 3 4

1 0.979 0.014 0.002 0.005

2 0.011 0.982 0.007 0.000

3 0.001 0.004 0.988 0.006

4 0.006 0.000 0.040 0.954

STANDARDIZED MODEL RESULTS

STDYX Standardization

Two-Tailed

Estimate S.E. Est./S.E. P-Value

Latent Class 1

CCM BY

LD 0.663 0.055 12.015 0.000

CA 0.768 0.045 16.998 0.000

CN 0.978 0.005 182.553 0.000

CO 0.762 0.044 17.148 0.000

LI 0.700 0.051 13.678 0.000

CPT BY

PN 0.732 0.044 16.706 0.000

TC 0.842 0.030 28.053 0.000

EV 0.775 0.046 16.759 0.000

IOS BY

TS 0.668 0.062 10.685 0.000

SS 0.982 0.002 444.151 0.000

ATT BY

CS 0.828 0.020 41.580 0.000

AO 0.986 0.001 718.211 0.000

SPT BY

PD 0.242 0.045 5.425 0.000

PE 0.167 0.044 3.769 0.000

GM 0.509 0.040 12.812 0.000

HR 0.534 0.039 13.540 0.000

ST 0.973 0.004 266.268 0.000

GA 0.258 0.047 5.493 0.000

POC BY

STT 0.296 0.048 6.160 0.000

STD 0.255 0.049 5.169 0.000

REB 0.296 0.051 5.785 0.000

REC 0.234 0.054 4.354 0.000

SUP 0.997 0.000 2911.296 0.000

COM 0.688 0.036 18.968 0.000

CCM ON

POC 0.131 0.082 1.595 0.111

ATT 0.069 0.125 0.552 0.581

CPT 0.398 0.133 3.001 0.003

IOS 0.404 0.118 3.409 0.001

SPT 0.229 0.106 2.158 0.031

CPT ON

IOS 0.619 0.082 7.535 0.000

ATT ON

SPT 0.311 0.094 3.314 0.001

IOS 0.418 0.085 4.916 0.000

POC 0.214 0.023 2.321 0.000

SPT WITH

IOS 0.156 0.067 2.318 0.020

POC WITH

IOS 0.508 0.058 8.748 0.000

SPT 0.225 0.062 3.626 0.000

Means

IOS 1.346 0.369 3.653 0.000

SPT 4.004 0.459 8.724 0.000

POC 8.321 1.771 4.697 0.000

Intercepts

STT 10.708 1.018 10.523 0.000

STD 11.632 0.960 12.115 0.000

REB 11.898 1.014 11.734 0.000

REC 9.997 0.722 13.842 0.000

SUP 1.961 1.529 1.282 0.200

COM 5.926 1.059 5.595 0.000

SS 5.729 0.477 12.013 0.000

TS 6.813 0.519 13.131 0.000

PD 19.255 0.905 21.284 0.000

PE 15.511 0.471 32.958 0.000

GM 13.690 0.473 28.921 0.000

HR 15.026 0.428 35.072 0.000

ST 12.256 0.847 14.465 0.000

GA 21.575 0.868 24.860 0.000

CS 11.066 0.493 22.435 0.000

AO 12.111 0.592 20.446 0.000

PN 13.004 0.893 14.562 0.000

TC 13.085 1.092 11.978 0.000

EV 13.548 1.061 12.768 0.000

LD 17.225 1.389 12.403 0.000

CA 14.578 1.529 9.535 0.000

CN 17.231 2.363 7.293 0.000

CO 14.997 1.539 9.746 0.000

LI 11.498 1.189 9.668 0.000

CCM 6.229 1.643 3.790 0.000

CPT 2.884 0.436 6.613 0.000

ATT 1.110 0.516 2.151 0.031

Variances

IOS 1.000 0.000 999.000 999.000

SPT 1.000 0.000 999.000 999.000

POC 1.000 0.000 999.000 999.000

Residual Variances

STT 0.912 0.028 32.055 0.000

STD 0.935 0.025 37.097 0.000

REB 0.913 0.030 30.181 0.000

REC 0.945 0.025 37.686 0.000

SUP 0.005 0.001 7.466 0.000

COM 0.526 0.050 10.534 0.000

SS 0.035 0.004 8.025 0.000

TS 0.554 0.083 6.641 0.000

PD 0.942 0.022 43.792 0.000

PE 0.972 0.015 65.457 0.000

GM 0.741 0.040 18.287 0.000

HR 0.715 0.042 16.959 0.000

ST 0.052 0.007 7.353 0.000

GA 0.933 0.024 38.438 0.000

CS 0.314 0.033 9.500 0.000

AO 0.028 0.003 10.316 0.000

PN 0.464 0.064 7.238 0.000

TC 0.291 0.051 5.750 0.000

EV 0.400 0.072 5.585 0.000

LD 0.561 0.073 7.669 0.000

CA 0.411 0.069 5.922 0.000

CN 0.044 0.010 4.232 0.000

CO 0.419 0.068 6.188 0.000

LI 0.510 0.072 7.115 0.000

CCM 0.418 0.077 5.435 0.000

CPT 0.617 0.102 6.058 0.000

ATT 0.688 0.075 9.184 0.000

Latent Class 2

CCM BY

LD 0.681 0.034 20.287 0.000

CA 0.726 0.027 27.024 0.000

CN 0.974 0.003 327.135 0.000

CO 0.717 0.027 26.220 0.000

LI 0.603 0.033 18.501 0.000

CPT BY

PN 0.615 0.043 14.291 0.000

TC 0.776 0.029 26.708 0.000

EV 0.707 0.035 20.449 0.000

IOS BY

TS 0.717 0.026 27.655 0.000

SS 0.969 0.004 268.326 0.000

ATT BY

CS 0.701 0.031 22.852 0.000

AO 0.974 0.003 287.042 0.000

SPT BY

PD 0.749 0.032 23.281 0.000

PE 0.617 0.038 16.393 0.000

GM 0.635 0.033 19.163 0.000

HR 0.669 0.033 20.485 0.000

ST 0.966 0.004 246.734 0.000

GA 0.690 0.038 17.935 0.000

POC BY

STT 0.368 0.048 7.600 0.000

STD 0.303 0.058 5.233 0.000

REB 0.369 0.063 5.882 0.000

REC 0.273 0.066 4.152 0.000

SUP 0.997 0.000 3388.660 0.000

COM 0.662 0.040 16.601 0.000

CCM ON

POC 0.014 0.095 0.149 0.882

ATT 0.232 0.069 3.385 0.001

CPT 0.672 0.087 7.706 0.000

IOS 0.065 0.110 0.592 0.554

SPT 0.279 0.078 3.451 0.000

CPT ON

IOS 0.615 0.054 11.395 0.000

ATT ON

SPT 0.420 0.080 5.232 0.000

IOS 0.217 0.077 2.810 0.005

POC 0.284 0.083 3.422 0.001

SPT WITH

IOS 0.156 0.067 2.318 0.020

POC WITH

IOS 0.508 0.058 8.748 0.000

SPT 0.225 0.062 3.626 0.000

Means

IOS 2.254 0.471 4.785 0.000

SPT 3.004 0.399 7.519 0.000

POC 7.165 1.684 4.256 0.000

Intercepts

STT 10.423 0.989 10.539 0.000

STD 11.464 0.975 11.761 0.000

REB 11.575 1.005 11.519 0.000

REC 9.892 0.742 13.340 0.000

SUP 1.942 1.518 1.279 0.201

COM 6.120 1.152 5.311 0.000

SS 7.532 0.695 10.844 0.000

TS 6.380 0.290 21.981 0.000

PD 13.137 0.787 16.688 0.000

PE 12.384 0.504 24.557 0.000

GM 12.290 0.481 25.571 0.000

HR 13.203 0.519 25.437 0.000

ST 13.851 0.771 17.971 0.000

GA 16.167 0.711 22.724 0.000

CS 14.094 0.588 23.976 0.000

AO 16.457 1.083 15.202 0.000

PN 15.045 0.739 20.362 0.000

TC 15.306 0.936 16.358 0.000

EV 15.151 0.701 21.625 0.000

LD 16.834 1.071 15.715 0.000

CA 15.652 1.037 15.094 0.000

CN 18.540 1.442 12.858 0.000

CO 16.144 1.037 15.568 0.000

LI 12.846 0.837 15.345 0.000

CCM 3.312 1.512 2.190 0.029

CPT 3.764 0.559 6.730 0.000

ATT 2.490 0.544 4.573 0.000

Variances

IOS 1.000 0.000 999.000 999.000

POC 1.000 0.000 999.000 999.000

Residual Variances

STT 0.864 0.036 24.213 0.000

STD 0.908 0.035 25.867 0.000

REB 0.864 0.046 18.630 0.000

REC 0.926 0.036 25.875 0.000

SUP 0.005 0.001 8.519 0.000

COM 0.561 0.053 10.615 0.000

SS 0.060 0.007 8.606 0.000

TS 0.486 0.037 13.076 0.000

PD 0.438 0.048 9.086 0.000

PE 0.620 0.046 13.350 0.000

GM 0.597 0.042 14.186 0.000

HR 0.552 0.044 12.610 0.000

ST 0.067 0.008 8.838 0.000

GA 0.524 0.053 9.873 0.000

CS 0.509 0.043 11.836 0.000

AO 0.052 0.007 7.802 0.000

PN 0.621 0.053 11.731 0.000

TC 0.398 0.045 8.822 0.000

EV 0.500 0.049 10.232 0.000

LD 0.536 0.046 11.698 0.000

CA 0.473 0.039 12.148 0.000

CN 0.051 0.006 8.845 0.000

CO 0.486 0.039 12.385 0.000

LI 0.636 0.039 16.195 0.000

CCM 0.514 0.072 7.141 0.000

CPT 0.622 0.066 9.365 0.000

ATT 0.805 0.056 14.323 0.000

Latent Class 3

CCM BY

LD 0.365 0.047 7.819 0.000

CA 0.517 0.034 15.170 0.000

CN 0.943 0.005 200.994 0.000

CO 0.510 0.032 15.953 0.000

LI 0.432 0.038 11.387 0.000

CPT BY

PN 0.563 0.053 10.653 0.000

TC 0.482 0.065 7.452 0.000

EV 0.618 0.034 18.295 0.000

IOS BY

TS 0.661 0.031 21.236 0.000

SS 0.958 0.007 140.196 0.000

ATT BY

CS 0.353 0.057 6.171 0.000

AO 0.956 0.004 222.167 0.000

SPT BY

PD 0.276 0.041 6.676 0.000

PE 0.232 0.047 4.913 0.000

GM 0.356 0.041 8.577 0.000

HR 0.415 0.041 10.147 0.000

ST 0.950 0.005 192.006 0.000

GA 0.407 0.044 9.271 0.000

POC BY

STT 0.331 0.030 11.028 0.000

STD 0.311 0.032 9.763 0.000

REB 0.363 0.037 9.885 0.000

REC 0.290 0.037 7.882 0.000

SUP 0.993 0.001 1290.323 0.000

COM 0.491 0.031 15.767 0.000

CCM ON

POC 0.130 0.076 1.704 0.088

ATT 0.220 0.068 3.226 0.001

CPT 0.666 0.112 5.949 0.000

IOS 0.071 0.080 0.895 0.371

SPT 0.206 0.061 3.351 0.001

CPT ON

IOS 0.450 0.190 2.372 0.018

ATT ON

SPT 0.477 0.056 8.489 0.000

IOS 0.099 0.082 1.212 0.226

POC 0.204 0.054 3.811 0.000

SPT WITH

IOS 0.156 0.067 2.318 0.020

POC WITH

IOS 0.508 0.058 8.748 0.000

SPT 0.225 0.062 3.626 0.000

Means

IOS 4.596 0.689 6.672 0.000

SPT 2.258 0.468 4.820 0.000

POC 14.920 2.385 6.256 0.000

Intercepts

STT 10.577 0.919 11.506 0.000

STD 11.432 0.863 13.252 0.000

REB 11.608 0.883 13.150 0.000

REC 9.840 0.652 15.091 0.000

SUP 3.327 2.719 1.224 0.221

COM 7.115 1.314 5.413 0.000

SS 8.831 0.929 9.509 0.000

TS 6.863 0.418 16.438 0.000

PD 19.069 0.857 22.251 0.000

PE 15.305 0.453 33.812 0.000

GM 14.867 0.460 32.314 0.000

HR 16.171 0.453 35.665 0.000

ST 16.651 0.892 18.671 0.000

GA 20.396 0.767 26.604 0.000

CS 18.491 0.630 29.341 0.000

AO 21.291 1.017 20.942 0.000

PN 15.771 0.614 25.670 0.000

TC 21.262 1.087 19.561 0.000

EV 16.836 0.826 20.381 0.000

LD 21.419 0.934 22.931 0.000

CA 19.471 1.099 17.716 0.000

CN 27.136 2.092 12.973 0.000

CO 19.923 1.094 18.214 0.000

LI 14.523 1.012 14.352 0.000

CCM 7.700 2.469 3.119 0.002

CPT 0.289 1.617 0.179 0.858

ATT 0.053 0.556 0.096 0.924

Variances

IOS 1.000 0.000 999.000 999.000

SPT 1.000 0.000 999.000 999.000

POC 1.000 0.000 999.000 999.000

Residual Variances

STT 0.890 0.020 44.683 0.000

STD 0.903 0.020 45.456 0.000

REB 0.869 0.027 32.651 0.000

REC 0.916 0.021 42.990 0.000

SUP 0.015 0.002 9.616 0.000

COM 0.759 0.031 24.762 0.000

SS 0.083 0.013 6.335 0.000

TS 0.562 0.041 13.647 0.000

PD 0.924 0.023 40.386 0.000

PE 0.946 0.022 43.285 0.000

GM 0.873 0.030 29.594 0.000

HR 0.828 0.034 24.387 0.000

ST 0.097 0.009 10.266 0.000

GA 0.834 0.036 23.305 0.000

CS 0.876 0.040 21.744 0.000

AO 0.086 0.008 10.491 0.000

PN 0.683 0.060 11.467 0.000

TC 0.768 0.062 12.313 0.000

EV 0.618 0.042 14.777 0.000

LD 0.867 0.034 25.507 0.000

CM 0.733 0.035 20.778 0.000

CN 0.110 0.009 12.408 0.000

CO 0.740 0.033 22.686 0.000

LI 0.813 0.033 24.834 0.000

CCM 0.498 0.107 4.643 0.000

CPT 0.798 0.171 4.676 0.000

ATT 0.778 0.051 15.263 0.000

Latent Class 4

CCM BY

LD 0.954 0.024 39.125 0.000

CA 0.971 0.017 58.301 0.000

CN 0.998 0.001 830.579 0.000

CO 0.968 0.017 55.379 0.000

LI 0.939 0.034 27.690 0.000

CPT BY

PN 0.854 0.025 34.340 0.000

TC 0.848 0.046 18.304 0.000

EV 0.825 0.051 16.220 0.000

IOS BY

TS 0.620 0.253 2.453 0.014

SS 0.994 0.002 573.570 0.000

ATT BY

CS 0.879 0.052 16.921 0.000

AO 0.994 0.002 400.838 0.000

SPT BY

PD 0.474 0.129 3.680 0.000

PE 0.739 0.081 9.090 0.000

GM 0.725 0.077 9.414 0.000

HR 0.745 0.074 10.123 0.000

ST 0.996 0.001 938.994 0.000

GA 0.679 0.104 6.525 0.000

POC BY

STT 0.978 0.006 168.717 0.000

STD 0.973 0.007 145.172 0.000

REB 0.979 0.006 169.527 0.000

REC 0.955 0.015 62.021 0.000

SUP 1.000 0.000 44088.730 0.000

COM 0.988 0.004 222.277 0.000

CCM ON

POC 0.971 0.070 13.920 0.000

ATT 0.033 0.065 0.507 0.612

CPT -0.333 0.165 -2.017 0.044

IOS 0.189 0.132 1.436 0.151

SPT 0.260 0.080 3.254 0.001

CPT ON

IOS 0.713 0.125 5.716 0.000

ATT ON

SPT 0.136 0.291 0.467 0.640

IOS 0.583 0.210 2.777 0.005

POC 0.365 0.169 1.100 0.007

SPT WITH

IOS 0.156 0.067 2.318 0.020

POC WITH

IOS 0.508 0.058 8.748 0.000

SPT 0.225 0.062 3.626 0.000

Means

IOS 0.000 0.000 999.000 999.000

SPT 0.000 0.000 999.000 999.000

POC 0.000 0.000 999.000 999.000

Intercepts

STT 2.345 0.470 4.987 0.000

STD 2.763 0.512 5.399 0.000

REB 2.545 0.489 5.206 0.000

REC 3.056 0.644 4.748 0.000

SUP 0.304 0.296 1.026 0.305

COM 1.256 0.450 2.792 0.005

SS 3.260 0.677 4.816 0.000

TS 7.182 1.932 3.718 0.000

PD 17.468 1.307 13.366 0.000

PE 10.595 1.370 7.732 0.000

GM 10.964 1.194 9.181 0.000

HR 11.847 1.386 8.549 0.000

ST 4.548 0.576 7.892 0.000

GA 16.390 2.052 7.988 0.000

CS 9.420 1.888 4.990 0.000

AO 8.183 1.564 5.231 0.000

PN 9.925 0.970 10.234 0.000

TC 12.844 1.931 6.652 0.000

EV 12.102 1.519 7.968 0.000

LD 6.921 1.511 4.581 0.000

CA 5.464 1.233 4.429 0.000

CN 5.156 1.246 4.139 0.000

CO 5.785 1.296 4.464 0.000

LI 5.544 1.218 4.550 0.000

CCM 0.000 0.000 999.000 999.000

CPT 0.000 0.000 999.000 999.000

ATT 0.000 0.000 999.000 999.000

Variances

IOS 1.000 0.000 999.000 999.000

SPT 1.000 0.000 999.000 999.000

POC 1.000 0.000 999.000 999.000

Residual Variances

STT 0.044 0.011 3.860 0.000

STD 0.053 0.013 4.041 0.000

REB 0.042 0.011 3.693 0.000

REC 0.088 0.029 3.006 0.003

SUP 0.000 0.000 2.697 0.007

COM 0.024 0.009 2.690 0.007

SS 0.011 0.003 3.275 0.001

TS 0.616 0.313 1.966 0.049

PD 0.775 0.122 6.338 0.000

PE 0.454 0.120 3.772 0.000

GM 0.475 0.112 4.259 0.000

HR 0.444 0.110 4.047 0.000

ST 0.007 0.002 3.408 0.001

GA 0.539 0.141 3.809 0.000

CS 0.227 0.091 2.488 0.013

AO 0.013 0.005 2.588 0.010

PN 0.270 0.042 6.365 0.000

TC 0.280 0.079 3.562 0.000

EV 0.319 0.084 3.801 0.000

LD 0.091 0.046 1.947 0.052

CA 0.058 0.032 1.784 0.074

CN 0.004 0.002 1.654 0.098

CO 0.062 0.034 1.842 0.065

LI 0.119 0.064 1.862 0.063

CCM 0.067 0.045 1.491 0.136

CPT 0.491 0.178 2.758 0.006

ATT 0.617 0.140 4.405 0.000

R-SQUARE

Class 1

Latent Two-Tailed

Variable Estimate S.E. Est./S.E. P-Value

CCM 0.582 0.077 7.555 0.000

CPT 0.383 0.102 3.768 0.000

ATT 0.312 0.075 4.160 0.000

Class 2

Latent Two-Tailed

Variable Estimate S.E. Est./S.E. P-Value

CCM 0.486 0.072 6.744 0.000

CPT 0.378 0.066 5.697 0.000

ATT 0.195 0.056 3.463 0.001

Class 3

Latent Two-Tailed

Variable Estimate S.E. Est./S.E. P-Value

CCM 0.502 0.107 4.681 0.000

CPT 0.202 0.171 1.186 0.236

ATT 0.222 0.051 4.364 0.000

Class 4

Latent Two-Tailed

Variable Estimate S.E. Est./S.E. P-Value

CCM 0.933 0.045 20.703 0.000

CPT 0.509 0.178 2.858 0.004

ATT 0.383 0.140 2.731 0.006