Lampiran 4. Output Lisrel

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L I S R E L 8.70

BY

Karl G. Jöreskog & Dag Sörbom

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Covariance Matrix

	KE1	KE2	LO1	LO2	LO3	LO4
KE1	0.70					
KE2	0.56	0.76				
LO1	0.32	0.37	1.34			
LO2	0.29	0.31	0.65	1.02		
LO3	0.41	0.48	0.71	0.71	1.05	
LO4	0.31	0.38	0.43	0.50	0.65	0.89
TAN	1.23	1.26	0.89	0.52	0.91	0.62
REL	1.35	1.20	1.10	0.86	1.32	1.01
RES	1.32	1.18	1.20	1.07	1.43	1.06
ASS	1.34	1.35	0.99	0.77	1.23	1.01
EMP	1.42	1.54	1.41	1.05	1.65	1.25

Covariance Matrix

	TAN	REL	RES	ASS	EMP
TAN	6.17				
REL	3.30	6.94			
RES	2.98	5.25	6.66		
ASS	3.54	4.57	4.50	6.40	
EMP	3.84	4.67	4.93	5.03	7.54

Initial Estimates (TSLS)

Measurement Equations

KE1 = 0.75*KEPUASAN, Errorvar.= 0.16, R^2 = 0.78

KE2 = 0.76*KEPUASAN, Errorvar.= 0.19, R^2 = 0.75

LO1 = 0.75*LOYALITA, Errorvar.= 0.78, R^2 = 0.42

LO2 = 0.74*LOYALITA, Errorvar.= 0.47, R^2 = 0.54

LO3 = 0.96*LOYALITA, Errorvar.= 0.13, R^2 = 0.87

LO4 = 0.67*LOYALITA, Errorvar.= 0.44, R^2 = 0.51

TAN = 1.67*KUALITAS, Errorvar.= 3.37, R^2 = 0.45

REL = 2.07*KUALITAS, Errorvar.= 2.64, R^2 = 0.62

RES = 2.08*KUALITAS, Errorvar.= 2.30, R^2 = 0.65

ASS = 2.13*KUALITAS, Errorvar.= 1.87, R^2 = 0.71

EMP = 2.36*KUALITAS, Errorvar.= 1.96, R^2 = 0.74

Error Covariance for RES and TAN = -0.45
(0.0)

Error Covariance for RES and REL = 0.90
(0.0)

Error Covariance for EMP and REL = -0.23
(0.0)

Structural Equations

KEPUASAN = 0.84*KUALITAS, Errorvar.= 0.27, R^2 = 0.72

LOYALITA = 0.18*KEPUASAN + 0.51*KUALITAS, Errorvar.= 0.55, R^2 = 0.45

Reduced Form Equations

KEPUASAN = 0.84*KUALITAS, Errorvar.= 0.27, R^2 = 0.72

LOYALITA = 0.67*KUALITAS, Errorvar.= 0.56, R^2 = 0.44

Correlation Matrix of Independent Variables

KUALITAS
1.00

Covariance Matrix of Latent Variables

	KEPUASAN	LOYALITA	KUALITAS
KEPUASAN	0.98		
LOYALITA	0.61	1.00	
KUALITAS	0.84	0.67	1.00

Behavior under Minimization Iterations

Iter	Try	Abscissa	Slope	Function
1	0	0.00000000D+00	-0.73118177D-06	0.16412357D+00
	1	0.10000000D+01	0.64894659D-08	0.16412321D+00
2	0	0.00000000D+00	-0.22684444D-08	0.16412321D+00
	1	0.10000000D+01	-0.31651787D-10	0.16412321D+00
3	0	0.00000000D+00	-0.52395513D-10	0.16412321D+00
	1	0.10000000D+01	-0.33774665D-11	0.16412321D+00

Number of Iterations = 3

LISREL Estimates (Maximum Likelihood)

Measurement Equations

KE1 = 0.75*KEPUASAN, Errorvar.= 0.16 , R^2 = 0.78
(0.029)
5.34

KE2 = 0.76*KEPUASAN, Errorvar.= 0.19 , R^2 = 0.75
(0.052) (0.032)
14.67 5.98

LO1 = 0.75*LOYALITA, Errorvar.= 0.78 , R^2 = 0.42

```
                                   (0.084)
                                    9.20

     LO2 = 0.74*LOYALITA, Errorvar.= 0.47  , R² = 0.54
           (0.083)                  (0.054)
            8.96                     8.61

     LO3 = 0.96*LOYALITA, Errorvar.= 0.13  , R² = 0.87
           (0.093)                  (0.041)
            10.30                    3.20

     LO4 = 0.67*LOYALITA, Errorvar.= 0.44  , R² = 0.51
           (0.077)                  (0.050)
            8.73                     8.81



     TAN = 1.67*KUALITAS, Errorvar.= 3.37 , R² = 0.45
           (0.16)                   (0.37)
            10.39                    9.16

     REL = 2.07*KUALITAS, Errorvar.= 2.64 , R² = 0.62
           (0.16)                   (0.34)
            12.67                    7.70

     RES = 2.09*KUALITAS, Errorvar.= 2.30 , R² = 0.65
           (0.16)                   (0.29)
            13.38                    7.87

     ASS = 2.13*KUALITAS, Errorvar.= 1.87 , R² = 0.71
           (0.15)                   (0.24)
            14.33                    7.76

     EMP = 2.36*KUALITAS, Errorvar.= 1.96 , R² = 0.74
           (0.16)                   (0.27)
            14.80                    7.18


Error Covariance for RES and TAN = -0.45
                                   (0.20)
                                   -2.18

Error Covariance for RES and REL = 0.90
                                  (0.26)
                                   3.51

Error Covariance for EMP and REL = -0.23
                                   (0.20)
                                   -1.18

        Structural Equations


KEPUASAN = 0.84*KUALITAS, Errorvar.= 0.27  , R² = 0.72
           (0.070)                  (0.056)
            12.09                    4.85

LOYALITA = 0.18*KEPUASAN + 0.51*KUALITAS, Errorvar.= 0.55 , R² = 0.45
           (0.15)          (0.16)                    (0.11)
            1.17            3.25                      4.76


        Reduced Form Equations

KEPUASAN = 0.84*KUALITAS, Errorvar.= 0.27, R² = 0.72
           (0.070)
            12.09

LOYALITA = 0.67*KUALITAS, Errorvar.= 0.56, R² = 0.44
           (0.090)
            7.38


        Correlation Matrix of Independent Variables

           KUALITAS
           --------
               1.00
```

Covariance Matrix of Latent Variables

	KEPUASAN	LOYALITA	KUALITAS
KEPUASAN	0.98		
LOYALITA	0.61	1.00	
KUALITAS	0.84	0.67	1.00

Goodness of Fit Statistics

Degrees of Freedom = 38
Minimum Fit Function Chi-Square = 65.32 (P = 0.0038)
Normal Theory Weighted Least Squares Chi-Square = 62.63 (P = 0.0072)
Chi-Square Difference with 0 Degree of Freedom = 0.00 (P = 1.00)
Estimated Non-centrality Parameter (NCP) = 24.63
90 Percent Confidence Interval for NCP = (6.75 ; 50.39)

Minimum Fit Function Value = 0.33
Population Discrepancy Function Value (F0) = 0.12
90 Percent Confidence Interval for F0 = (0.034 ; 0.25)
Root Mean Square Error of Approximation (RMSEA) = 0.057
90 Percent Confidence Interval for RMSEA = (0.030 ; 0.082)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.30

Expected Cross-Validation Index (ECVI) = 0.60
90 Percent Confidence Interval for ECVI = (0.51 ; 0.73)
ECVI for Saturated Model = 0.66
ECVI for Independence Model = 15.03

Chi-Square for Independence Model with 55 Degrees of Freedom = 2968.67
Independence AIC = 2990.67
Model AIC = 118.63
Saturated AIC = 132.00
Independence CAIC = 3037.95
Model CAIC = 238.98
Saturated CAIC = 415.69

Normed Fit Index (NFI) = 0.98
Non-Normed Fit Index (NNFI) = 0.99
Parsimony Normed Fit Index (PNFI) = 0.68
Comparative Fit Index (CFI) = 0.99
Incremental Fit Index (IFI) = 0.99
Relative Fit Index (RFI) = 0.97

Critical N (CN) = 187.33

Root Mean Square Residual (RMR) = 0.10
Standardized RMR = 0.042
Goodness of Fit Index (GFI) = 0.95
Adjusted Goodness of Fit Index (AGFI) = 0.91
Parsimony Goodness of Fit Index (PGFI) = 0.54

Factor Scores Regressions

ETA

	KE1	KE2	LO1	LO2	LO3	LO4
KEPUASAN	0.50	0.41	0.00	0.01	0.03	0.01
LOYALITA	0.02	0.02	0.08	0.14	0.63	0.13

ETA

	TAN	REL	RES	ASS	EMP
KEPUASAN	0.01	0.01	0.02	0.03	0.03
LOYALITA	0.00	0.00	0.01	0.01	0.01

KSI

	KE1	KE2	LO1	LO2	LO3	LO4
KUALITAS	0.11	0.09	0.01	0.01	0.05	0.01

KSI

	TAN	REL	RES	ASS	EMP
KUALITAS	0.05	0.05	0.06	0.09	0.10

Standardized Solution

LAMBDA-Y

	KEPUASAN	LOYALITA
KE1	0.74	- -
KE2	0.75	- -
LO1	- -	0.75
LO2	- -	0.74
LO3	- -	0.96
LO4	- -	0.67

LAMBDA-X

	KUALITAS
TAN	1.67
REL	2.07
RES	2.09
ASS	2.13
EMP	2.36

BETA

	KEPUASAN	LOYALITA
KEPUASAN	- -	- -
LOYALITA	0.18	- -

GAMMA

	KUALITAS
KEPUASAN	0.85
LOYALITA	0.51

Correlation Matrix of ETA and KSI

	KEPUASAN	LOYALITA	KUALITAS
KEPUASAN	1.00		
LOYALITA	0.62	1.00	
KUALITAS	0.85	0.67	1.00

PSI
Note: This matrix is diagonal.

KEPUASAN	LOYALITA
0.28	0.55

Regression Matrix ETA on KSI (Standardized)

	KUALITAS
KEPUASAN	0.85
LOYALITA	0.67

Completely Standardized Solution

LAMBDA-Y

	KEPUASAN	LOYALITA
KE1	0.88	- -
KE2	0.87	- -
LO1	- -	0.65
LO2	- -	0.74
LO3	- -	0.94
LO4	- -	0.71

LAMBDA-X

	KUALITAS
TAN	0.67

```
     REL       0.79
     RES       0.81
     ASS       0.84
     EMP       0.86

        BETA

           KEPUASAN   LOYALITA
           --------   --------
KEPUASAN        - -        - -
LOYALITA       0.18        - -

        GAMMA

           KUALITAS
           --------
KEPUASAN       0.85
LOYALITA       0.51

        Correlation Matrix of ETA and KSI

           KEPUASAN   LOYALITA   KUALITAS
           --------   --------   --------
KEPUASAN       1.00
LOYALITA       0.62       1.00
KUALITAS       0.85       0.67       1.00

        PSI
        Note: This matrix is diagonal.

           KEPUASAN   LOYALITA
           --------   --------
               0.28       0.55

        THETA-EPS

                KE1        KE2        LO1        LO2        LO3        LO4
           --------   --------   --------   --------   --------   --------
               0.22       0.25       0.58       0.46       0.13       0.49

        THETA-DELTA

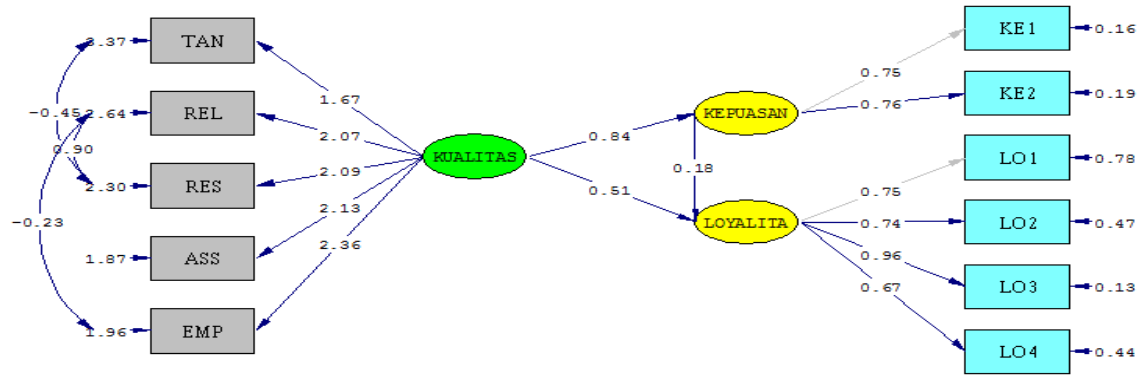
                TAN        REL        RES        ASS        EMP
           --------   --------   --------   --------   --------
     TAN       0.55
     REL        - -       0.38
     RES      -0.07       0.13       0.35
     ASS        - -        - -        - -       0.29
     EMP        - -      -0.03        - -        - -       0.26

        Regression Matrix ETA on KSI (Standardized)

           KUALITAS
           --------
KEPUASAN       0.85
LOYALITA       0.67

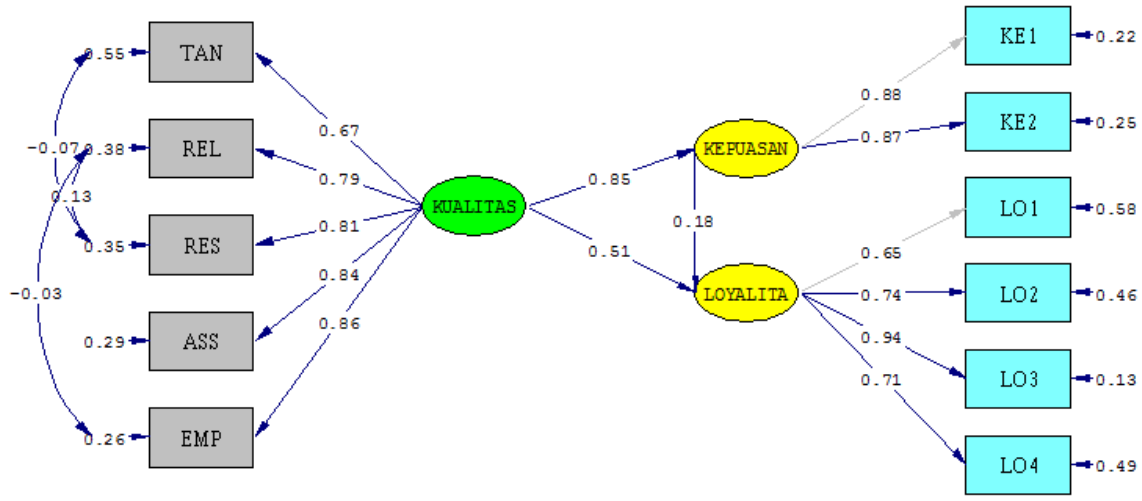
                        Time used:    0.062 Seconds
```

ESTIMATE



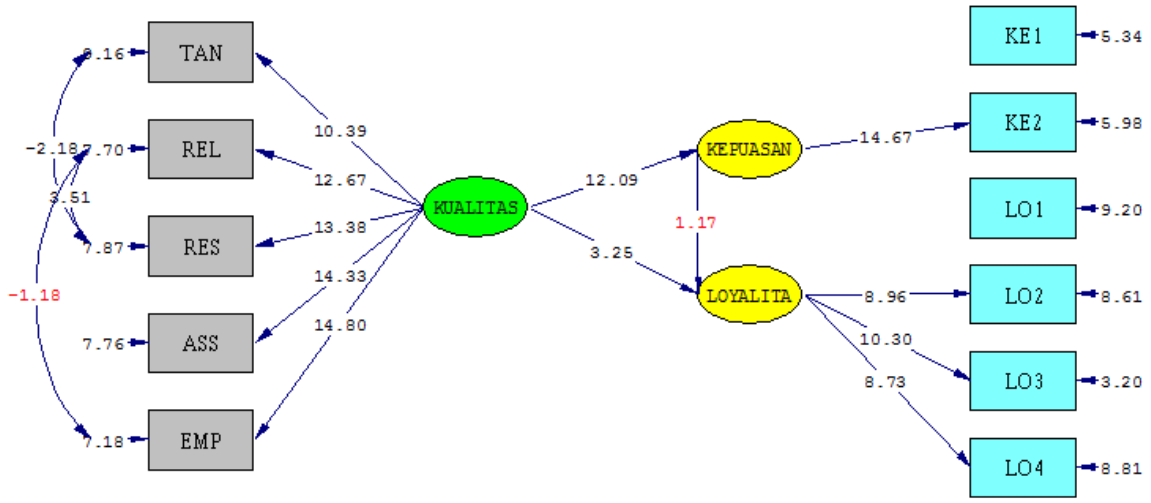
Chi-Square=62.63, df=38, P-value=0.00718, RMSEA=0.057

STANDAR SOLUTION



Chi-Square=62.63, df=38, P-value=0.00718, RMSEA=0.057

T-VALUE



Chi-Square=62.63, df=38, P-value=0.00718, RMSEA=0.057

OUTPUT UJI NORMALITAS

DATE: 10/12/2018
TIME: 22:26

P R E L I S 2.70

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The following lines were read from file E:\THESIS RIFKI BARU\DATA LISREL.PR2:

```
!PRELIS SYNTAX: Can be edited
SY='E:\THESIS RIFKI BARU\DATA LISREL.PSF'
NS 21 22 23 24 25 26 27 28 29 30 31 32
OU MA=CM XM
```

Total Sample Size = 200

Univariate Marginal Parameters

Variable	Mean	St. Dev.	Thresholds				
T1	6.348	2.465	0.000	1.000	2.034	3.794	7.896
T2	2.238	1.031	0.000	1.000	2.621		
T3	1.962	1.193	0.000	1.000	2.924		
T4	14.888	6.400	0.000	1.000	5.443	11.984	20.625
R1	2.567	1.250	0.000	1.000	2.266	4.242	
R2	4.934	1.915	0.000	1.000	1.873	3.760	7.184
R3	6.348	2.465	0.000	1.000	2.410	4.985	8.956
R4	3.015	1.296	0.000	1.000	2.317	4.538	
RE1	10.325	4.008	0.000	1.000	4.409	7.868	14.479
RE2	4.934	1.915	0.000	1.000	2.635	4.766	7.444
RE3	8.534	3.668	0.000	1.000	3.500	6.663	12.937
RE4	4.132	1.904	0.000	1.000	3.133	6.467	
A1	4.934	1.915	0.000	1.000	1.783	3.874	6.961

A2	6.348	2.465	0.000	1.000	1.883	4.686	8.467
A3	10.325	4.008	0.000	1.000	3.732	7.429	13.286
A4	2.735	1.176	0.000	1.000	1.979	4.032	
E1	6.349	2.729	0.000	1.000	2.420	4.635	9.064
E2	3.706	1.439	0.000	1.000	1.528	2.972	5.397
E3	2.267	0.880	0.000	1.000	1.741	3.323	
E4	6.348	2.465	0.000	1.000	2.617	4.725	8.652

Univariate Distributions for Ordinal Variables

T1	Frequency	Percentage	Bar Chart
1	1	0.5	
2	2	1.0	
3	5	2.5	
4	22	11.0	
5	117	58.5	
6	53	26.5	

T2	Frequency	Percentage	Bar Chart
3	3	1.5	
4	20	10.0	
5	106	53.0	
6	71	35.5	

T3	Frequency	Percentage	Bar Chart
3	10	5.0	
4	32	16.0	
5	116	58.0	
6	42	21.0	

T4	Frequency	Percentage	Bar Chart
1	2	1.0	
2	1	0.5	
3	11	5.5	
4	51	25.5	
5	98	49.0	
6	37	18.5	

R1	Frequency	Percentage	Bar Chart
2	4	2.0	
3	17	8.5	
4	60	30.0	
5	101	50.5	
6	18	9.0	

R2	Frequency	Percentage	Bar Chart
1	1	0.5	
2	3	1.5	
3	7	3.5	
4	43	21.5	
5	122	61.0	
6	24	12.0	

R3	Frequency	Percentage	Bar Chart
1	1	0.5	
2	2	1.0	
3	8	4.0	
4	47	23.5	
5	113	56.5	
6	29	14.5	

R4	Frequency	Percentage	Bar Chart
2	2	1.0	
3	10	5.0	
4	47	23.5	
5	117	58.5	
6	24	12.0	

RE1	Frequency	Percentage	Bar Chart
1	1	0.5	
2	1	0.5	
3	12	6.0	
4	40	20.0	
5	116	58.0	
6	30	15.0	

RE2	Frequency	Percentage	Bar Chart
1	1	0.5	
2	3	1.5	
3	19	9.5	
4	70	35.0	
5	88	44.0	
6	19	9.5	

RE3	Frequency	Percentage	Bar Chart
1	2	1.0	
2	2	1.0	
3	13	6.5	

4	44	22.0	
5	116	58.0	
6	23	11.5	

RE4 Frequency Percentage Bar Chart

2	3	1.5	
3	7	3.5	
4	50	25.0	
5	118	59.0	
6	22	11.0	

A1 Frequency Percentage Bar Chart

1	1	0.5	
2	3	1.5	
3	6	3.0	
4	48	24.0	
5	113	56.5	
6	29	14.5	

A2 Frequency Percentage Bar Chart

1	1	0.5	
2	2	1.0	
3	4	2.0	
4	43	21.5	
5	111	55.5	
6	39	19.5	

A3 Frequency Percentage Bar Chart

1	1	0.5	
2	1	0.5	
3	8	4.0	
4	37	18.5	
5	107	53.5	
6	46	23.0	

A4 Frequency Percentage Bar Chart

2	2	1.0	
3	12	6.0	
4	38	19.0	
5	121	60.5	
6	27	13.5	

E1 Frequency Percentage Bar Chart

1	2	1.0	
2	3	1.5	
3	10	5.0	
4	38	19.0	
5	115	57.5	
6	32	16.0	

E2 Frequency Percentage Bar Chart

1	1	0.5	
2	5	2.5	
3	7	3.5	
4	48	24.0	
5	115	57.5	
6	24	12.0	

E3 Frequency Percentage Bar Chart

2	1	0.5	
3	14	7.0	
4	40	20.0	
5	122	61.0	
6	23	11.5	

E4 Frequency Percentage Bar Chart

1	1	0.5	
2	2	1.0	
3	10	5.0	
4	38	19.0	
5	114	57.0	
6	35	17.5	

Univariate Summary Statistics for Continuous Variables

Variable	Mean	St. Dev.	T-Value	Skewness	Kurtosis	Minimum	Freq.	Maximum	Freq.
KE1	4.970	0.838	83.852	-0.258	-0.203	2.758	4	6.131	50
KE2	4.995	0.871	81.095	-0.292	-0.186	2.689	4	6.161	54
LO1	3.975	1.158	48.543	-0.093	-0.177	1.318	7	6.409	11
LO2	4.715	1.009	66.060	-0.241	-0.385	1.625	1	6.139	45
LO3	4.670	1.023	64.565	-0.225	-0.206	1.779	2	6.235	37
LO4	5.145	0.943	77.195	-0.501	-0.466	2.380	2	6.138	81
LO5	5.315	0.761	98.811	-0.584	-0.532	2.836	1	6.040	94
TAN	19.995	2.483	113.878	-0.060	-0.183	12.735	1	24.892	13
REL	18.865	2.635	101.262	-0.034	0.044	11.151	1	25.974	2
RES	18.725	2.581	102.592	-0.041	-0.009	11.184	1	26.266	1
ASS	19.395	2.530	108.413	-0.031	-0.056	12.581	2	25.193	6

EMP	19.095	2.747	98.320	-0.048	-0.052	11.060	1	25.081	8

Test of Univariate Normality for Continuous Variables

	Skewness		Kurtosis		Skewness and Kurtosis	
Variable	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
KE1	-1.506	0.132	-0.529	0.597	2.548	0.280
KE2	-1.698	0.090	-0.465	0.642	3.098	0.212
LO1	-0.553	0.580	-0.432	0.666	0.492	0.782
LO2	-1.409	0.159	-1.268	0.205	3.593	0.166
LO3	-1.317	0.188	-0.537	0.591	2.023	0.364
LO4	-2.824	0.005	-1.649	0.099	10.695	0.005
LO5	-3.242	0.001	-1.990	0.047	14.471	0.001
TAN	-0.355	0.723	-0.453	0.651	0.331	0.848
REL	-0.204	0.838	0.278	0.781	0.119	0.942
RES	-0.242	0.808	0.122	0.903	0.074	0.964
ASS	-0.182	0.855	-0.024	0.981	0.034	0.983
EMP	-0.283	0.777	-0.011	0.991	0.080	0.961

Histograms for Continuous Variables

KE1

Frequency	Percentage	Lower Class Limit	
4	2.0	2.758	□
5	2.5	3.096	□
0	0.0	3.433	
34	17.0	3.770	□□□□□□□□□□□□
0	0.0	4.107	
0	0.0	4.445	
107	53.5	4.782	□□
0	0.0	5.119	
0	0.0	5.457	
50	25.0	5.794	□□□□□□□□□□□□□□□□□□

KE2

Frequency	Percentage	Lower Class Limit	
4	2.0	2.689	□
9	4.5	3.037	□□□
0	0.0	3.384	
25	12.5	3.731	□□□□□□□□
0	0.0	4.078	
0	0.0	4.425	
108	54.0	4.773	□□
0	0.0	5.120	
0	0.0	5.467	
54	27.0	5.814	□□□□□□□□□□□□□□□□□□□□

LO1

Frequency	Percentage	Lower Class Limit	
7	3.5	1.318	□□□
16	8.0	1.827	□□□□□□□□
0	0.0	2.336	
35	17.5	2.845	□□□□□□□□□□□□□□□□□□□□
0	0.0	3.354	
70	35.0	3.864	□□
0	0.0	4.373	
61	30.5	4.882	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
0	0.0	5.391	
11	5.5	5.900	□□□□□

LO2

Frequency	Percentage	Lower Class Limit	
1	0.5	1.625	
3	1.5	2.077	□
0	0.0	2.528	
21	10.5	2.980	□□□□□□□□□□
0	0.0	3.431	
47	23.5	3.882	□□□□□□□□□□□□□□□□□□□□□□□
0	0.0	4.334	
83	41.5	4.785	□□
0	0.0	5.236	
45	22.5	5.688	□□□□□□□□□□□□□□□□□□□□□

LO3

Frequency	Percentage	Lower Class Limit	
2	1.0	1.779	
6	3.0	2.225	□□
15	7.5	2.670	□□□□□□
0	0.0	3.116	
47	23.5	3.561	□□□□□□□□□□□□□□□□□□□□□
0	0.0	4.007	
0	0.0	4.453	
93	46.5	4.898	□□
0	0.0	5.344	
37	18.5	5.789	□□□□□□□□□□□□□□□□

```
     LO4
Frequency Percentage Lower Class Limit
    2         1.0        2.380
    1         0.5        2.755
    9         4.5        3.131        □□□□
    0         0.0        3.507
   23        11.5        3.883        □□□□□□□□□□
    0         0.0        4.259
   84        42.0        4.635        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
    0         0.0        5.010
    0         0.0        5.386
   81        40.5        5.762        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

     LO5
Frequency Percentage Lower Class Limit
    1         0.5        2.836
    2         1.0        3.157
    0         0.0        3.477
   24        12.0        3.798        □□□□□□□□□
    0         0.0        4.118
    0         0.0        4.438
   79        39.5        4.759        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
    0         0.0        5.079
    0         0.0        5.400
   94        47.0        5.720        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

     TAN
Frequency Percentage Lower Class Limit
    2         1.0       12.735        □
    2         1.0       13.950        □
   10         5.0       15.166        □□□□□□□□□
   29        14.5       16.382        □□□□□□□□□□□□□□□□□□□□□□□□□□
   35        17.5       17.598        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   42        21.0       18.813        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   28        14.0       20.029        □□□□□□□□□□□□□□□□□□□□□□□□□
   17         8.5       21.245        □□□□□□□□□□□□□□□
   22        11.0       22.461        □□□□□□□□□□□□□□□□□□□
   13         6.5       23.677        □□□□□□□□□□□

     REL
Frequency Percentage Lower Class Limit
    2         1.0       11.151        □
    8         4.0       12.634        □□□□
   11         5.5       14.116        □□□□□□
   19         9.5       15.598        □□□□□□□□□□□
   65        32.5       17.080        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
    0         0.0       18.563
   59        29.5       20.045        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   26        13.0       21.527        □□□□□□□□□□□□□□□
    8         4.0       23.009        □□□□
    2         1.0       24.492        □

     RES
Frequency Percentage Lower Class Limit
    2         1.0       11.184        □
    6         3.0       12.692        □□□□
   10         5.0       14.200        □□□□□□□
   34        17.0       15.708        □□□□□□□□□□□□□□□□□□□□□□□
   54        27.0       17.217        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   53        26.5       18.725        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   20        10.0       20.233        □□□□□□□□□□□□□□
   18         9.0       21.742        □□□□□□□□□□□□
    0         0.0       23.250
    3         1.5       24.758        □□

     ASS
Frequency Percentage Lower Class Limit
    4         2.0       12.581        □□
    6         3.0       13.843        □□□□
   13         6.5       15.104        □□□□□□□□
   30        15.0       16.365        □□□□□□□□□□□□□□□□□□□□
   33        16.5       17.626        □□□□□□□□□□□□□□□□□□□□□□
   56        28.0       18.887        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   24        12.0       20.149        □□□□□□□□□□□□□□□□
   18         9.0       21.410        □□□□□□□□□□□□
   10         5.0       22.671        □□□□□□
    6         3.0       23.932        □□□□

     EMP
Frequency Percentage Lower Class Limit
    1         0.5       11.060
    5         2.5       12.462        □□□
   11         5.5       13.864        □□□□□□□
   23        11.5       15.266        □□□□□□□□□□□□□□□
   17         8.5       16.668        □□□□□□□□□□□
   37        18.5       18.070        □□□□□□□□□□□□□□□□□□□□□□□□
   58        29.0       19.472        □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
   22        11.0       20.875        □□□□□□□□□□□□□□
```

18	9.0	22.277	□□□□□□□□□□□
8	4.0	23.679	□□□□

Covariance Matrix

	T1	T2	T3	T4	R1	R2
T1	6.074					
T2	1.873	1.063				
T3	1.503	0.871	1.423			
T4	9.845	3.455	3.241	40.956		
R1	1.529	0.449	0.529	3.721	1.562	
R2	1.715	0.801	0.926	4.367	1.609	3.669
R3	2.354	1.090	1.410	3.276	1.423	3.288
R4	1.284	0.476	0.770	2.251	0.799	1.554
RE1	2.829	1.037	1.229	6.255	2.178	3.578
RE2	1.581	0.527	0.619	5.028	1.097	1.722
RE3	2.999	1.382	1.663	4.461	2.170	4.092
RE4	1.833	0.807	0.848	3.543	1.042	2.162
A1	2.385	0.932	0.928	4.919	1.270	1.969
A2	2.695	0.973	0.956	5.358	1.081	1.688
A3	4.619	2.040	2.074	7.157	2.275	3.519
A4	1.266	0.457	0.404	2.259	0.734	1.296
E1	3.232	1.329	1.474	7.699	1.823	2.521
E2	1.258	0.578	0.338	3.652	0.809	1.229
E3	0.940	0.439	0.295	2.062	0.510	0.790
E4	2.282	0.920	0.514	5.849	1.486	2.184
KE1	0.672	0.457	0.393	1.557	0.497	0.381
KE2	0.676	0.485	0.394	1.549	0.441	0.321
LO1	0.265	0.227	0.315	1.522	0.522	0.211
LO2	0.216	0.155	0.291	0.761	0.297	0.179
LO3	0.355	0.236	0.315	1.269	0.566	0.314
LO4	0.259	0.273	0.446	0.434	0.287	0.323
LO5	0.196	0.167	0.237	0.600	0.236	0.402
TAN	4.862	2.286	2.395	12.496	1.497	1.134
REL	1.836	1.193	1.579	4.066	2.685	4.443
RES	1.553	1.008	1.130	3.672	1.728	1.593
ASS	2.026	1.368	1.323	3.868	1.708	1.415
EMP	1.783	1.382	1.040	4.873	1.914	1.642

Covariance Matrix

	R3	R4	RE1	RE2	RE3	RE4
R3	6.074					
R4	2.008	1.680				
RE1	4.321	3.456	16.067			
RE2	2.113	1.202	4.210	3.669		
RE3	6.177	2.426	6.146	3.015	13.457	
RE4	2.665	1.328	3.454	1.508	4.570	3.625
A1	1.937	1.582	4.131	1.702	3.683	2.328
A2	1.368	1.450	4.481	1.196	2.013	1.971
A3	4.634	3.357	5.702	2.048	7.432	4.432
A4	1.548	1.016	2.251	1.014	2.113	1.462
E1	2.763	1.722	5.003	2.461	4.009	3.349
E2	1.484	0.853	2.320	1.266	1.774	1.840
E3	1.070	0.500	1.283	0.637	1.505	1.061
E4	2.499	1.186	4.655	1.894	3.121	2.497
KE1	0.559	0.609	1.334	0.390	1.419	0.809
KE2	0.471	0.566	1.143	0.344	1.156	0.709
LO1	0.549	0.450	0.688	0.481	1.293	0.814
LO2	0.503	0.378	0.965	0.320	1.188	0.663
LO3	0.483	0.480	1.118	0.462	1.392	0.879
LO4	0.596	0.517	0.788	0.294	1.116	0.663
LO5	0.421	0.398	1.032	0.305	0.635	0.484
TAN	1.510	1.469	2.069	1.141	3.172	1.941
REL	5.234	2.867	4.606	1.389	6.015	2.975
RES	2.082	2.127	6.052	3.921	7.848	4.053
ASS	1.493	2.419	4.337	1.156	4.797	3.325
EMP	1.826	1.784	3.916	1.438	4.531	3.727

Covariance Matrix

	A1	A2	A3	A4	E1	E2
A1	3.669					
A2	2.473	6.074				
A3	3.917	4.965	16.067			
A4	1.169	1.263	3.230	1.382		
E1	2.876	3.574	6.122	1.864	7.450	
E2	1.460	1.469	2.774	1.046	2.292	2.070
E3	0.908	0.558	1.412	0.647	1.243	0.922
E4	2.047	2.148	3.601	1.592	2.868	2.362
KE1	0.519	0.381	1.146	0.511	1.079	0.379

KE2	0.531	0.451	1.040	0.430	1.281	0.368
LO1	0.412	0.164	0.494	0.483	1.157	0.371
LO2	0.323	0.251	0.362	0.342	1.032	0.366
LO3	0.417	0.333	0.602	0.462	1.335	0.434
LO4	0.296	0.317	0.811	0.470	1.013	0.357
LO5	0.329	0.205	0.634	0.359	0.746	0.375
TAN	1.481	1.488	3.070	1.192	3.623	0.841
REL	1.701	1.541	3.288	1.989	3.928	1.210
RES	3.138	1.503	2.656	1.905	4.280	1.151
ASS	3.770	4.675	7.877	2.498	4.621	2.002
EMP	1.680	1.590	3.019	2.162	5.829	3.442

Covariance Matrix

	E3	E4	KE1	KE2	LO1	LO2
E3	0.774					
E4	1.535	6.074				
KE1	0.296	0.594	0.703			
KE2	0.270	0.560	0.557	0.759		
LO1	0.282	0.540	0.286	0.305	1.341	
LO2	0.203	0.397	0.262	0.265	0.664	1.019
LO3	0.304	0.626	0.354	0.413	0.706	0.712
LO4	0.306	0.532	0.293	0.369	0.432	0.503
LO5	0.247	0.605	0.193	0.242	0.280	0.385
TAN	0.804	1.352	1.146	1.162	0.843	0.527
REL	0.889	1.758	1.175	1.076	1.057	0.710
RES	0.864	1.877	1.147	1.032	1.151	0.935
ASS	0.813	1.785	1.230	1.184	0.935	0.671
EMP	2.148	5.466	1.293	1.320	1.363	1.079

Covariance Matrix

	LO3	LO4	LO5	TAN	REL	RES
LO3	1.046					
LO4	0.613	0.888				
LO5	0.433	0.522	0.579			
TAN	0.823	0.654	0.454	6.166		
REL	1.079	0.894	0.740	3.359	6.941	
RES	1.212	0.884	0.733	2.737	4.684	6.663
ASS	0.947	0.868	0.710	3.455	4.438	4.341
EMP	1.503	1.153	0.917	3.355	4.405	4.527

Covariance Matrix

	ASS	EMP
ASS	6.401	
EMP	4.464	7.544

Means

T1	T2	T3	T4	R1	R2
6.348	2.238	1.962	14.888	2.567	4.934

Means

R3	R4	RE1	RE2	RE3	RE4
6.348	3.015	10.325	4.934	8.534	4.132

Means

A1	A2	A3	A4	E1	E2
4.934	6.348	10.325	2.735	6.349	3.706

Means

E3	E4	KE1	KE2	LO1	LO2
2.267	6.348	4.970	4.995	3.975	4.715

Means

LO3	LO4	LO5	TAN	REL	RES
4.670	5.145	5.315	19.995	18.865	18.725

Means

ASS	EMP

```
            19.395     19.095

Standard Deviations

                T1         T2         T3         T4         R1         R2
          --------   --------   --------   --------   --------   --------
             2.465      1.031      1.193      6.400      1.250      1.915

Standard Deviations

                R3         R4        RE1        RE2        RE3        RE4
          --------   --------   --------   --------   --------   --------
             2.465      1.296      4.008      1.915      3.668      1.904

Standard Deviations

                A1         A2         A3         A4         E1         E2
          --------   --------   --------   --------   --------   --------
             1.915      2.465      4.008      1.176      2.729      1.439

Standard Deviations

                E3         E4        KE1        KE2        LO1        LO2
          --------   --------   --------   --------   --------   --------
             0.880      2.465      0.838      0.871      1.158      1.009

Standard Deviations

               LO3        LO4        LO5        TAN        REL        RES
          --------   --------   --------   --------   --------   --------
             1.023      0.943      0.761      2.483      2.635      2.581

Standard Deviations

               ASS        EMP
          --------   --------
             2.530      2.747

         The Problem used    119512 Bytes (= 0.2% of available workspace)
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