

## SEM ANALYSIS

SEM (Structural Equation Modelling) analysis is a multivariate statistical analysis technique used to analyze structural relationships. This technique is a combination of factor analysis and multiple regression analysis, and is used to analyze the structural relationship between the measured variables and the latent variables.

## ANALYZING DATA USING SEM

### STEP 1: Uploading Your Data

1. On the upload panel, click Browse and select the data you want to upload. The app will automatically show you the data in “10 Top Data” section.

### Please Upload Your Data Below

Choose CSV or Excel (XLSX/XLS) File (Max File Size 35 MB)

Browse...No file selected

Introduction10 Top DataSummary of SEMGraphics Result

Show 10 entriesSearch:

Atribut	Mandiri	BCA	BNI	BRI	Danamon	CIMB_Niaga	Tidak_Ada
1 BERGENSI	12	4	13	2	12	12	5
2 AHAN & TERPERCAYA	3	9	14	3	3	0	1
3 MERAKYAT	3	9	6	4	4	10	11
4 PELAYANANNYA BAGUS	2	9	6	4	6	11	7
5 BERTEKNOLOGI CANGGIH	10	9	7	1	12	5	3
6 AT-I-NYA BANYAK	12	9	5	3	6	4	6
7 MEHBERIKAN SOLUSI & KEHENDIKBUD	3	8	10	9	1	2	1
8 DIDUKUNG INTERNET BANKING & MOBILE BANKING	2	6	11	9	5	2	3
9 JARINGAN CABANGNYA LUAS	5	2	11	9	5	2	10
10 BUNCA/HASILNYA TINGGI	7	5	11	4	4	2	14

Showing 1 to 10 of 19 entriesPrevious12Next

Note : If you select the data with **csv** format, you need to choose one of the three separators that are available in a selection. Make sure the separator is compatible with the data.

### Please Upload Your Data Below

Choose CSV or Excel (XLSX/XLS) File (Max File Size 35 MB)

Browse...Fish.csv

Upload complete

Choose a compatible separator :

☒ Comma

☐ Semicolon

☐ Tab

## STEP 2: Determining SEM Model

1. Enter the model indicators in “Indicator” section.

**Determine SEM Model:**

**Indicator**

Mandiri+BCA  
BNI+BRI+Danamon

Note : Make sure the name of each variable in the model indicators is the same as the name of the variable in the data.

2. Enter the labels/latent variables (variable that cannot be measured directly) in “Label” section. In this example, Mandiri and BCA for the "BERGENGSI" variable and BNI, BRI, and Danamon for the "MERAKYAT" variable.

**Label**

BERGENGSI  
MERAKYAT

3. In the “Determine Relationship Model:” section, enter the labeling of the latent variable above. In this example no changes are made to the label of the latent variable.

**Determine Relationship Model:**

**Label**

BERGENGSI

**Label**

MERAKYAT

### STEP 3: Submitting Your Model

1. After entering the model, the submit button will be active and you can click it to show the results in “Summary of SEM” section.

**Determine Relationship Model:**

**Label**  
BERGENSI

**Label**  
MERAKYAT

Submit

lavaan 0.6-10 ended normally after 147 iterations

Estimator	ML
Optimization method	NLMINB
Number of model parameters	11
Number of observations	19

Model Test User Model:

Test statistic	7.658
Degrees of freedom	4
P-value (Chi-square)	0.105

Parameter Estimates:

Standard errors	Standard
Information	Expected
Information saturated (h1) model	Structured

Latent Variables:

	Estimate	Std.Err	z-value	P(> z )	Std.lv	Std.all
BERGENGSI =~						
Mandiri	1.000				3.243	0.880
BCA	0.326	0.333	0.978	0.328	1.056	0.295
MERAKYAT =~						
BNI	1.000				0.413	0.104
BRI	2.139	2.954	0.724	0.469	0.884	0.263
Danamon	-2.540	3.435	-0.739	0.460	-1.049	-0.333

Regressions:

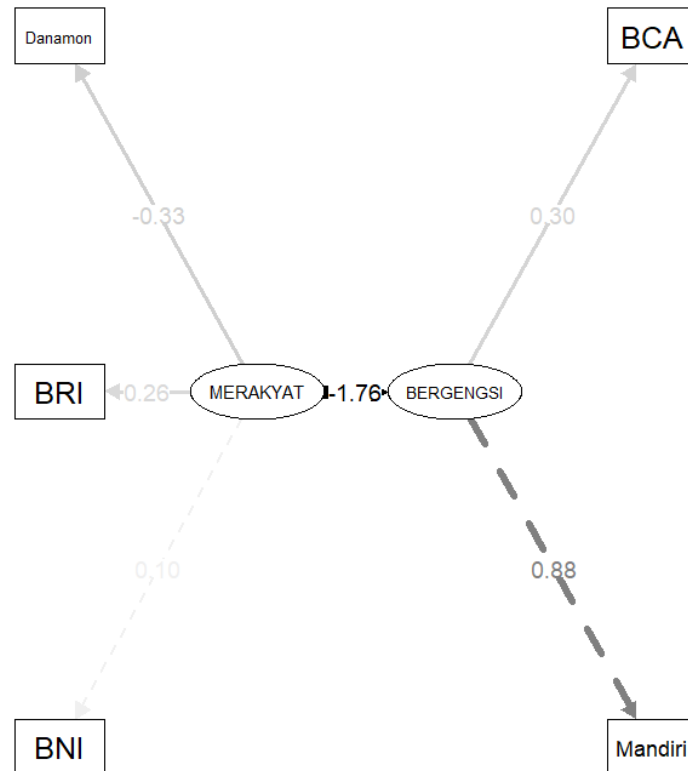
	Estimate	Std.Err	z-value	P(> z )	Std.lv	Std.all
BERGENGSI ~						
MERAKYAT	-13.849	35.831	-0.387	0.699	-1.764	-1.764

Variances:

	Estimate	Std.Err	z-value	P(> z )	Std.lv	Std.all
.Mandiri	3.052	8.467	0.360	0.719	3.052	0.225
.BCA	11.661	3.887	3.000	0.003	11.661	0.913
.BNI	15.514	5.015	3.093	0.002	15.514	0.989
.BRI	10.471	3.715	2.819	0.005	10.471	0.931
.Danamon	8.800	3.580	2.458	0.014	8.800	0.889
.BERGENGSI	-22.199	65.566	-0.339	0.735	-2.111	-2.111
.MERAKYAT	0.171	0.614	0.278	0.781	1.000	1.000

2. You can also see the graphic result by clicking on the “Graphics Result” tab.

## SEM Analysis

**STEP 4: Downloading Results**

1. The “Download Results” button will appear after the summary result are shown. Click it to export the results to your device in PDF format.

Submit

Download Results