Assignment 12 (Week 12)

Due on 2016-04-16, 19:29 IST

Submitted assignment

1) Structural Equation Modeling (SEM) is: ***1 point***

- a dependence modeling technique
- an interdependence modeling technique
- an unique combination of both dependence and interdependence modeling technique
- None of the above

2) SEM contains: ***1 point***

- both measurement and structural model
- both measurement and correspondence model
- both structural and correspondence model
- None of these

3) In SEM, exogenous constructs represent ***1 point***

- (i) multi-item equivalent of dependent variables
- (ii) multi-item equivalent of independent variables
- (iii) both (i) and (ii)

- (iv) None of the above

4) In SEM, endogenous constructs represent: ***1 point***

- (i) multi-item equivalent of dependent variables
- (ii) multi-item equivalent of independent variables
- (iii) both (i) and (ii)
- (iv) None of the above

5) SEM becomes under identified when (where, t = total number of parameters to be estimated, p and q are the number of independent and dependent manifest variables, respectively): ***1 point***

- $t = (p+q)(p+q+1)/2$
- $t > (p+q)(p+q-1)/2$
- $t > (p+q)(p+q+1)/2$
- $t < (p+q)(p+q+1)/2$

6) In model adequacy testing in SEM, normed fit index (NFI) is related to- ***1 point***

- Absolute fit index
- Parsimonious fit index
- Relative fit index
- None of these

7) To check the parsimony of the SEM, we usually use: ***1 point***

- Chi-square index
- Normed fit index
- Goodness of fit index

- Adjusted goodness of fit index

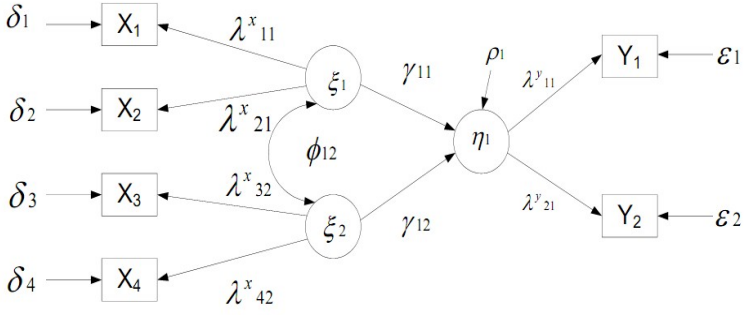
8) The range of goodness of fit index (GFI) is: ***1 point***

- (0 to 1)
- (-1 to +1)
- (-0.5 to +0.5)
- None of these

9) **Questions 9 to 12 are to be answered based on the data given below.** ***2 points***

A sample of 1000 observations was collected. Upon maximum likelihood estimation, the goodness of fit measures for the model are:
Goodness of fit index (GFI) = 0.79; Chi-square (χ^2) = 1500; root mean square residual (RMSR) = 0.06; normed fit index (NFI) = 0.91, and parsimony goodness-of-fit index (PGFI) = 0.77.

Assume that the covariance matrices of the errors for the independent and dependent manifest variables respectively are diagonal. Here, the hypothetical SEM diagram is given below.



The number of dependent and independent manifest variables are respectively:

- (4, 2)
- (2, 4)
- (3, 6)
- (6, 3)

10) The number of exogenous and endogenous constructs are respectively ***1 point***

- (1, 2)
- (3, 1)
- (6, 3)
- (2, 1)

11) The number of uniquely identified elements of the covariance matrix involving both the dependent and independent manifest variable is: ***2 points***

- 21
- 13
- 15
- 19

12) How many indices show that the model fit is inadequate? ***2 points***

- 2
- 3
- 4
- 5