ABSTRACT

The Effect of Nonnormality on CB-SEM and PLS-SEM

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The two common approaches to Structural Equation Modeling (SEM) are the Covariance-Based SEM (CB-SEM) and Partial Least Squares SEM (PLS-SEM). This study evaluates the performance of CB-SEM and PLS-SEM under normality and nonnormality conditions via a simulation. The simulation in LISREL 8.80 and SmartPLS was employed to generate data based on the theoretical model with one endogenous and four exogenous variables. Each latent variable has three indicators. For normal distributions, CB-SEM estimates were found to be inaccurate for small sample size while PLS-SEM could produce the path estimates. Under nonnormality, CB-SEM path estimates were inaccurate for small sample size. However, CB-SEM estimates are more accurate than those of PLS-SEM for sample size of 150 and above.

Key words : CB-SEM, PLS-SEM, Normality, Nonnormality