

ABSTRACT

Analysis in Structural Equation Models (SMMs) is intended to determine the fit of the model to the data as well as to test the hypotheses that have been formulated previously. In general, the application of SEM should be based on the assumption that the data are multivariate normally distributed. In this research, it was developed the distribution-based SEM or based on the data that were not always normally distributed and small sample size. Moreover, the distribution that was developed depended on the prior distribution. Consequently, the posterior distribution that was obtained had an estimator in the form of mean.

The first objective of this research was to assess measurement and structural model using respectively Bayesian SEM, Bootstrap, and Bayesian Bootstrap approaches in order to obtain the intended factors that were reflected by their relevant indicators. The second objective was to determine that influenced Millennium Development Goals-Health Components (MDGs-HCs) based on the results obtained from the first objective.

The results showed that the estimator of Bayesian SEM was obtained by firstly using least square method and secondly substituting the result to likelihood function. Hence, the mean of marginal distribution of posterior distribution was obtained. Estimate the weight of reflexive indicators obtained through the first derivative of the simple regression, whereas the weight of the formative indicators obtained through the first derivative of the regression coefficients. Outer estimation models obtained by standardizing the latent variables, whereas the estimated centroid point obtained through the scheme.

The new finding of this study is a mathematical model through the development of conceptual frameworks and models. Also estimator prior distribution which is the mean of the prior distribution is obtained through distribution and onvergensi konjugate bootstrap sample estimator is achieved when the population approached estimator bootstrap replication samples between 100 and 250. If replication is far beyond the original sample and the bootstrap sample size that is too large will not provide a good estimate.

The dominant factors that influenced MDGs-HCs were respectively health personal, environment, behavior, health services, and infra-structure with their values were respectively 0.522, 0.145, 0.092, 0.320, and 0.012. These factors were measured by valid and reliable indicators. It is recommended to use replication of sample bootstrap close to the original sample size and to use the indicators that have mixed scales of measurement.

Keyword : SEM, Bayesian, MDGs