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Bootstrap confidence intervals for the process capability index under half-logistic distribution

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Abstract
This study concerns the construction of bootstrap confidence intervals for the process capability index in the case of half-logistic distribution. The bootstrap confidence intervals applied consist of standard bootstrap confidence interval, percentile bootstrap confidence interval and bias-corrected percentile bootstrap confidence interval. Using Monte Carlo simulations, the estimated coverage probabilities and average widths of bootstrap confidence intervals are compared, with results showing that the estimated coverage probabilities of the standard bootstrap confidence interval get closer to the nominal confidence level than those of the other bootstrap confidence intervals for all situations. ©2012 by Maejo University, San Sai, Chiang Mai, 50290 Thailand.

Author Keywords
Bootstrap confidence interval; Half-logistic distribution; Process capability index

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