Process Performance and Capability Statistics for Non-Normal Distributions in *R*

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Estimating performance and capability statistics is a widespread practice in industry to assess and communicate the state of (manufacturing) processes. The calculation of these statistics is among others defined in the international standard ISO 21747:2006. Although the provided definitions are generic (i.e. distribution independent), calculation of these statistics is mainly based on the assumption of a normally distributed process. This practice causes difficulties with regularly occurring non-normally distributed process characteristics.

Methods are presented for conveniently fitting distributions and subsequently assessing process performance and capability regardless of the underlying distribution of the measured characteristic. In addition an insight into the terminology of the ISO 21747:2006 document is provided.

References

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