Summary: This paper introduces a dynamic divergence measure to assess the discrepancy between the
distribution functions of two inactivity lifetime random variables. Various time-dependent results on the
proposed divergence measure in connection to other well-known measures in reliability engineering and
survival studies are investigated. Some aging and monotonicity properties of such a measure are also
studied. Furthermore, the proposed criterion is examined in two general classes of transformation models
which results in some well-known models in the lifetime studies and survival analysis.

MSC:
62-XX Statistics

Keywords:
ageing properties; distribution transformation model; measure of discrimination; quantile transformation
model; reversed hazard rate function

Full Text: [DOI]

References:
two residual life distributions, Biometrika, 83, 1, 233-235 (1996) · Zbl 0865.62075
[7] Tanjorea, H.; Kumar, V.; Srivastava, R., A dynamic measure of inaccuracy between two residual lifetime distributions, Inter
[8] Vonta, F.; Karagrigoriou, A., Generalized measures of divergence in survival analysis and reliability, J Appl Probab, 47, 1,
216-234 (2010) · Zbl 1185.62088
173-182 (2004) · Zbl 1058.62088
[10] Kumar, V.; Tanjorea, H.; Srivastava, R., A dynamic measure of inaccuracy between two past lifetime distributions, Metrika,
74, 1, 1-10 (2011) · Zbl 1216.62156
[11] Cox, TF; Czanner, G., A practical divergence measure for survival distributions that can be estimated from Kaplan-Meier
[12] Mansourvar, Z.; Asadi, M., An extension of the Cox-Czanner divergence measure to residual lifetime distributions with
applications, Statistics, 54, 6, 1311-1328 (2020) · Zbl 1185.62093
[13] Cha, JH; Mi, J., Some probability functions in reliability and their applications, Naval Res Logist (NRL), 54, 4, 128-135
(2007) · Zbl 1185.62093
[14] Misra, N.; Francis, J.; Naqvi, S., Some sufficient conditions for relative aging of life distributions, Probab Eng Informat Sci,
31, 1, 83-99 (2017) · Zbl 1370.60158
[16] Gupta, RC; Gupta, PL; Gupta, RD., Modeling failure time data by Lehman alternatives, Commun Stat-Theor Meth, 27, 4,
887-904 (1998) · Zbl 0900.62534

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.