

Clustering in Ratemaking: with Application in Territories

Clustering

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Abstract

Clustering methods are briefly reviewed and their applications in insurance rate-making are discussed in this paper. First, the reason for clustering and the consideration in choosing clustering methods in insurance ratemaking are discussed. Then clustering methods, including partitioning, hierarchical, density-based and grid-based methods, are reviewed and particularly the problem of applying these methods directly in insurance ratemaking is discussed. An exposure-adjusted hybrid (EAH) clustering method is proposed, which may alleviate some of these problems. Results from EAH approach are presented step by step using the UK motor data. The limitations and other considerations of clustering are followed in the end.

Keywords: Clustering, ratemaking, generalized linear modeling, territory analysis, data mining.