

Application of data clustering in insurance management at Bao Viet Life Insurance Hanoi

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Abstract: This study explores the application of data clustering techniques to enhance insurance management at Bảo Việt Nhân Thọ Hà Nội. Leveraging customer data, the research employs clustering algorithms, such as K-means, to segment policyholders based on key attributes including demographic profiles, policy types, payment history, and claim patterns. The primary objective is to identify distinct customer groups to facilitate targeted marketing strategies, optimize risk assessment, and improve customer retention. By analyzing a dataset of existing clients, the clustering model successfully delineates homogeneous segments, revealing high-value customers, high-risk groups, and those with lapsed policies. The findings demonstrate that clustering enables more efficient resource allocation and personalized service offerings, thereby enhancing operational decision-making. This approach provides a data-driven framework for insurance companies to manage their portfolios proactively, reduce churn, and increase profitability. The study concludes that integrating clustering into business intelligence systems offers significant practical value for the insurance sector in Vietnam.

Keywords: data clustering, insurance management, Bao Viet Life Hanoi, data mining