Application of Particle Swarm Optimization (PSO) method in Clustering (Case Study: Voucher market segmentation characteristic determination in East Surabaya)

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Abstract

The number of voucher need by society still insatiable by product that is in market. It caused by inappropriate market segmentation. The mistake in segmented the market could caused by mistake in data collection. Huge amount of data will help to segmented, but it’s hard to execute manually. Then data mining method is used to settle this problem. In this research PSO method is used to run trial in clustering.

The result showed that PSO method is better than K-Means. This caused by SSE value of PSO smaller that K-means. From three clusters that formed, there’s a segmentation similarity. That is concerned with demographic data (influence insignificantly in product selection). That’s why marketing strategy focused on segmentation based on Customer Habit. In this research, value that offer is “Make Your Communication Easier”. It is value for an easy of communication when customer used a new product. In achieving that, there’s some strategy used, one other thing is no limit and requirement of grace period, nominal value of voucher is accumulative, etc.

Keyword: Clustering, Particle Swarm Optimization, market segmentation.