

ABSTRACT

Bintang Sepatu Purwokerto MSME is a micro, small, and medium enterprise engaged in the production of local shoes. Recently, this MSME faced a significant issue in the marketing aspect, namely the low achievement of sales targets. Consequently, inventory will accumulate in the warehouse. Accordingly, this research aimed to formulate targeted marketing strategies by clustering customers based on demographic and marketing mix influencing purchasing behavior. This study applied principal coordinate analysis (PCoA) and k-means clustering to manage categorical and numerical data types within the dataset comprising 179 customers and 16 attributes.. The PCoA algorithm was utilized to derive object configurations that were subsequently employed in k-means. The clustering result produced three clusters with good clustering quality based on the Silhouette score, namely 0.790, indicating accurate and representative segmentation. Each cluster obtained had a different customer characteristic. The first cluster, comprising 68 customers (38%), was oriented towards fundamental needs and tended to shop traditionally, classified as a segment of conventional rational customers. Additionally, the second cluster, with 70 customers (39%), exhibited planned and stable decision-making, categorized as mature rational customers. Furthermore, the third cluster comprises 41 customers (23%) who are digitally aware and combine conventional shopping approaches with technological utilization, identified as rational consumers. The segmentation results provide a data-driven foundation for designing targeted marketing strategies, thereby potentially increasing sales, supporting the sustainability of MSMEs, and encouraging the application of unsupervised learning techniques in decision-making processes.

Keywords : *Clustering, K-Means, Marketing, PCoA.*