Determination of the Location of Khazanah Ilmu Elementary School Promotion with Website-Based Spatial Clustering Method

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Abstract

Changes in post-Covid-19 economic conditions have had an impact on the education sector in Indonesia, causing a decrease in the number of school enrollees. One of the affected schools is Khazanah Ilmu Elementary School which is a private elementary school located in Sidoarjo Regency. The problems faced by Khazanah Ilmu Elementary School are the uneven distribution of school promotion information and the absorption of funds for promotion is not optimal due to the lack of information about the grouping of areas that are less touched by school promotion. This also results in a decrease in the number of registrants every year. The purpose of this study is to apply the spatial autocorrelation clustering algorithm to map regions into several clusters by looking at the history of registrant data in 2019-2022 so as to get an idea of which areas need promotion more so that the promotion budget is more targeted. In this study, the spatial autocorrelation clustering method is used, because spatial autocorrelation clustering considers the spatial distance between data points that allows grouping based on geographical proximity, this allows the identification of spatial patterns that are not detected by conventional clustering methods, so it is useful in data analysis that has a strong spatial component. The result of the implementation of the spatial autocorrelation clustering algorithm is that Khazanah Ilmu Elementary School can carry out promotions in areas located in the High High Cluster, namely Taman District, Gedangan District, and Waru District. The results of the website implementation of the spatial map of autocorrelation clustering consist of 4 main menus, namely Login, Year, Overall, and Logout. The "Year" menu has 4 sub-menus, namely 2019, 2020, 2021, and 2022. The "Overall" menu has 2 sub-menus, namely overall (1) and overall (2).

Keywords: data mining, spatial autocorrelation clustering, promotion