Conceptualization of spatial relations and analysis of spatial patterns of building permits in the service area of cities

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Introduction

Spatial statistics include a set of tools used to identify and analyze spatial distribution, study patterns and processes, and spatial relationships between features in maps. Although there may be similarities between spatial (spatial) and non-spatial (traditional) statistics, But spatial statistics are unique, because it is specifically designed for features that have a location and are in space. Conceptual model is an integral part of spatial modeling and must be chosen in such a way that Show the structure of spatial correlation between the analyzed features in the best way.

Methodology

Euclidean distance, which is actually the distance between two points directly and the shortest line between two points And also the Manhattan distance, which is actually the vertical and horizontal difference of all the points like the road network And the movement in all the lines between the fractures is in explaining the distance And in this case, the Manhattan distance is used.

Results and Discussion

The location of building issued in 2019 in the municipality of Region 2 –Shiraz has been studied as the main data of this research. Type of certificates categorized in the groups of building construction, reconstruction, building development, change of use, minor and major repairs and Location A total of 697 issued building have been studied as data over the area. To analyze spatial position patterns, the neighborhood system of Shiraz city, which was prepared by the Deputy of Planning and Human Capital Development of Shiraz Municipality and the municipality of District 2 is divided into 31 neighborhoods was used.

Conclusion

In the conceptualization of spatial relations, the inverse square distance method was used with the view that the effect of spatial distribution actually decreases significantly with increasing distance. In the analysis of patterns, knowledge of how to distribute in space and whether the data distribution follows a certain pattern or rule is important. The main

purpose of these patterns is to show whether the data are clustered sparsely or randomly distributed in space. In the analysis of the nearest neighborhood distance, the average observed distance was 84.12 that the type of data distribution had a cluster pattern. And the first hypothesis based on random and normal distribution of data (location of issued licenses) in space was rejected. As a result, in some areas the data distribution is integrated with more frequency and in some areas with low distribution. In the cluster analysis of the location of the impellers in 2019, the P-value is very small and close to zero And the value of Z was calculated negatively and also the value of G statistic was zero Which showed the pattern of normal distribution of Permits at the neighborhood level

Keyword: Spatial patterns, Spatial statistics, building certificate, Conceptualizing relationships, Spatial information systems.

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