

Application of the Fuzzy Topsis technique for the Selection of the Location of Public Libraries: A Case Study of Tabriz

Rasool Zavaraki (Corresponding author)

Assistant Professor, Department of KIS, University of Tabriz
zavaraki@tabrizu.ac.ir

Mohammad Ali Saleki Maleki

M. A. of Urban Planning, Consulting Engineer of Razhan- Abe- Zagros
salekimaleki@gmail.com

Masoomeh Ghasemi Khoei

M. A. of Urban Planning, Consulting Engineer of Razhan- Abe- Zagros
ghasemi.m6@gmail.com

Fatemeh Saleki Maleki

M. A. of LIS, Head of Document Center of Professor Hesabi Foundation
f.saleki@gmail.com

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Abstract

Purpose: The aim of this research is to identify the main criteria used for selecting the locations of public libraries based on an optimized model, Topsis-Fuzzy technique and using geographic information systems. The research also aims to investigate the identified criteria in the geographic space of Tabriz city. The research will be used to produce a map of convenient sites for public library usage.

Methodology: This is an applied-developmental research study that uses descriptive analytical techniques. We analyzed the attitudes of the researchers from different fields towards the selection of public libraries site criteria, based on the Topsis-Fuzzy technique, and represented the results on the Tabriz map using Arc GIS software.

Findings: The findings of the research include 21 criteria for locating the locations of public libraries. Moreover, based on the specified criteria and their importance, convenient space for public library buildings usage is represented on a map.

Originality/Value: The main contribution of the research is a new approach for locating public library sites based on the ideas of experts, the analysis of data by new techniques such as Topsis-Fuzzy, and the representation of the results on several map layers.

Keywords: Public libraries, Site Selection, Topsis-Fuzzy Technique, Tabriz.