Modelling the Probability of Shopping Centre Selection – GIS Approach

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Abstract

This paper presents an application of GIS in market analysis. Market competition analysis was performed using GIS methods in delineating the trade areas and identifying the dominant shopping centre in the city of Zadar. The market analysis was based on spatial data gathered by various means and using specific methods, techniques and procedures.

A categorization of shopping centres was performed. Wide and narrow trade areas were defined based on that categorization. They were generated using the method of drive time and non-linear distance. Density of potential customers within the defined areas was determined based on demographic grid. A field survey, surveying non-linear distance between shopping centres and analysing density of shopping centres in Zadar were done to confirm the phenomenon of market cannibalization.

For the purpose of predicting the dominant shopping centre, the size of the overlapping trade areas was defined. Applying Huff's model, mean values of shopping centre probability selection were determined. Our results confirmed the current market situation in which a greater number of customers within the zone of competition choose a more attractive shopping centre. The difference in the number of people who choose a more attractive centre was determined by comparing the demographic grid and Huff's model.

Keywords: trade areas, Huff model, market cannibalization, centre attraction index