

## Systematic Analysis of Logistics Location Search Methods under Aspects of Sustainability

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**Abstract :** Selecting a logistics location is vital for logistics providers, food retailing and other trading companies since the selection poses an essential factor for economic success. Therefore various location search methods like cost-benefit analysis and others are well known and under usage. The development of a logistics location can be related to considerable negative effects for the eco system such as sealing the surface, wrecking of biodiversity or CO<sub>2</sub> and noise emissions generated by freight and commuting traffic. The increasing importance of sustainability demands for taking an informed decision when selecting a logistics location for the future. Sustainability considers economic, ecologic and social aspects which should be equally integrated in the process of location search. Objectives of this paper are to define various methods which support the selection of sustainable logistics locations and to generate knowledge about the suitability, assets and limitations of the methods within the selection process. This paper investigates the role of economical, ecological and social aspects when searching for new logistics locations. Thereby, related work targeted towards location search is analyzed with respect to encoded sustainability aspects. In addition, this research aims to gain knowledge on how to include aspects of sustainability and take an informed decision when searching for a logistics location. As a result, a decomposition of the various location search methods in there components leads to a comparative analysis in form of a matrix. The comparison within a matrix enables a transparent overview about the mentioned assets and limitations of the methods and their suitability for selecting sustainable logistics locations. A further result is to generate knowledge on how to combine the separate methods to a new method for a more efficient selection of logistics locations in the context of sustainability. Future work will especially investigate the above mentioned combination of various location search methods. The objective is to develop an innovative instrument, which supports the search for logistics locations with a focus on a balanced sustainability (economy, ecology, social). Because of an ideal selection of logistics locations, induced traffic should be reduced and a mode shift to rail and public transport should be facilitated.

**Keywords :** commuting traffic, freight traffic, logistics location search, location search method

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