
Detecting location routing problems in geomarketing, sales force optimisation and task planning - Specific challenges of real-life instances

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Abstract

When companies attempt to optimise their sales force and task planning many decisions have to be taken and related operations must be carried out. Wrong decisions generally result in high costs and competitive disadvantages. High quality solutions allow the sales representatives to spend less time on the roads and more time with the customers. Professional applications for supporting decision-making in practice need to meet a wide range of different requirements:

- Sales and delivery areas must be optimised. Desired results are characterised by geographically compact areas that are equally balanced regarding e.g. turnover potential or workload.
 - Solutions have to provide daily and weekly visit schedules for the planning period and exact visit sequences taking into account all relevant restrictions and customer specifications.
 - Alternative scenarios must be assessable in cases of business expansion and consolidation.
 - All results are based on reliable travel time and distance calculations
- My presentation examines the specific location routing aspects in this target system. The range of related problems comprises different types and characteristics of location routing problems, e.g. periodic problems or multiple objectives. Successful algorithmic approaches have to cope with these conditions. The talk provides an evaluation of our applied methods based on their typical behavior, observed strengths and weaknesses in day-to-day business.

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