**Abstract**

One of the fundamental decisions in media planning is how to allocate advertising efforts across different media. While studies indicate that marketers can create positive synergy effects by spreading their effort across different media, there is little understanding of how much should be invested into each specific medium to optimize advertising results.

In this dissertation, we present a novel methodology, mixture-amount modeling, which allows advertisers to determine the optimal allocation of advertising effort across different media as a function of the total advertising effort.

The model also allows to quantify synergy effects between different media. In addition to media mix optimization this dissertation also investigates optimal proportions of brand placement types to maximize recall of and attitudes towards placed brands.