CeADAR — Centre for Applied Data Analytics Research

DUBLIN INSTITUTE OF TECHNOLOGY · **D·I·T** · INSTITIÚID TEICNEOLAÍOCHTA ÁTHA CLIATH

Introduction

One of the major questions in the advertising space is how to determine which advertising initiatives have been successful and which have not. This age-old question in advertising gave rise to the famous John Wanamaker quote:

> *"Half the money I spend on advertising is wasted; the trouble is, I don't know which half."*

Today, advertising runs through various channels such as television, radio, print, web and social media. Each of these has different characteristics in terms of form, audience and data about customers interaction with the advertisements.

We know that channels and campaigns interact: A customer that has first seen an advertisement on the TV and heard about it on the radio might be more easily influenced to register a corresponding ad on a social network that finally leads him to the offer webpage of the company.

Companies want to analyse these interactions in order to be able to efficiently plan their advertisement campaigns.

This research question is not unique to the advertising space. A more general solution can therefore also be applied to other forms of data.
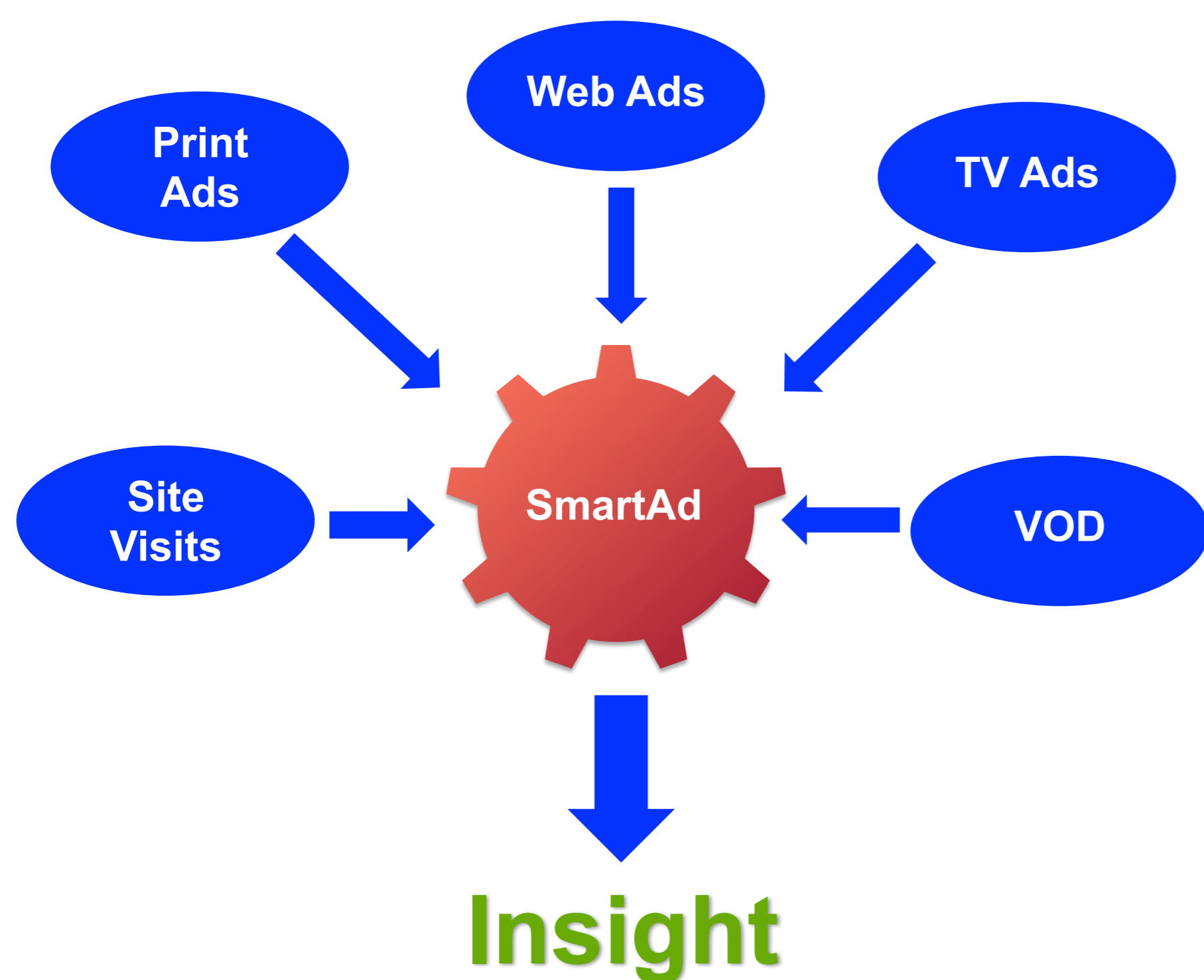

Figure 1. SmartAd fuses the information from the different channels together and creates a model of the system of influences.

Technology Solution

The SmartAd technology has been developed as a **highly automated expert system** that performs all necessary steps with a minimal amount of user input necessary.

What's Driving What?

SmartAd uses state of the art methods to:
- Project available data onto a common time frame
- Estimate possible time-lags between the data channels
- Further pre-process the data for the analysis
- Create a model of the system that estimates the mutual influences of the data channels

The result of the analysis is presented in an easy to understand and interactive visualisation of the generated model as shown in Figure 2.
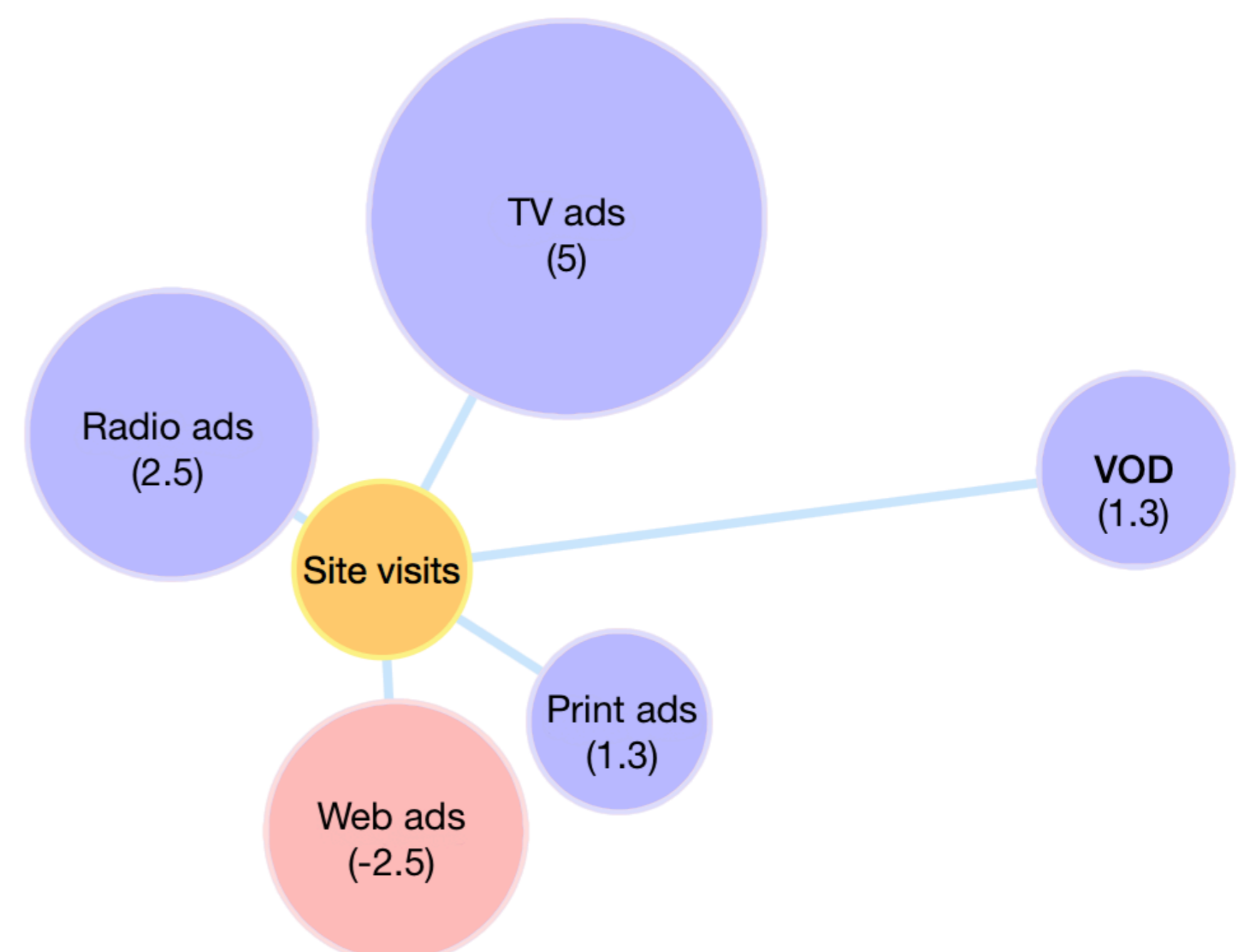

Figure 2. SmartAd visualizes the interactions between different influencer channels and a target channel and provides additional insight. The importance of each channel is given by its size, while the distance to the target "Site visits" represents the trust we put in the result.

SmartAd is not resticted to the advertisment space. **It can easily be applied to all kind of systems where multiple sources are having an effect on one target.** One example is the analysis of common sources of failure in DSL connections.

Research Team

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