





BETTER TARGETING WITH UPLIFT MODELLING: SPEND LESS & SELL MORE

The core goal of direct marketing is to generate **incremental sales** profitably.

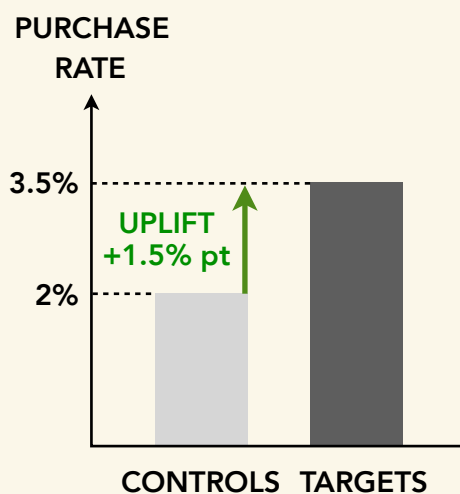
Standard targeting models are *not* optimised for this goal, and can even be counterproductive.

This table segments customer according to whether they would purchase if you do target them with a marketing action, and if you do not.

You can't perform this segmentation for real, because you can't both target and not target a single customer in the same campaign, but it's a powerful tool for thinking about effects in direct marketing

		PURCHASE IF NOT TARGETED?	
		NO	YES
PURCHASE IF TARGETED?	YES	PERSUADABLES People in this segment will purchase if targeted, but not if not targeted. Ideally, this would be the only group targeted. 	SURE THINGS People in this segment are not influenced by targeting, and will purchase whether treated or not. Targeting this group is wasteful and expensive. 
	NO	LOST CAUSES People in this segment are not influenced by targeting, and will not purchase whether treated or not. Targeting this group is pointless and expensive. 	SLEEPING DOGS People in this segment are negatively affected by targeting, and purchase only if <i>not</i> treated. Target them is actively harmful: you spend money to reduce sales. 

Mainstream best practice for *assessing* the impact of targeted marketing involves using a randomised control group to measure incremental sales.



However, mainstream best practice for *building* targeting models is to model purchase rate, *not uplift in purchase rate*.

Propensity models built on previously targeted populations focus on the people most likely to buy if targeted—mostly the **Sure Things**. In particular they will target people very likely to buy anyway over people somewhat likely to buy if targeted, but very unlikely to purchase otherwise (**Persuadables**).

From an RoI perspective, moving someone from a 1% chance of a purchase to a 2% chance is just as valuable as moving someone from 9% to 10%: both represent an uplift of **one percentage point**. Even more saliently, *reducing* someone's chances of purchase from 9% to 8% is wholly negative, even if 8% is a good propensity to buy (beware **Sleeping Dogs!**)

UPLIFT MODELLING

Uplift models seek to answer the question:

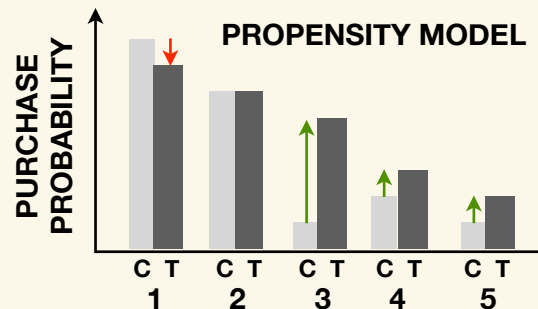
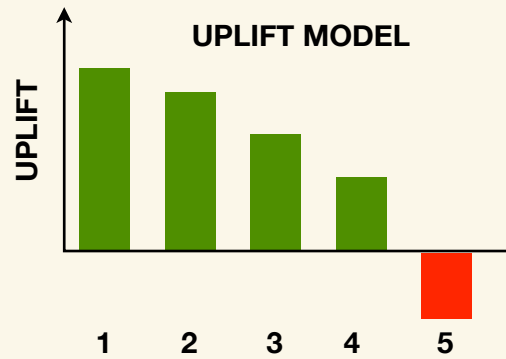
*What is the **increase** in purchase probability for this person if we take a given marketing action?*

This prediction allows targeting on the basis of a model of the key quantity that directly drives return on marketing investment (ROI).

In contrast, traditional propensity models seek to answer the question:

What is the probability that a person will purchase after a given marketing action?

This often leads to very different targeting, as shown. In this case, the action actually has a negative impact on the “top” (first) quintile from the model, and it is the third quintile that shows the biggest uplift in purchase rate between the control group, **C**, and the targeted group, **T**.



GETTING STARTED WITH UPLIFT MODELS



Wherever you are on your uplift modelling journey, Stochastic Solutions can help. We were founded in 2007 by Nick Radcliffe, who has been developing uplift modelling ideas, algorithms and software since 1999.

Companies that already know they want to use uplift modelling in-house can license our Miró software and benefit from our training and support services.

Alternatively, if you already have data from a suitable campaign with valid, randomized controls, we can build a trial model for you and validate it in market to prove the ROI of the solution.

If you are earlier in the journey, and aren't yet using control groups to assess incrementality, we can help you to get started and measure the true impact of your current activities accurately. We can help you to design campaigns that will put you in a position to support uplift modelling.

And of course, if you aren't ready to bring uplift modelling in house, we can offer bureau modelling services on an ongoing basis.

Miró is our integrated solution for building uplift models. As well as supporting rich general-purpose modelling, interactive query and data manipulation, Miró features direct uplift model building capabilities and support tools for uplift modelling, analysis and operationalization.

These include:

- Significance-Based Uplift Tree Building
- Qini measures for assessing overall performance of uplift models
- Qini-based variable selection for choosing fields based on uplift relevance
- Uplift crosstabs for exploration & reporting
- Export and operationalisation of uplift models
- Support for noise reduction methods including stratified sampling and ensemble models

Miró is available for Linux, Mac & Windows for web-based, interactive and batch use.

Contact us at info@StochasticSolutions.com