BEHAVIOURAL NUDGES FOR WATER CONSERVATION

Experimental Evidence from Cape Town

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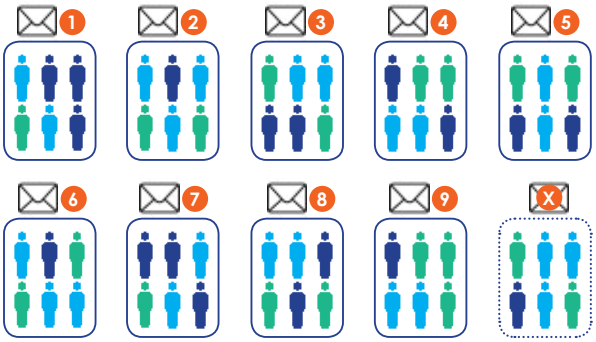
INTRODUCTION

There are many ways for city utility departments to get people to reduce their water use during a time of drought and water shortages. Traditional demand side management tools usually include water price hikes and tiered tariff structures, or water restrictions. Non-price approaches include methods such as information and education campaigns or 'behavioural nudges' to drive greater water-wise behaviour. Behavioural nudges are low-cost, non-price information strategies incentivising behavioural changes.

The City of Cape Town has been working with behavioural economists from the Environmental Policy Research Unit (EPRU) at the University of Cape Town to find an evidence-based answer to which methods are most effective in encouraging more prudent water use by the public. The results assist the municipality to design policy that will help manage the city's water supplies in an increasing climate change-stressed future. The study focuses on identifying which incentives best motivate households of different income levels to reduce their consumption.

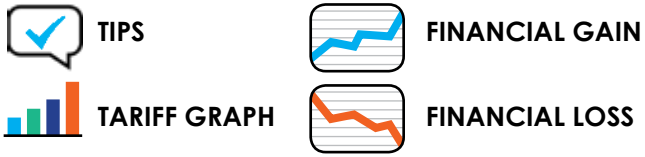
STUDY DESIGN

A large scale randomised control trial was implemented to test nine different behavioural inserts in monthly municipality bills on over 400,000 households over six months. Households in the control group did not receive a message.

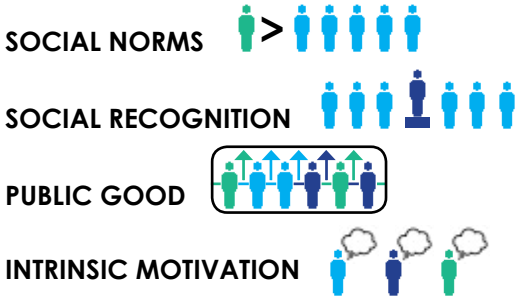


The messages, sent with people's monthly utility bills, were framed in different ways: some had a financial threat to them, notifying people about how much money they would save through cutting their water use, or how much it would cost them if they didn't. Some messages offered water-wise tips. Other messages compared people's consumption to that of their neighbours'. Others tapped into intrinsic values and rallied people together under a 'common good' value system by appealing to people to save water for everyone's benefit.

The first category of messages addresses informational failures around price and usage of water:



The second category of messages promotes water conservation via social incentives and appeals to the public good:



RESULTS

All treatments successfully induced a reduction in household consumption. Reductions ranged from 0.57% (159 litres per month) for the tips treatment to 1.86% (467 litres per month) for the social recognition treatment.

The message that consistently produced the greatest water reduction behaviour was the one which advised people that the names of the top water savers would be published on the city's website (social recognition treatment).

For this specific intervention, people responded by reducing their water use by nearly 2%. This was particularly true in wealthier households, where people don't feel price increases of water as noticeably. Wealthier households are most responsive to social incentives – such as the social recognition, social norm and public good messages. Less wealthy households are unresponsive to social incentives.

Evaluating the practical impact of achieving savings of 0.57%-1.86% over the study period is important in the context of the current water crisis with the City of Cape Town. Converting these savings on average to total water savings over the study period for the 400,000 households involved, we can infer that the behavioural nudges resulted in total savings of between 57,205 kl (tips treatment) to 186,669 kl (social recognition treatment) of water over the six-month study period.

OUTLOOK

These results have wider implications than just for the water sector, researchers say, and can be used by city utility managers to drive other behaviours relating to waste reduction, recycling, and cutting back on energy use.

EPRU researchers now hope to work with other municipalities around the country, to see if they can engage in similar mutual learning processes. This will be through national workshops where big municipalities will be invited to see how they, too, can incorporate these evidence-based ideas into their policies.

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