

Applying Behavioural Science to Change Behaviour



Behavioural Insights on Energy Efficiency in the Residential Sector

Outline

1. What is Behavioural Economics/Behavioural Science?
2. Why Don't People Engage In Energy Saving Behaviours?
3. The Four Rules Of Behaviour Change
4. How to Apply Behavioural Science in Practice

What is Behavioural Economics/Behavioural Science?



What is Behavioural Economics/Behavioural Science?

Behavioural science - the science of understanding what people are doing, why they are doing it, and how we might encourage people to change what they are doing

Behavioural economics – this entails using insights from sciences (e.g. psychology) to peoples economic decision making/behaviours

Behavioural insights – includes combining investigations from real life on how people actually make choices with knowledge and insights from different sciences (e.g. psychology and social sciences)

This is a no-brainer, why aren't people doing "X"?

Why don't people engage in energy saving behaviours?



Are people perfectly rational?

‘Perfectly rational’ people should:

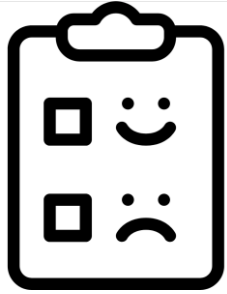
- Switch energy providers every year
- Invest in energy projects with a positive rate of return
- Monitor their energy bill and change their consumption when it becomes too expensive

What people actually do...

- Stay with the same provider for years
- Fail to apply for free energy upgrade schemes
- Pay bills automatically by direct debit and only notice large spikes in their bills

Why Don't People Engage in Energy Saving Behaviours?

Some Example Barriers to Understanding and Engagement



Poor Feedback



Hard to Break Habits



Unsure of benefits/what to do



Hard to Follow Through



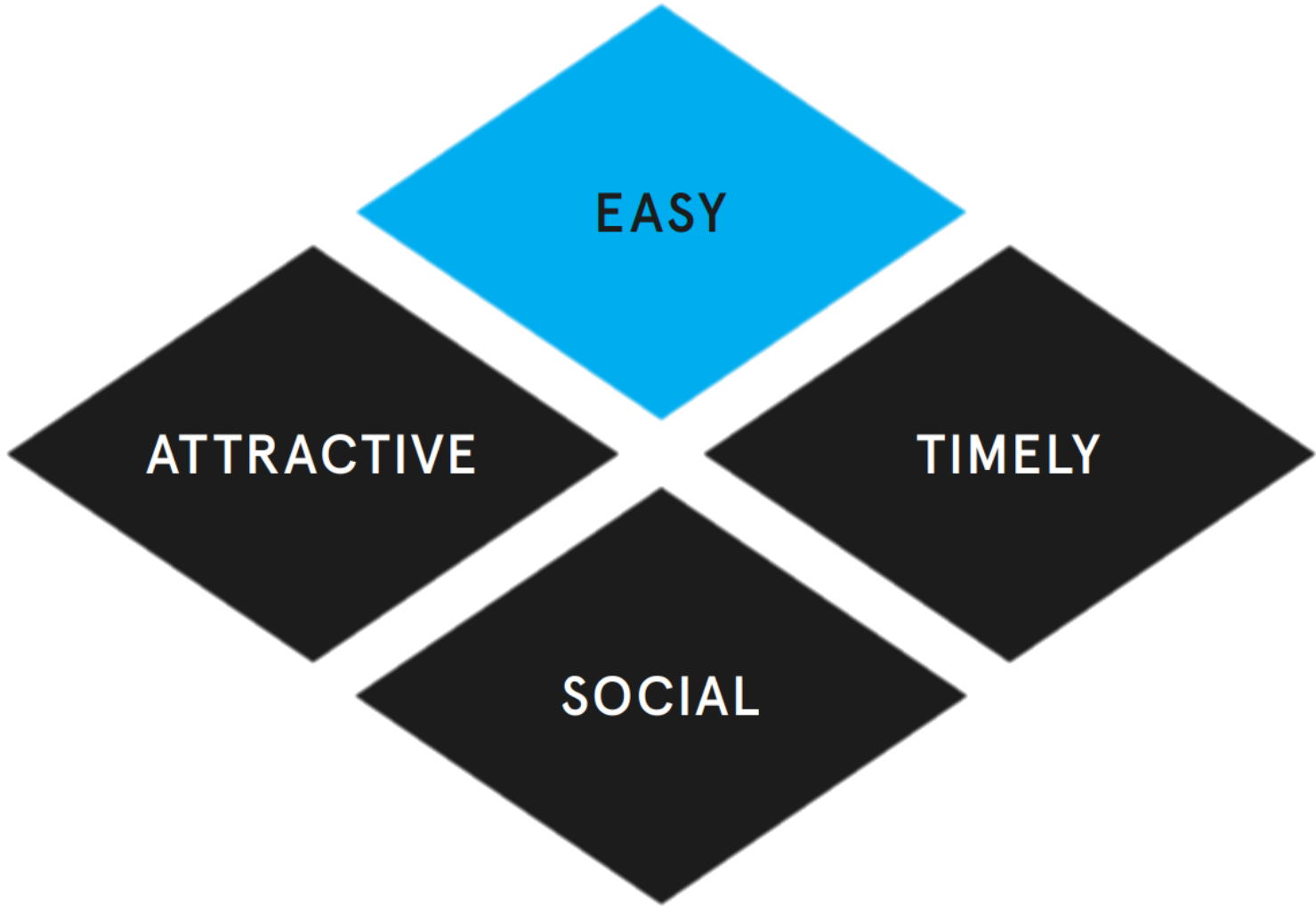
Consequences Hard to See

The Four Rules of Behaviour Change





















EAST Framework

Note: This is one framework for applying behavioural science among many!



Some behaviours need to be changed once, while others need to be maintained over time...

	GREEN Do new behavior	BLUE Do familiar behavior	PURPLE Increase behavior intensity	GRAY Decrease behavior intensity	BLACK Stop existing behavior
 DOT One time	 GREEN DOT <i>Do a new behavior one time</i>	 BLUE DOT <i>Do familiar behavior one time</i>	 PURPLE DOT <i>Increase behavior one time</i>	 GRAY DOT <i>Decrease behavior one time</i>	 BLACK DOT <i>Stop behavior one time</i>
 SPAN Period of time	 GREEN SPAN <i>Do behavior for a period of time</i>	 BLUE SPAN <i>Maintain behavior for a period of time</i>	 PURPLE SPAN <i>Increase behavior for a period of time</i>	 GRAY SPAN <i>Decrease behavior for a period of time</i>	 BLACK SPAN <i>Stop behavior for a period of time</i>
 PATH From now on	 GREEN PATH <i>Do new behavior from now on</i>	 BLUE PATH <i>Maintain behavior from now on</i>	 PURPLE PATH <i>Increase behavior from now on</i>	 GRAY PATH <i>Decrease behavior from now on</i>	 BLACK PATH <i>Stop behavior from now on</i>

Make it Easy – Defaulting people into savings programs

Opt-in

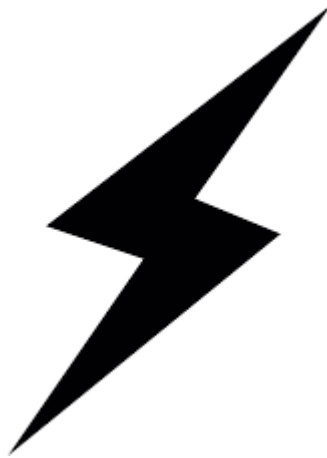


20%

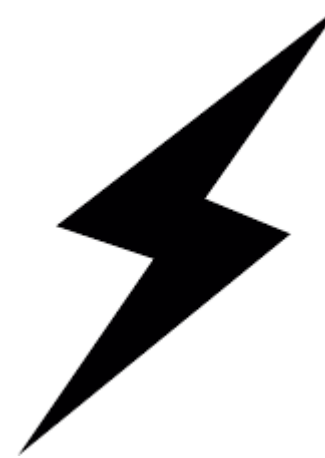
Opt-out



98%

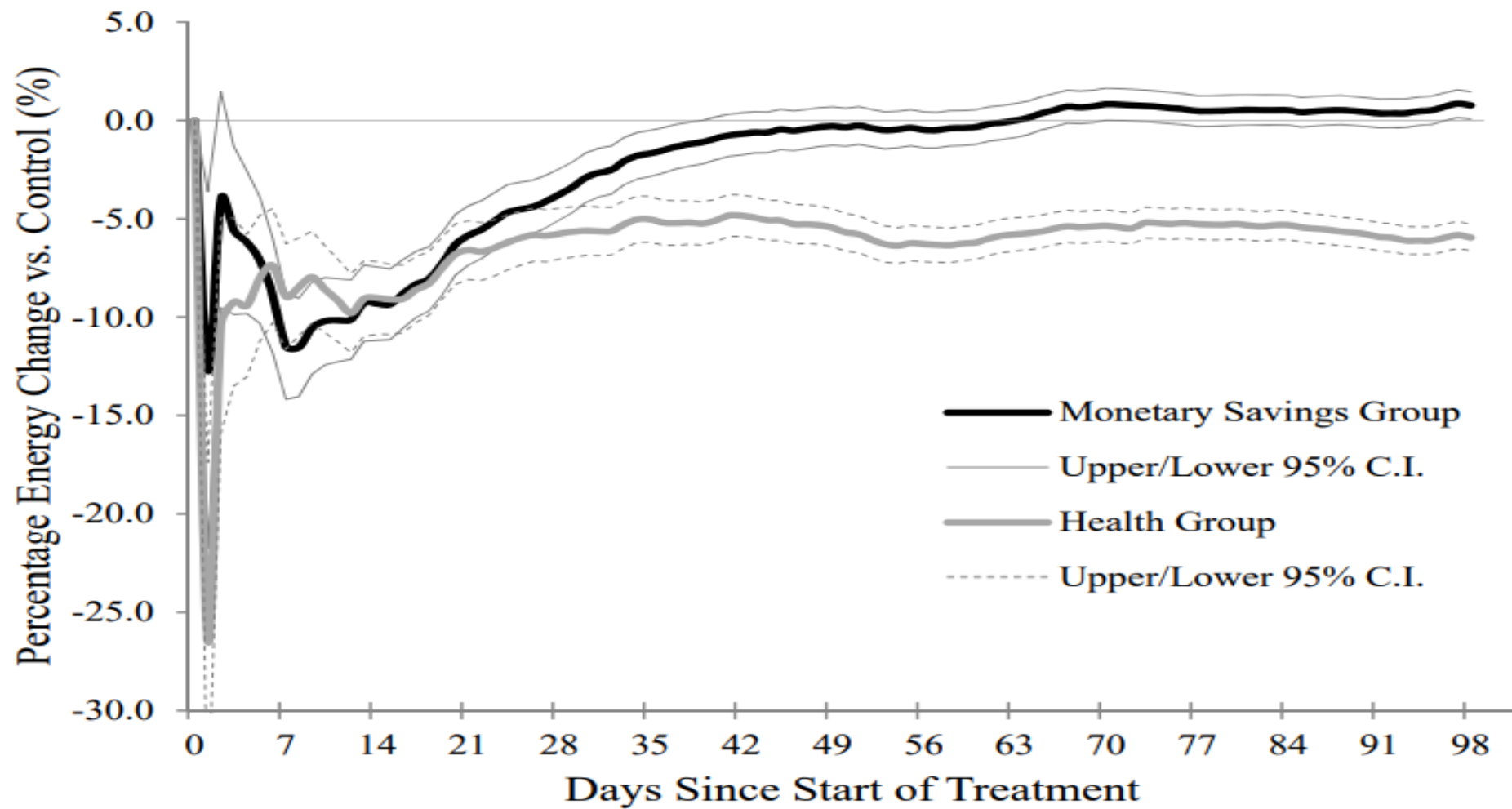


5.9%

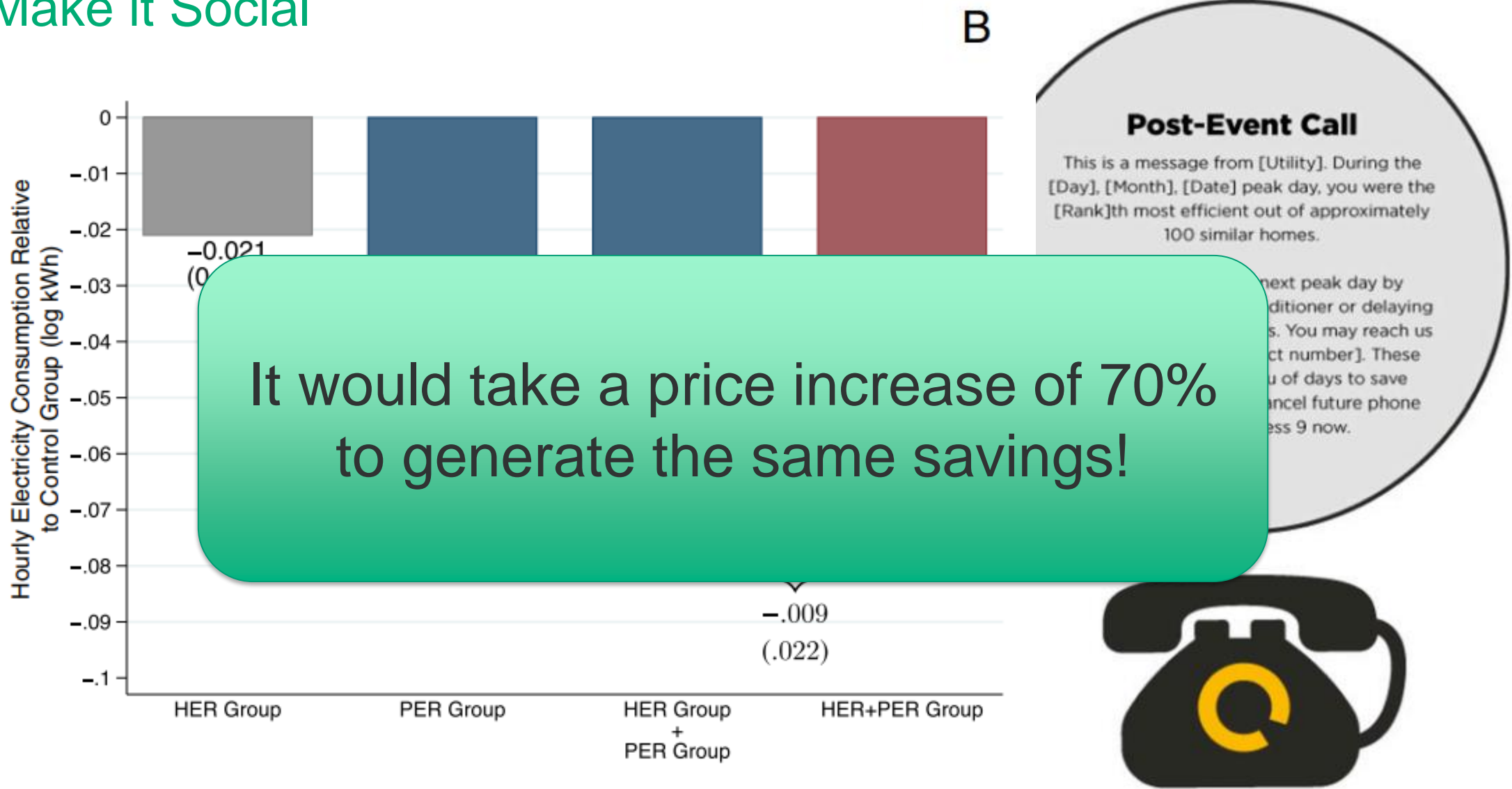


2%

Make it Attractive - Framing



Make it Social



Make It Timely– Instant Feedback



Average Savings of 3%



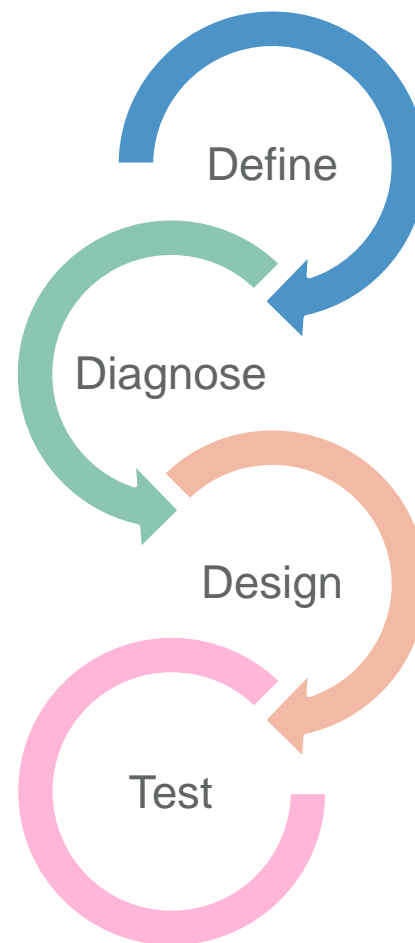
Average Savings of 5% - 7%

How can you apply
behavioural science in
practice?



Changing Behaviour in 4 Steps...

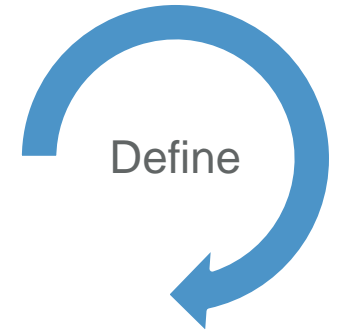
- **Define** the problem by identifying and understanding the behavioural outcome(s) we seek to achieve.
- **Diagnose** the behavioural issues causing the problem.
- Based on these hypotheses, we **Design** interventions.
- **Test** these interventions using randomized controlled trials and other rigorous methodologies.



Datta & Mullainathan (2012):

https://www.cgdev.org/sites/default/files/Datta_Mullainathan_Behavioral_Design.pdf

Define the behaviour to be changed...



We will reduce emissions by reducing engine idling, as measured by X, by Y%, among pilots A,B,C over a 3 month period”.

Diagnose why people would/would not complete the desired behaviour...



Poor Feedback



Hard to Break Habits



Unsure of benefits/what to do



Consequences Hard to See

Design a behaviour change intervention...



Below is your monthly fuel and carbon efficiency report for **Month 2014**

<p>1. ZERO FUEL WEIGHT</p> <p><i>Proportion of flights for which the ZFW calculation was completed and fuel load adjusted as necessary</i></p> <p><u>TARGET:</u> XX% of flights</p> <p><u>RESULT:</u> XX% of flights</p> <p>You ACHIEVED/MISSED your target.</p>	<p>2. EFFICIENT FLIGHT</p> <p><i>Proportion of flights for which actual fuel use is less than planned fuel use (e.g. optimised speed, altitude etc)</i></p> <p><u>TARGET:</u> XX% of flights</p> <p><u>RESULT:</u> XX% of flights</p> <p>You ACHIEVED/MISSED your target.</p>	<p>3. REDUCED ENGINE TAXY IN</p> <p><i>Proportion of flights for which at least one engine was shut off during taxi in</i></p> <p><u>TARGET:</u> XX% of flights</p> <p><u>RESULT:</u> XX% of flights</p> <p>You ACHIEVED/MISSED your target.</p>
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WHAT WAS YOUR OVERALL OUTCOME?

You achieved X of your 3 targets last month.

WELL DONE! We will continue to keep you updated on your monthly performance for the next **X months**, John.

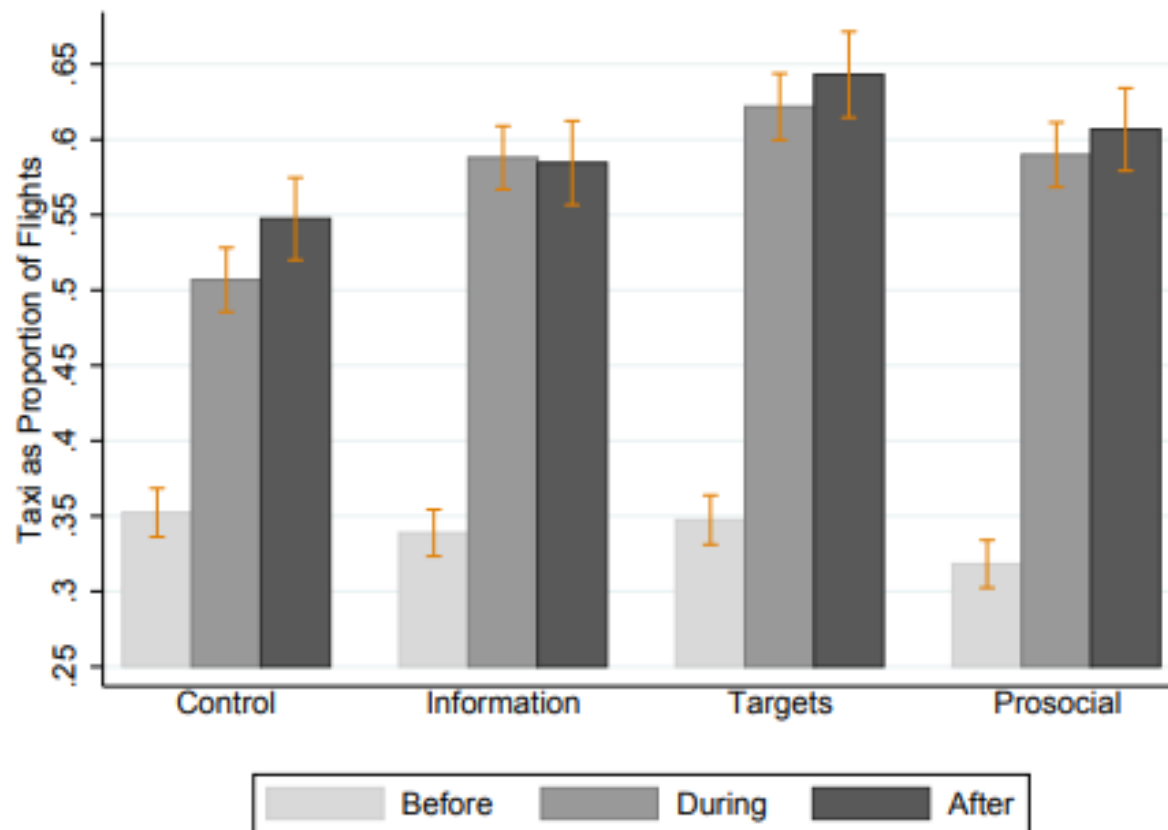
Please continue to fly efficiently next month to achieve your targets.

Please see reverse side for further details of the three behaviours.

Questions? We are here to help! Please email us at project.uoc@fly.virgin.com.

Run an experiment to test whether it worked...

Figure 2c
Efficient Taxi, by time period



Thank you!

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