Our Best Chance to Make Real Change? Scalable Ideas with Private Partners

John A. List
@Econ_4_Everyone
U. Chicago & NBER

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A. Taking Flight: An Example of a Private Partnership

B. Does that Idea Scale?
What is the Science Behind that Claim?

C. A Glimpse Behind the Curtain: A Little Can Go a Long Way With a Big Footprint

A. TAKING FLIGHT

High-skilled workers at Virgin Atlantic

Why did Virgin Atlantic care about this?

High-skilled workers at Virgin Atlantic



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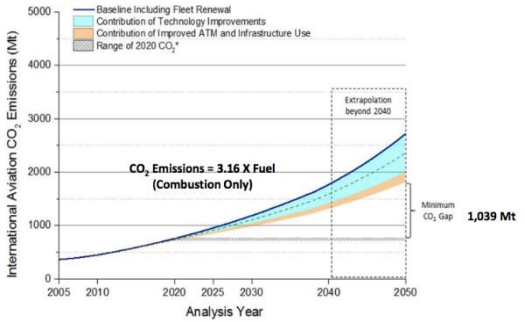

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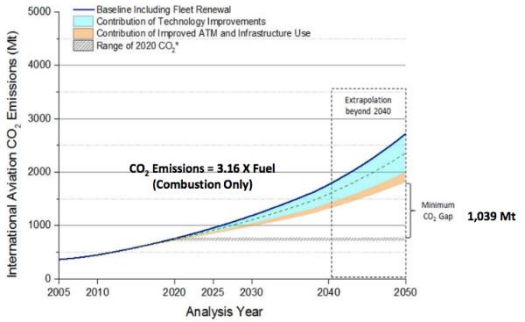

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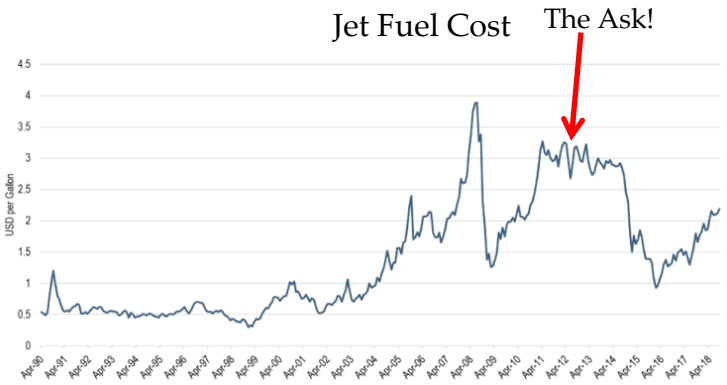
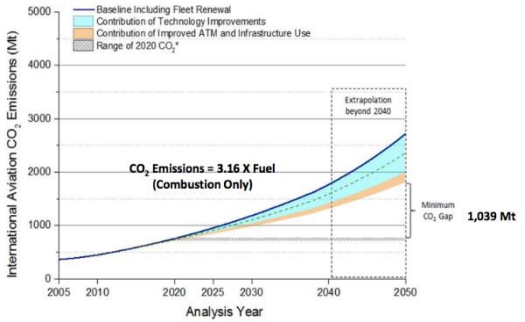


High-skilled workers at Virgin Atlantic







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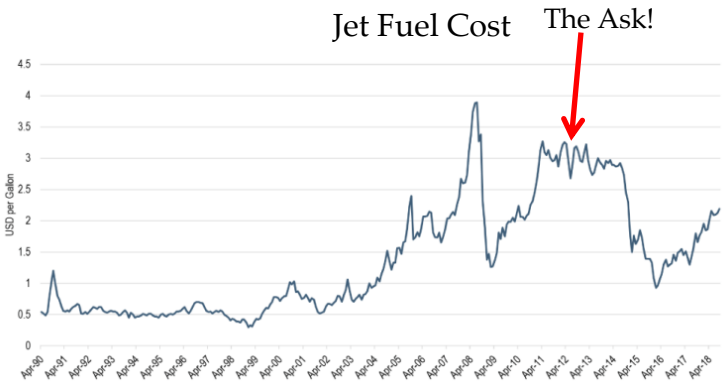
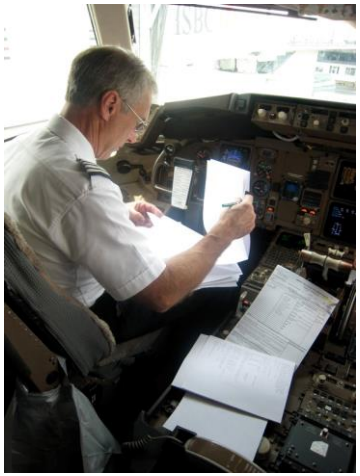




Fuel Margins

1. FUEL LOAD

Proportion of flights for which the correct fuel calculation was completed and fuel load adjusted as necessary.



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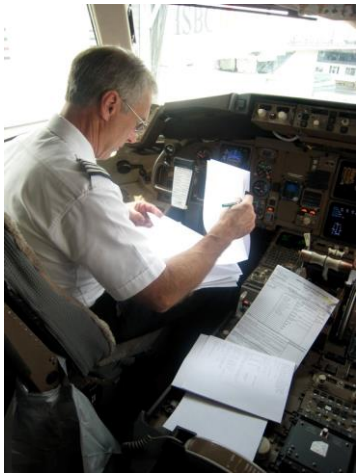
2. EFFICIENT FLIGHT

Proportion of flights for which actual fuel use is *less* than planned fuel use (e.g., optimised speed, altitude, etc.).





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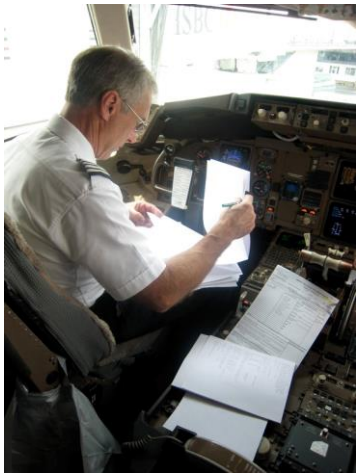

2. EFFICIENT FLIGHT

Proportion of flights for which actual fuel use is *less* than planned fuel use (e.g., optimised speed, altitude, etc.).



3. TAXI-IN

Proportion of flights for which at least one engine was shut off during taxi in.



The Experimental Design

All 335 Captains included in the experiment (no opt-out)

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Randomized into four experimental groups:

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The Experimental Design

All 335 Captains included in the experiment (no opt-out)

Randomized into one of four experimental groups:

1. **Monitoring**

2. **+ Information** Feedback
   - Performance Tracking and Review

3. **+ Target** Setting
   - Target Balance, Connectedness, Time Horizon, Stretch, Clarity, and Comparability

4. **+ Prosocial** Incentives
   - "*67% of CEOs believe prosocial considerations are increasingly essential for acquiring and motivating high-skilled labor*"

Information

Fuel and carbon efficiency report for Capt. John Smith

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

1. Zero Fuel Weight

Proportion of flights for which the ZFW calculation was completed and fuel load adjusted as necessary

RESULT: **0% of flights**

2. Efficient Flight

Proportion of flights for which actual fuel use is less than planned fuel use (e.g., optimised speed, altitude etc)

RESULT: **75% of flights**

3. Reduced Engine Taxy In

Proportion of flights for which at least one engine was shut off during taxy in

RESULT: **25% of flights**

We will continue to keep you updated on your monthly performance for the next **7 months**, John.

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

Questions? We are here to help! Please email us at project_email.com.

1) Information

Fuel and carbon efficiency report for Capt. John Smith

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

1. Zero Fuel Weight

Proportion of flights for which the ZFW calculation was completed and fuel load adjusted as necessary

TARGET: **75% of flights**
RESULT: **0% of flights**

You **MISSED** your target.

2. Efficient Flight

Proportion of flights for which actual fuel use is less than planned fuel use (e.g., optimised speed, altitude etc)

TARGET: **25% of flights**
RESULT: **75% of flights**

You **ACHIEVED** your target.

3. Reduced Engine Taxy In

Proportion of flights for which at least one engine was shut off during taxy in

TARGET: **25% of flights**
RESULT: **25% of flights**

You **ACHIEVED** your target.

2) Target

What Was Your Overall Outcome?

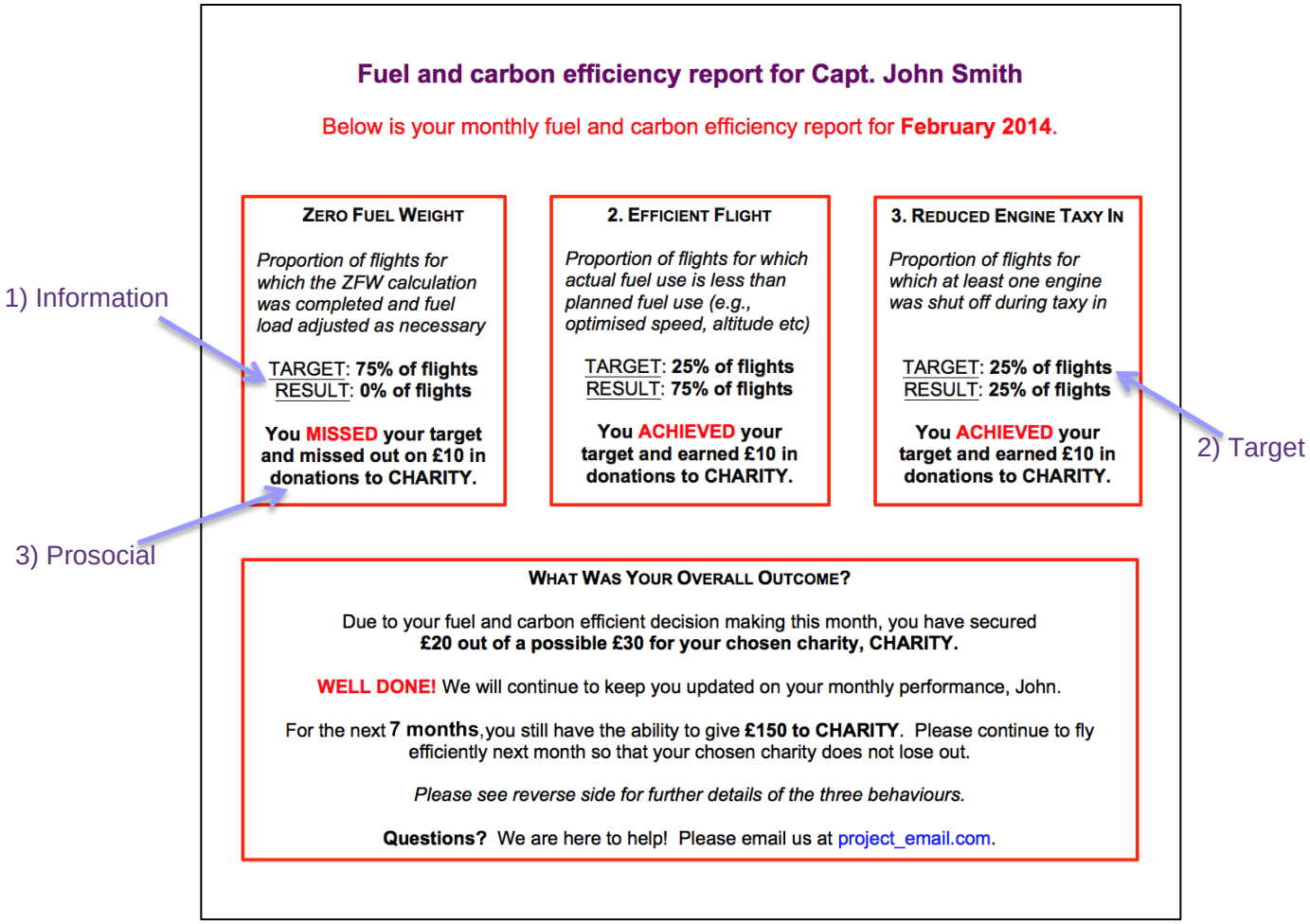
Due to your fuel and carbon efficient decision making last month, you achieved **2 out of your 3 targets.**

WELL DONE! We will continue to keep you updated on your monthly performance for the next **7 months**, John.

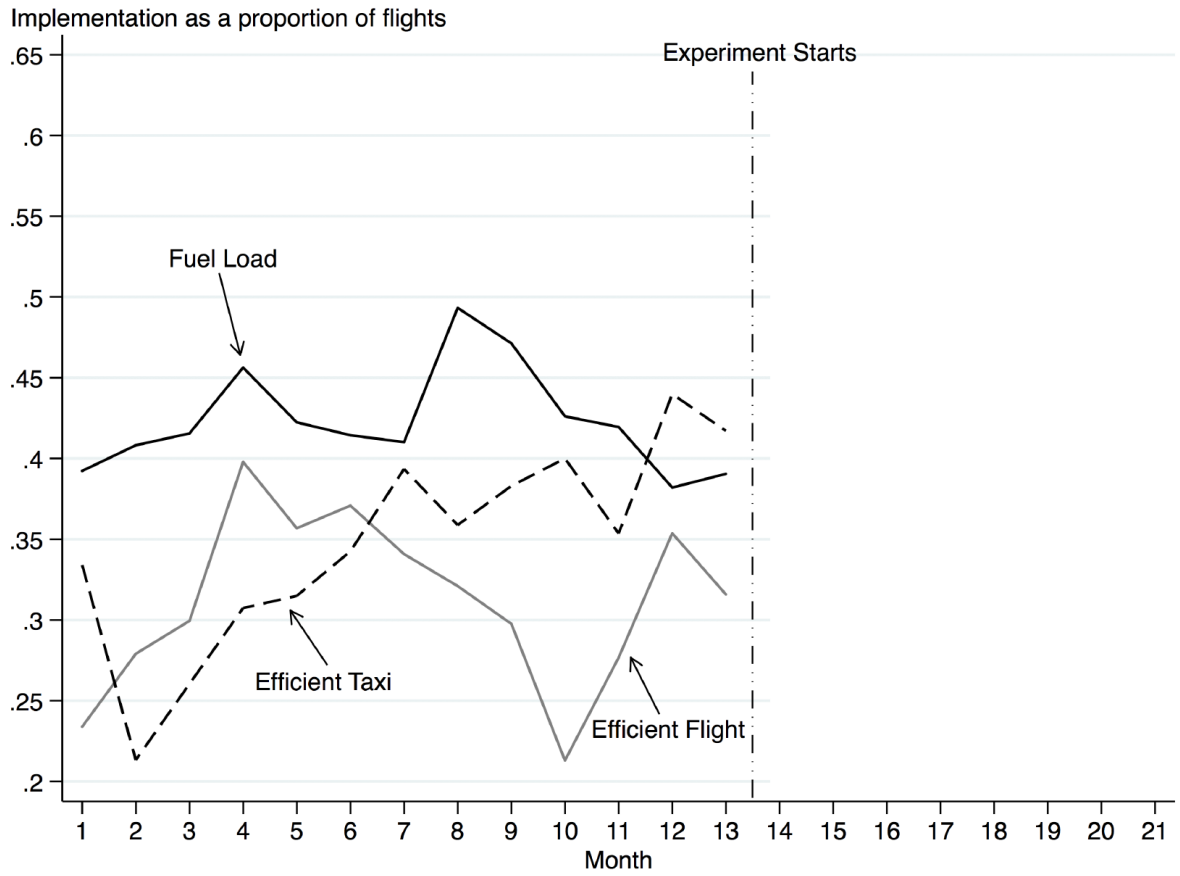
Please continue to fly efficiently next month to achieve your targets.

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

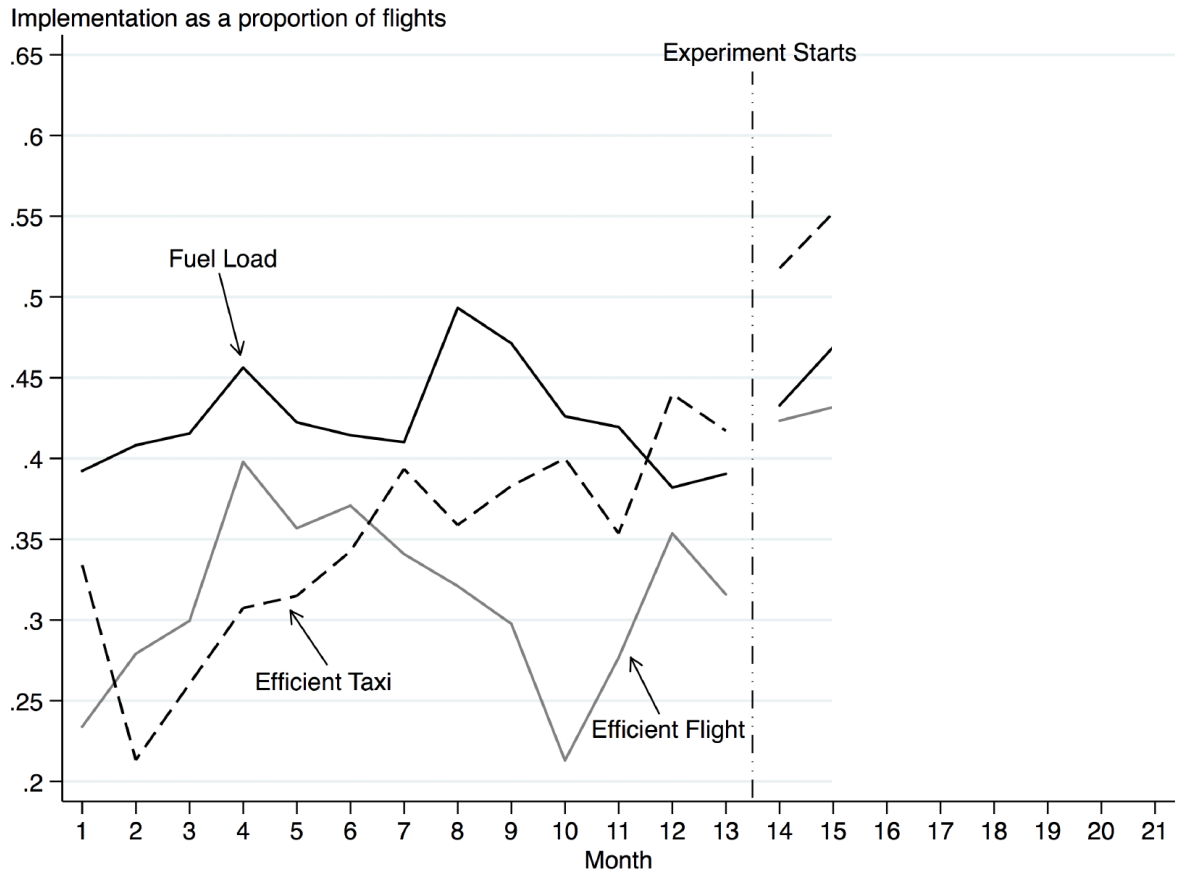
Questions? We are here to help! Please email us at project_email.com.


Fuel and carbon efficiency report for Capt. John Smith
Below is your monthly fuel and carbon efficiency report for February 2014.
ZERO FUEL WEIGHT
Proportion of flights for which the ZFW calculation was completed and fuel load adjusted as necessary
TARGET: 75% of flights
RESULT: 0% of flights
You MISSED your target and missed out on £10 in donations to CHARITY.
2. EFFICIENT FLIGHT
Proportion of flights for which actual fuel use is less than planned fuel use (e.g., optimised speed, altitude etc)
TARGET: 25% of flights
RESULT: 75% of flights
You ACHIEVED your target and earned £10 in donations to CHARITY.
3. REDUCED ENGINE TAXY IN
Proportion of flights for which at least one engine was shut off during taxy in
TARGET: 25% of flights
RESULT: 25% of flights
You ACHIEVED your target and earned £10 in donations to CHARITY.
WHAT WAS YOUR OVERALL OUTCOME?
Due to your fuel and carbon efficient decision making this month, you have secured £20 out of a possible £30 for your chosen charity, CHARITY.
WELL DONE! We will continue to keep you updated on your monthly performance, John.
For the next 7 months, you still have the ability to give £150 to CHARITY. Please continue to fly efficiently next month so that your chosen charity does not lose out.
Please see reverse side for further details of the three behaviours.
Questions? We are here to help! Please email us at project_email.com.
1) Information
2) Target
3) Prosocial

What Happens?



Pooled effect over time



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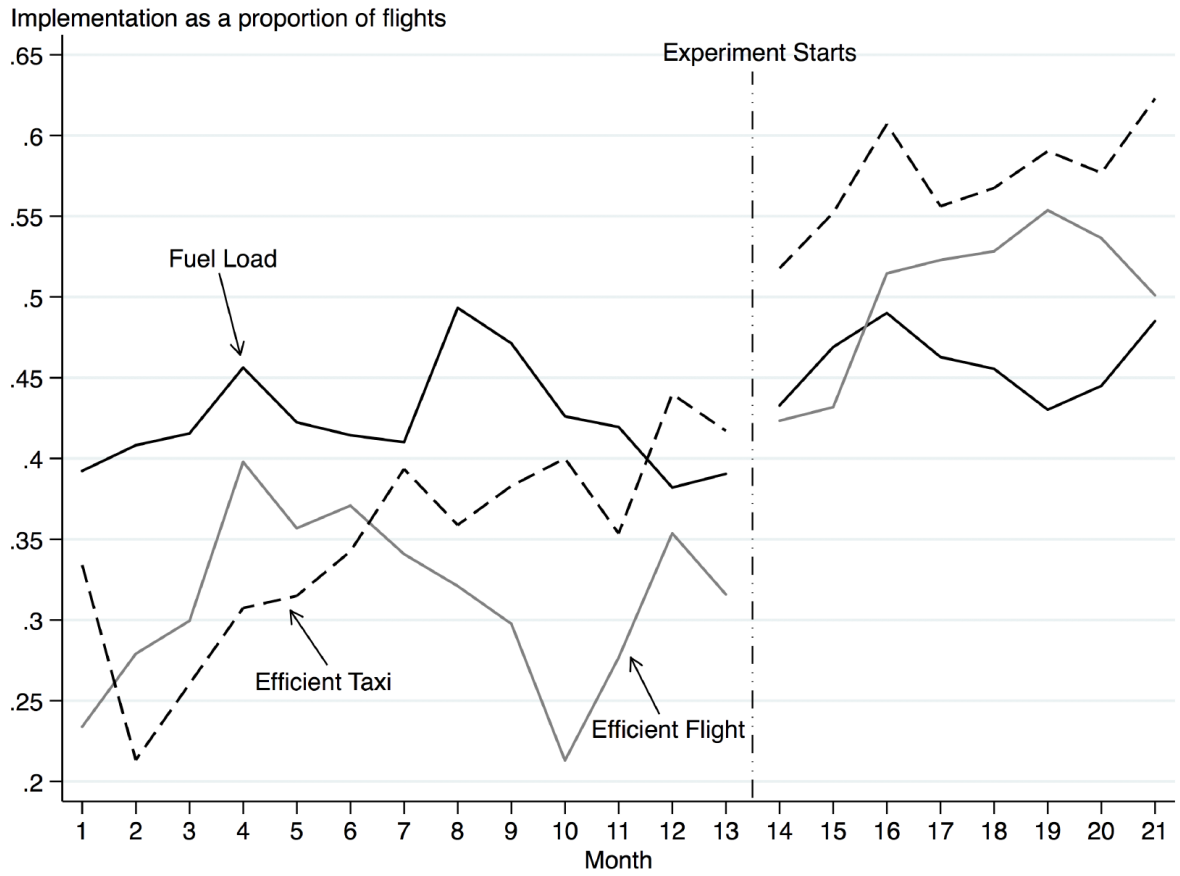


Quick Treatment Effect Summary

- Pro-Social treatment works the best, especially for efficient flight and taxi (5X just information)
- Information+Targets is next (2X just information)
- Results persist long after treatment (likely still today)
- Save over 7,700 tons of fuel in the 8-month field experiment (over $10 million in today's prices)

Any Side Effects?

- Flight delays and late arrivals were ***decreased***
- Number of diversions due to lack of fuel
  - 12 months prior to experiment = 0
  - During the experiment = 0
- What about job satisfaction?
  - Via their usual survey it increased overall, especially in the Pro-Social treatment (by about 37%)
  - Number of quits

    12 months prior to experiment = 4

    During the experiment = 0
  - 94% of captains demanded program continue

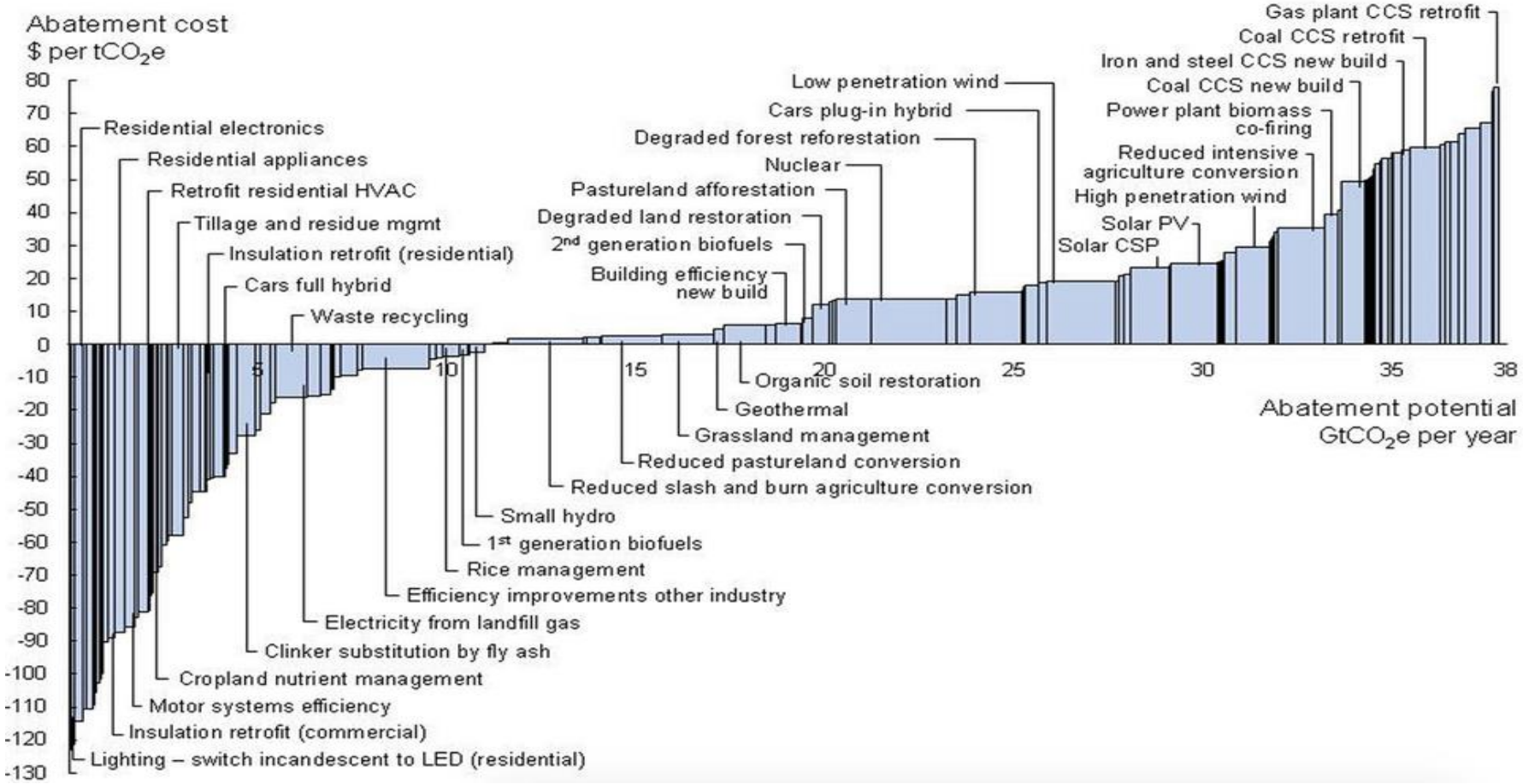
Helping Our Earth

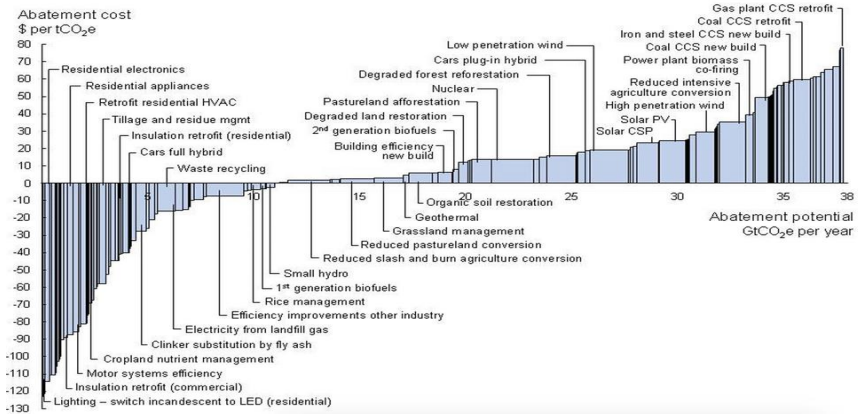
- 1 ton jet fuel = 3.15 tons of CO_2 = overall 24,472 tons of CO_2 abated

Green has 2 Meanings

- 1 ton jet fuel = 3.15 tons of CO_2 = overall 24,472 tons of CO_2 abated
- 8-32% of fuel savings (tens of millions annually)

McKinsey "Low Hanging Fruit" Estimates





2x the negative MAC of McKinsey identified lowest-hanging fruit

-$250

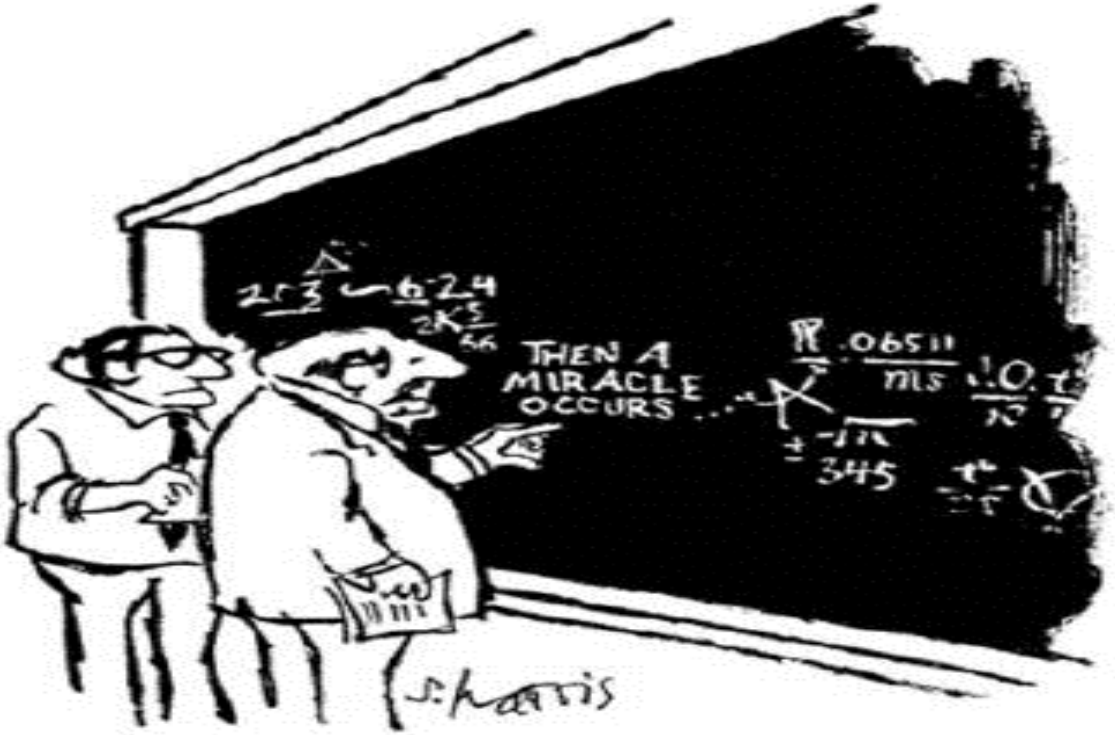
The Impact of Management Practices on Employee Productivity: A Field Experiment with Airline Captains

Greer Gosnell, LSE
John List, University of Chicago
Robert Metcalfe, Boston University

Does that Idea Scale?

The Art of Scaling

Scaling has been a bit like this…



"I think you should be more explicit here in step two."

Can that Idea Scale?

Science

The ~~Art~~ of Scaling

Where we are as a field

- As empiricists we have focused almost exclusively on ***how best to generate data to show intervention effects along with mechanisms***

- The next frontier: can this idea or policy scale? What is the science behind that expectation?

- Should our initial research approach change if we want our program to scale?

The Science of Using Science

- Al-Ubaydli, Omar, John A. List, and Dana Suskind. “What Can We Learn From Experiments? Understanding the Threats to the Scalability of Experimental Results,” *American Economic Review*, (P&P), 2017.

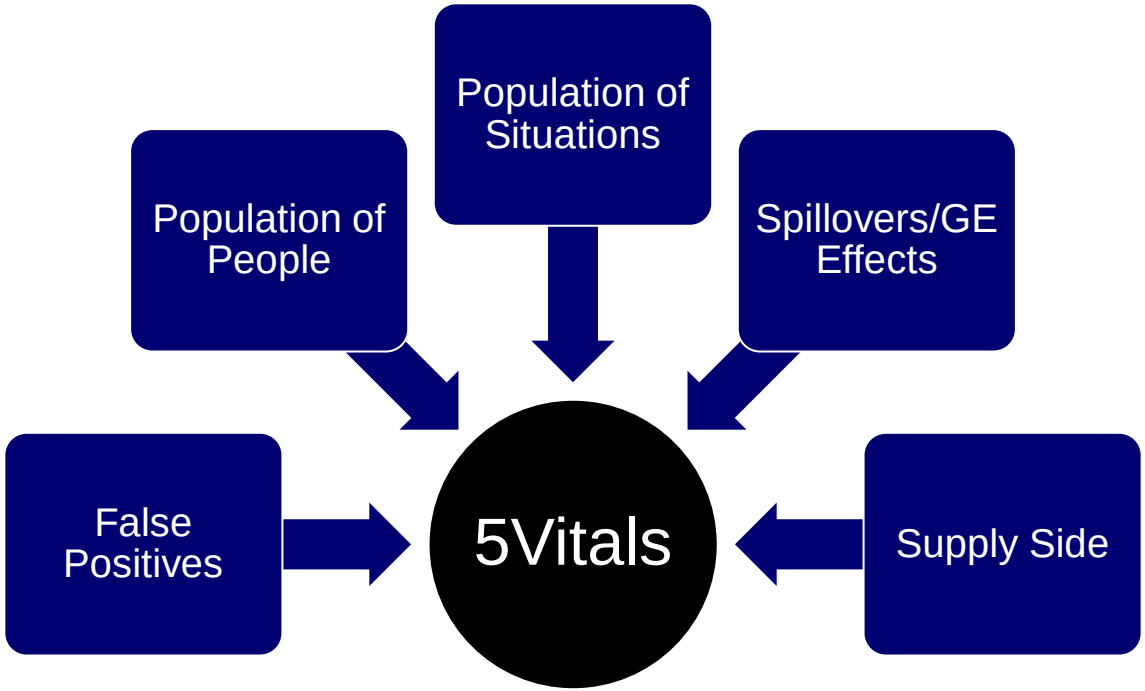
- Al-Ubaydli O., List, J.A., Danielle LoRe, and Dana Suskind. “Scaling for Economists: Lessons from the Medical Literature,” *Journal of Economic Perspectives, 2017.*

- **Al-Ubaydli, Omar, John A. List, and Dana Suskind. “The Science of using Science: Towards an Understanding of the Threats to Scaling Experiments,” 2020, *International Economic Review*.**

- **Al-Ubaydli, Omar, Min Sok Lee, John A. List, Claire Mackevicious, and Dana Suskind. “How Can Experiments Play a Greater Role in Public Policy? 12 Proposals from an Economic Model of Scaling” *Behavioral Public Policy, Special Issue, 2021.***

- List, J.A., D.L. Suskind, L. Supplee, edited book: “The Scale-Up Effect in Early Childhood and Public Policy,” Routledge, 2021.

5Vitals of a Scalable Idea



Option C = Policy-Based Evidence

Today's Lesson: when doing science, block on key situational features just like we block on individual characteristics today

➔Policy-Based Evidence

Smart Technology





Smart Technology, Dumb Humans





A Glimpse Behind the Curtain: A Little Can Go a Long Way With a Big Footprint



“Walmart is on a path to become a regenerative company, one dedicated to placing nature and humanity at the center of our business practices.”

- President and CEO, Walmart Inc.
- **Doug McMillon**

Our aspirations and strategies for each issue aim for shared value and whole-system change through business, philanthropy, and collaboration

SOCIETAL IMPACT

- Create shared value
- Catalyze whole-systems change
- **Lead through the business**
- Use philanthropy to accelerate social impact

Collaborate with others

BUSINESS IMPACT

Levers for Positive Impact

NATURE

- **Direct Sourcing & Private Brand**
  - Work with suppliers to:
  - Advance adoption of nature-friendly policies, certifications
  - Source from established place-based projects
  - Develop sustainably-sourced product, ingredient lines

- **Supplier Engagement & Reporting**
  - Work with suppliers to:
  - Encourage the development and reporting of nature efforts
  - Incubate supplier-led coalition efforts

- **Capacity Building & Investment**
  - Target investments to:
  - Evolve standards to increase strength, credibility
  - Support place-based projects, capacity

Project Gigaton™: Driving action with suppliers toward Regeneration

PLANET

Aiming to reduce or avoid 1 billion MT of emissions by 2030

Cumulative 750+ million MT CO2e avoided and 5,200+ suppliers engaged since 2017

+175 million MT CO2e avoided in FY2022








- **Energy**
  - Renewable Energy
  - Energy Efficiency
- **Nature**
  - Regenerative Agriculture
  - Forestry
- **Waste**
  - Food, Solid Waste Reduction
  - Recycling, Composting
- **Packaging**
  - Recycled Content
  - Recyclability
  - Reduction
- **Transportation**
  - Optimized Shipping
  - Zero Emission Vehicles
- **Product Use & Design**
  - Design Optimization
  - Sustainable Sourcing

Major Contributors

EDF ENVIRONMENTAL DEFENSE FUND

WWF

ProjectGigaton™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ARIGATO
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TASHAKKUR ATU
SUKSAMA
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MEHRBANI
GRAZIE
MAAKE
KOMAPSUMNIDA
JUSPAXAR
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PALDIES
BOLZÏN
MERCI
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