
The Science (and Practice) of Using Behavioural Insights

@dilipsoman

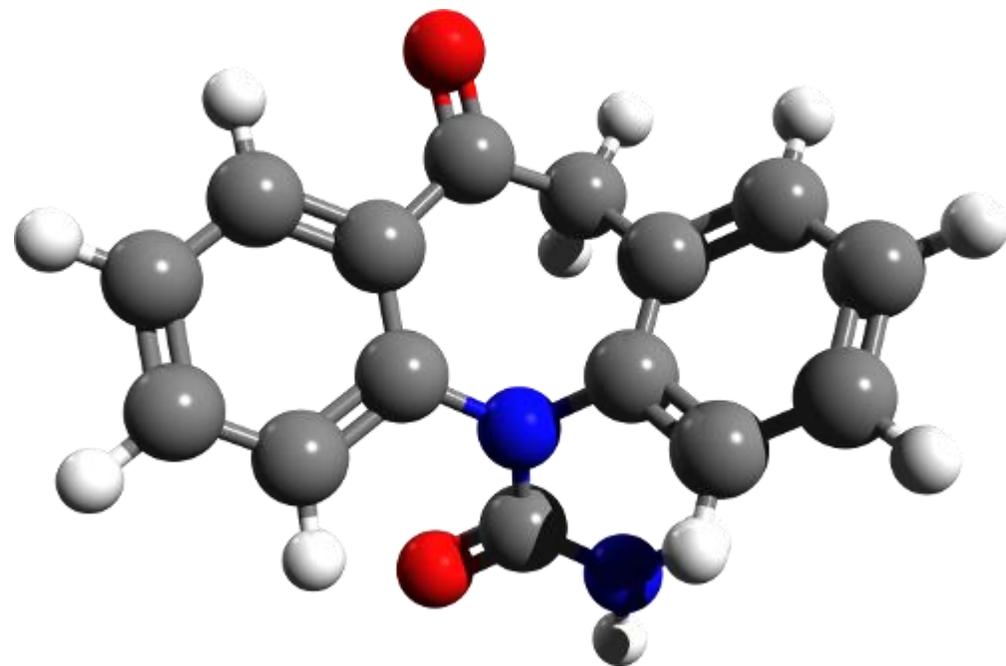


Behavioural Economics
in Action at Rotman



Structure of remarks

- Claims and observations
- Psychological considerations
- Plumbing problem
- Using Behavioural Insights



Everyone is in the Business of Changing Behaviour...

COMPLIANCE

**SWITCHING /
PURCHASING**

CONSUMPTION

ACCELERATION

15.B.2 Consider an E Box with consumers w/ C-D utility:

$$u_1(x_{11}, x_{21}) = x_{11}^\alpha x_{21}^{1-\alpha} \quad u_2(x_{12}, x_{22}) = x_{12}^\beta x_{22}^{1-\beta} \quad (w_{11}, w_{21}) \gg 0$$

Solve for equilibrium price ratio + allocations.

How do these change w/ a differential Δ in w_{11} ?

consumer 1: $\max_x u(x) \quad x_{11}^\alpha x_{21}^{1-\alpha} - \lambda [p_1 x_{11} - p_2 x_{21} - p w_1]$

$$\text{FOC: } \partial u / \partial x_{11} = \alpha x_{11}^{\alpha-1} x_{21}^{1-\alpha} - \lambda p_1 = 0$$

$$\partial u / \partial x_{21} = (1-\alpha) x_{11}^\alpha x_{21}^{-\alpha} - \lambda p_2 = 0$$

$$\frac{\alpha x_{11}^{\alpha-1} x_{21}^{1-\alpha} = \lambda p_1}{(1-\alpha) x_{11}^\alpha x_{21}^{-\alpha} = \lambda p_2} \Rightarrow \frac{\alpha}{(1-\alpha)} x_{11}^{-1} x_{21} = \frac{p_1}{p_2} \Rightarrow x_{21} = \frac{p_1}{p_2} x_{11} \left(\frac{1-\alpha}{\alpha} \right)$$

$$p_1 x_{11} + p_2 x_{21} - p w_1 \Rightarrow p_1 x_{11} + p_2 \left[\frac{p_1}{p_2} x_{11} \left(\frac{1-\alpha}{\alpha} \right) \right] - p w_1$$

$$p_1 x_{11} \left[\frac{1}{\alpha} \right] = p w_1 \Rightarrow x_{11} = \frac{\alpha p w_1}{p_1}, \quad x_{21} = \frac{(1-\alpha) p w_1}{p_2}$$

Econs!

Humans!



Design for Humans, not for Econs



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The Four – “ition”s

Motivation

Cognition

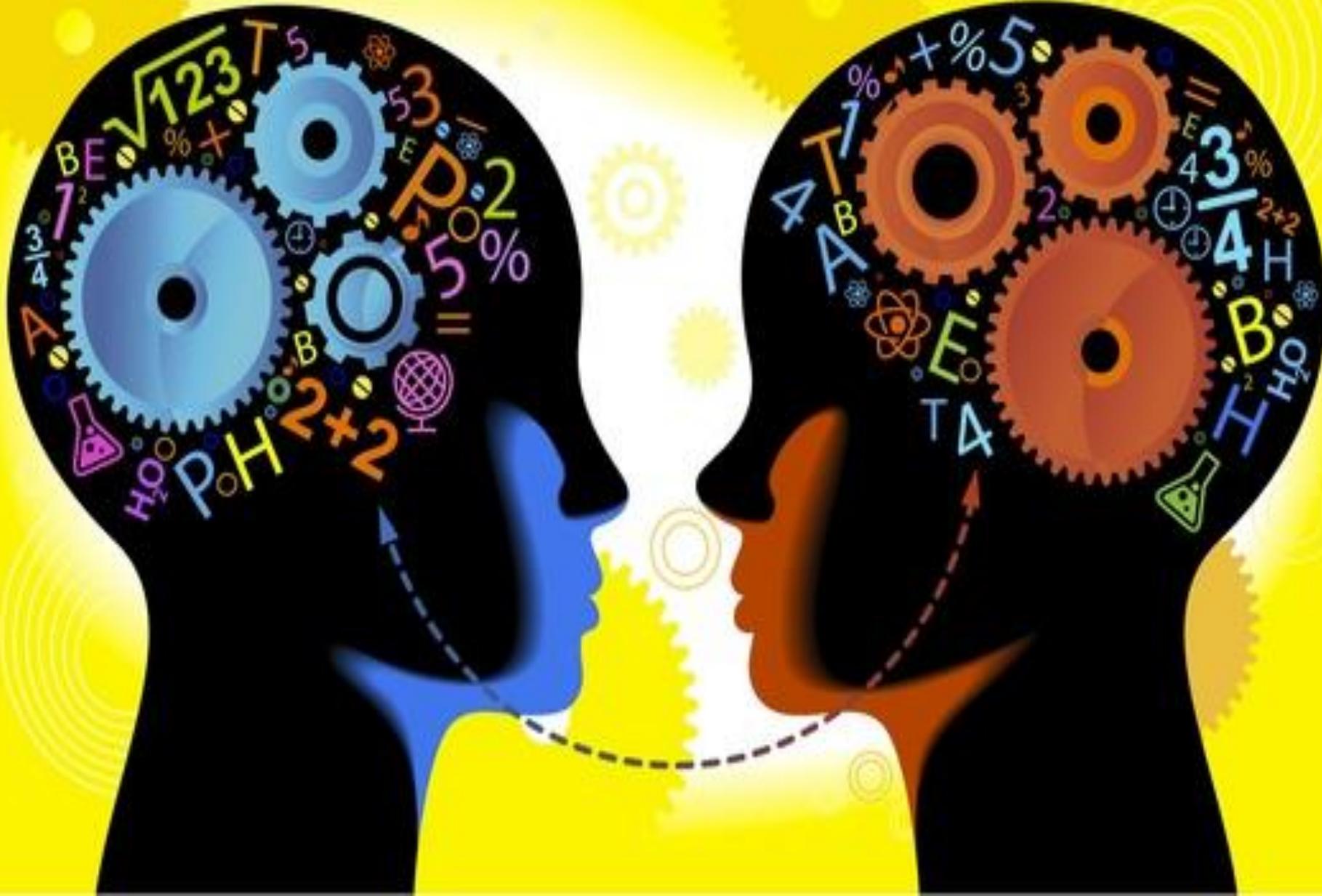
Perception

Emotion

Context

Procrastination

Inertia



Three segments in Behaviour Change!



**Motivated
Enthusiasts**

“Done”



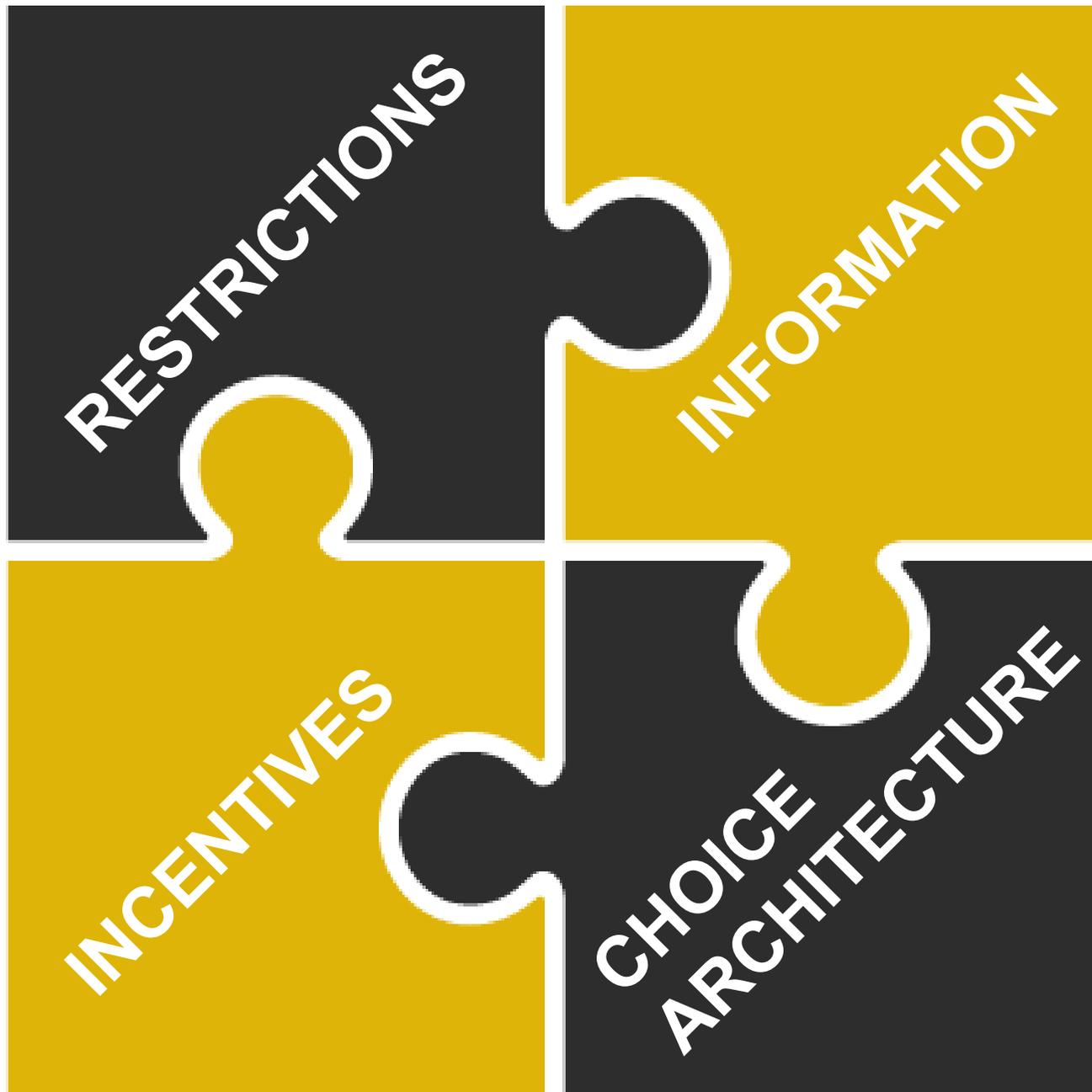
**Diehard
Opponents**

“No way”



**Naïve
Intenders**

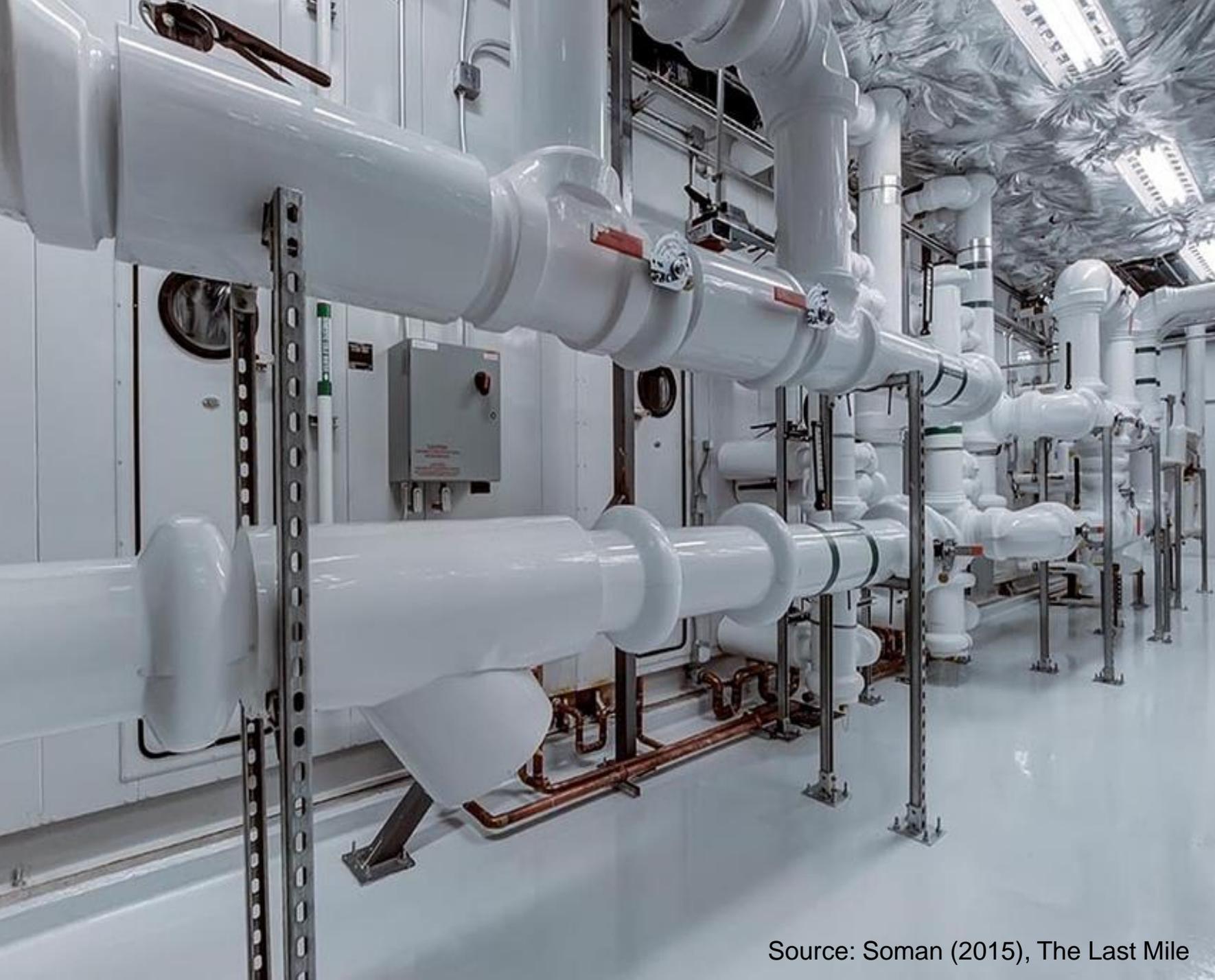
Yes, I’ll do it tomorrow”



The Behaviour Change Puzzle



Source: Soman (2015), The Last Mile



Behaviour Change as a Plumbing Problem

Source: Soman (2015), The Last Mile



What Are the Applications of BI?

The Canvas of Behavioural Insights is Broad

Decision Making Tools

Tools that help agents make better choices by providing feedback, rules of thumb, computational support, decision support or peer comparisons.

Behaviourally Informed Design

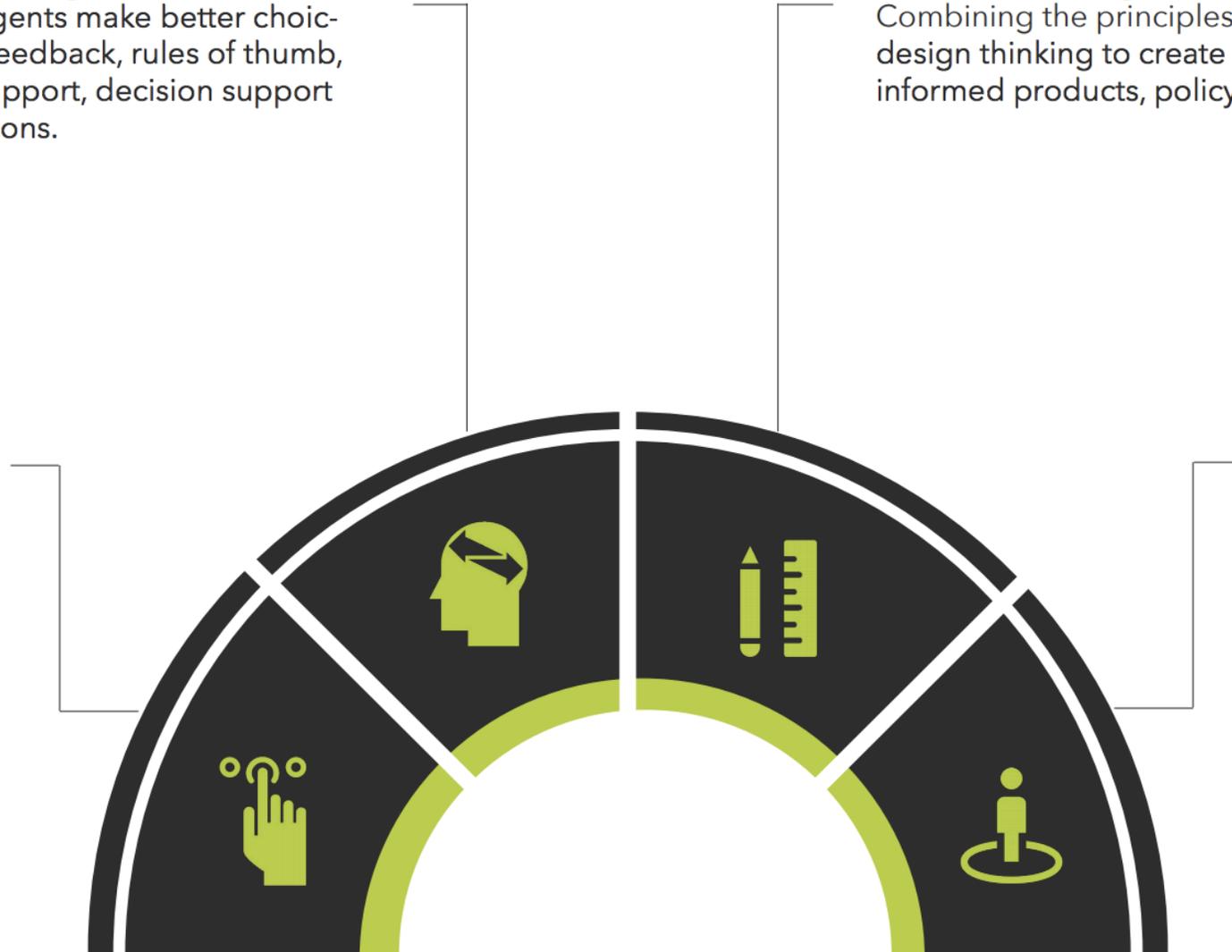
Combining the principles of BI with design thinking to create behaviourally informed products, policy and processes*

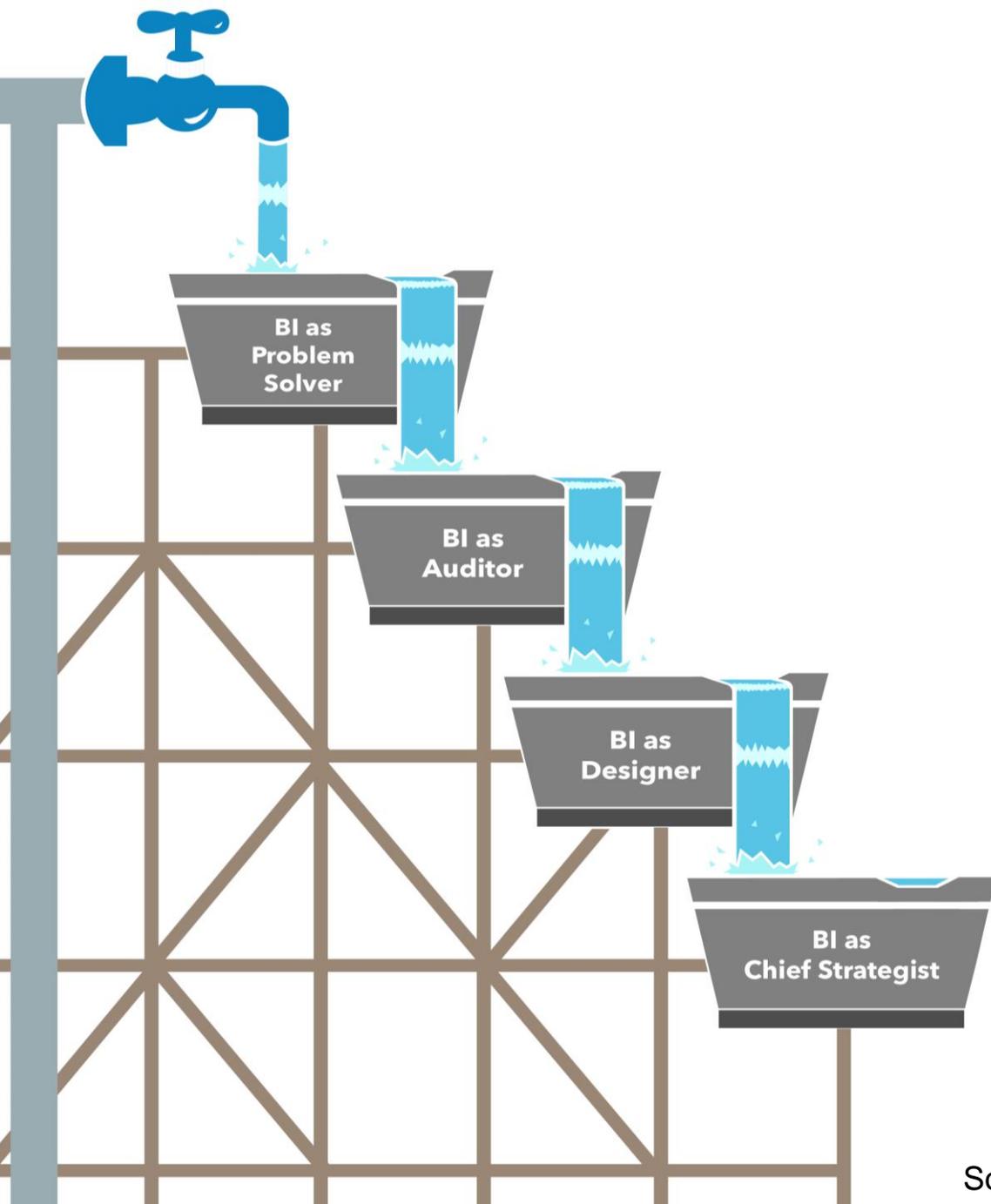
Choice Architecture

Designing choice contexts to steer choices (also known as *nudging*)

Self-Control Products

Products that allow customers to close the intention-action gap by imposing a cost on undesirable behaviours**





The Roles of BI

Behavioural Scientist as **Problem Solver**
(last mile challenges)

Behavioural Scientist as **Auditor**
(proactive problem identification)

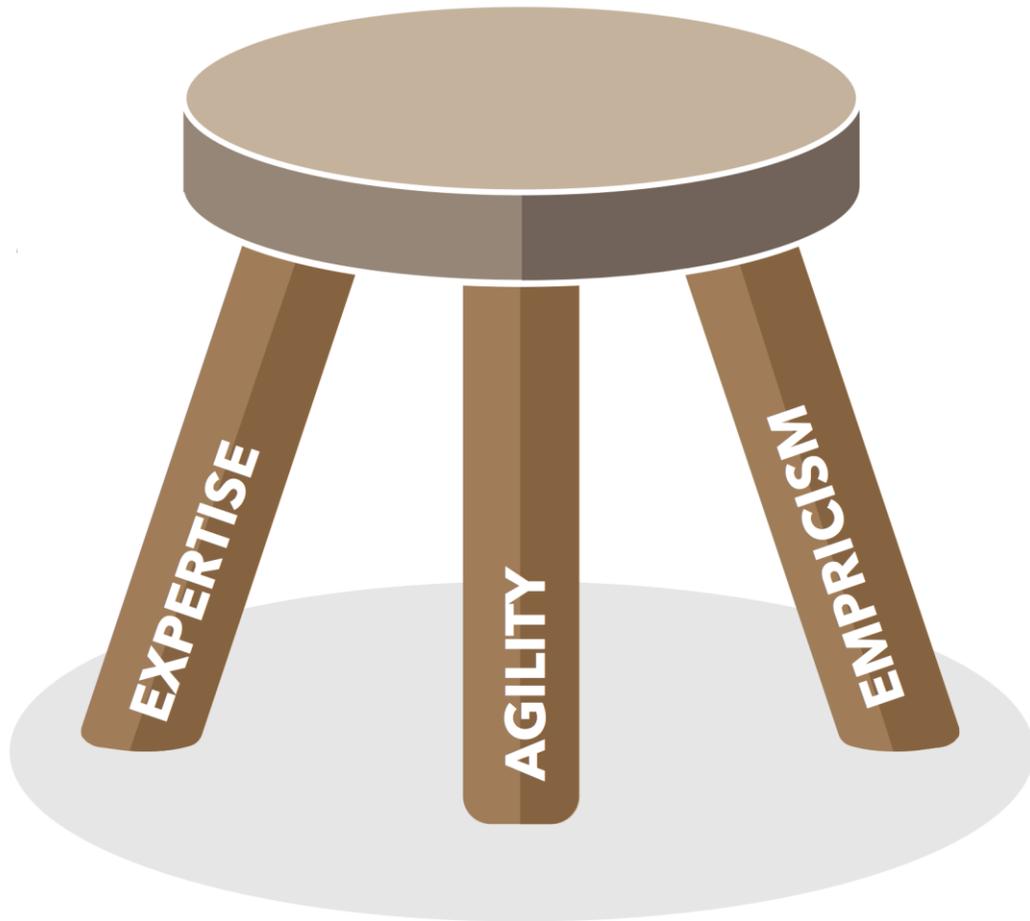
Behavioural Scientist as **Designer**
(policy and program design)

Behavioural Scientist as **Strategist**
(overall organizational operations)

Source: Feng et al. (2018)



The Three Legged Stool for Success



EXPERTISE

Behavioural science (and understanding of human psychology) & **empathy**. **Behavioural engineering** (choice architecture and the approaches Data & **empirical science** (analytics, experimental design, and ability to analyze and interpret experiments)).

AGILITY

An organizational structure and processes that allow for **quick feedback loops** to be incorporated, and for the organization to be able to change course so that a **test-learn-adapt** strategy can be put in place.

EMPIRICISM

A **mindset** that data (rather than theory or a pre-committed course of action) drive decision making in the organization. This mindset calls for an empathic mindset at the intersection of BI and design thinking, and a relentless desire to test using experiments through RCT's or other methodologies.



Population

Access to suitable populations
and Transaction Cost



Outcomes

Short feedback loops
and easy to observe
outcomes



Randomization

Identification and
ability to randomize



Institutional Factors

Ethics charter used to experiment,
organizational culture rewards
experimentation (no fear of failing)

The Costs of Experimentation

How Do I Reduce the Costs of Experimentation?

Investing in hard and soft infrastructure

- Online experimental platforms that reduce time to collect data, Participant pools that recruit from the appropriate populations, Laboratory space and facilities to collect behavioural data, Researchers with expertise in experimental methods

Appropriate problem selection

- Decomposing large challenges into precise behaviours, Building horizontally scalable behaviour change problems, Studying outcomes with short outcome cycles / feedback loops

Building whatworks databases

- Allows organizations to narrow down possible interventions to test

Ethics in experimentation

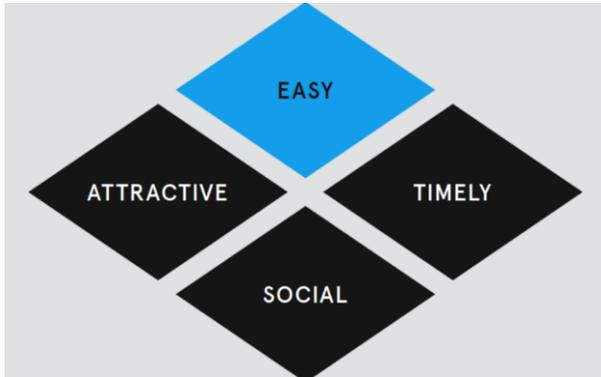
- Ensuring that interventions a) are consistent with users values and interest, b) are for legitimate ends, c) do not violate rights, d) are transparent and e) do not take things away without consent

Reframing failure and Incentivizing Experimentation

- Realizing and clearly communicating that a null-result is a learning opportunity will minimize the fear of failure. Explicitly rewarding experimentation will further build the test-learn-adapt culture



Beyond frameworks



Source: BIT



Source: BIAS project, MDRC

**The Elegant
Simplicity
(and Potential
Pitfalls)
of Simple
Frameworks**

- Process frameworks versus prescriptive frameworks
- Descriptive versus prescriptive frameworks
- **Work well:** Baseline, training, marketing
- **Pitfalls:** Misapplication, glossing over the details of the “pipeline,” misallocation of resources, using framework as a checklist

Source: Soman (2017), from BIAS Annual Report



In Conclusion

- Holistic approach to behaviour change
- Behaviour change as a plumbing problem
- Going beyond the last mile
- Reducing the costs of experimentation
- Beware of the Elegant Simplicity (and Pitfalls) of Simple Frameworks



Resources



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- Soman, D. (2015). *The Last Mile: Creating Social and Economic Value from Behavioural Insights*. Toronto: University of Toronto Press.
- Feng, Bing, Jima Oyunsuren, Mykyta Tymko, Melanie Kim and Dilip Soman (2018), *How Should Organizations Best Embed and Harness Behavioural Insights? A Playbook*, Toronto, Canada: Behavioural Economics in Action at Rotman (BEAR) Report series, available at <http://www.rotman.utoronto.ca/bear>
- Behavioural Economics in Action (BE101x) MOOC: <https://www.edx.org/course/behavioural-economics-in-action>
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