

Capitalizing on Cognitive Biases: Lessons for Policymakers

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Behavioral science/economics/insights

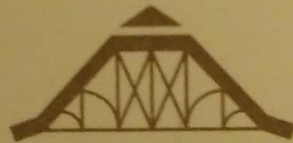
- Because of bounded rationality and limited cognitive processing power, people often rely on rules of thumb (heuristics) to make decisions
- This makes them subject to cognitive biases, or systematic errors in thinking
- People can sometimes be ‘nudged’ or helped in a minimally-intrusive and minimally-costly way into making better choices

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Behavioral science/economics/insights

- Relatively young field
 - Daniel Kahneman and Amos Tversky in the 1970s and 1980s
 - Prospect Theory; Loss Aversion
 - Kahneman won Nobel Prize in Economic Sciences in 2002
- Successfully penetrated policymaking in many (mostly developed) countries

Recent mainstream books on Behavioral Science

- Nudge: Improving Decisions About Health, Wealth, and Happiness – R. Thaler and C. Sustein (2008)
- Predictably Irrational – D. Ariely (2008)
 - The Upside of Irrationality (2010)
 - The Honest Truth About Dishonesty (2012)
- Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism – G. Akerlof and R. Shiller (2009)
- Thinking, Fast and Slow – D. Kahneman (2011)
- Misbehaving: The Making of Behavioral Economics – R. Thaler (2015)
- The Undoing Project – M. Lewis (2016)

Government Adoption of Behavioral Science

- UK: Behavioural Insights Team (BIT)
 - Established to advise UK policy makers on applying behavioral sciences to policy
- US: Social and Behavioral Sciences Team (SBST)
 - Cross-agency group of behavioral scientists, program officials, and policy makers directed to provide policy guidance and advice to Federal agencies
- Australia: Behavioural Economics Team of the Australian Government (BETA)
- Ontario, Canada: Behavioural Insights Unit
- Singapore: Behavioural Insights and Design Unit within the Ministry of Mapower

Cognitive Biases and Other Concepts from Behavioral Science: Some examples

- Status quo bias - when people prefer to do the same thing or do nothing even when making changes require only small transition costs and the decision is important.
- Optimism bias – people tend to overestimate the probability of positive events and underestimate the probability of negative events.
- Present bias – refers to tendency of people to give stronger weight to payoffs that are closer to the present time when considering trade-offs between two future moments

Cognitive Biases and Other Concepts from Behavioral Science: Some examples

- Framing effect – how choices are presented or framed can have important consequences on which alternatives are chosen
- Loss aversion – people value losses more than an equivalent gain
- Social norms – signals of appropriate behavior or behavioral expectations within a group of people

Applications of Behavioral Science: Improving Adult Literacy

- Country: United Kingdom
- Problem: High absenteeism and high dropout rates in adult education and literacy programs
- Behavioral science concepts involved: Positive feedback
- Experiment/Intervention: Students sent regular text messages 1. on importance of what they are learning; 2. on importance of practice; 3. that they can succeed and that they belong
- Impact: Increase attendance by 7% and decreased dropout rates by 36%

Applications of Behavioral Science: Energy Efficiency

- Country: South Africa
- Problem: Inefficient electricity use in government offices
- Behavioral science concept involved: Social norms and diffused responsibility
- Experiment/Intervention: 1. Program that compares employees' energy use with those of employees in other floors ; 2. Assigning energy champion for the day
- Impact: 14% reduction in energy use

Applications of Behavioral Science: Improving Efficiency in Use of Water

- Country: Costa Rica
- Problem: Inefficient use of water
- Behavioral science concept involved: Feedback, goal-setting, and prompting
- Experiment/Intervention: 1. Sticker on water bill providing feedback on their water consumption relative to average household in neighborhood; 2. Postcard asking HH to enter their water consumption with that of average HH in city, set water consumption goals, and check ways of reducing water
- Impact: 3.4% to 5.6% reduction in water use

Applications of Behavioral Science:

Increasing Uptake of Energy Efficient Appliances

- Countries: 10 EU countries (France, Germany, Greece, Ireland, Italy, the Netherlands, Poland, Portugal, Romania, and Sweden)
- Problem: Low uptake of energy efficient electric appliances
- Behavioral science concept involved: Frame of reference effect
- Experiment/Intervention: Simplified letter-grade label representing energy efficiency and frame of reference showing full-scale against which consumers could benchmark their choice
- Impact: Higher percentage (by 3 to 10 percentage points) choosing most efficient product

Applications of Behavioral Science:

Increasing Uptake of Energy Efficient Appliances

- Country: United Kingdom
- Problem: Low uptake of energy efficient electric appliances
- Behavioral science concept involved: Time inconsistent preference; Salience
- Experiment/Intervention: Include total monetary lifetime running costs on the appliance label in addition to EU energy label with kWh per year
- Impact: Statistically significant increase in sales of more energy-efficient washer dryers

Applications of Behavioral Science: Home Insurance Renewal

- Country: United Kingdom
- Problem: Consumer paying unnecessarily high prices by not choosing to switch or negotiate their insurance policy at renewal
- Behavioral science concept involved: Status quo bias
- Experiment/Intervention: Including last year's premium next to current year's premium in renewal notices
- Impact: 11% to 18% more consumers switch or renegotiate their home insurance policy

Applications of Behavioral Science: Increasing Organ Donor Registration

- Country: Canada
- Problem: Low level of organ donor registration
- Behavioral science concept involved: Reciprocity and empathy
- Experiment/Intervention: Add to the top of the simplified registration form the statement "If you needed a transpant, would you have one? If so, please help save lives today"
- Impact: Doubled registration relative to the form that had no adjustments made

Applications of Behavioral Science: Increasing Organ Donor Registration

- Country: United Kingdom
- Problem: Low level of organ donor registration; 9 out of 10 support organ donation but fewer than 1 in 3 people are registered
- Behavioral science concept involved: Reciprocity; Loss framing
- Experiment/Intervention: On high-traffic government website (for people renewing vehicle tax online), add message "Three people die every day because there are not enough organ donors." Also reciprocity message "If you needed a transpant, would you have one? If so, please help save lives today"
- Impact: Estimated 96000 additional registrations in one year.

Applications of Behavioral Science:

High Number of Missed Hospital Appointments

- Country: United Kingdom
- Problem: costly "Did Not Attends" amounting to hundreds of millions of pounds
- Behavioral science concept involved: Social norms
- Experiment/Intervention: Send SMS message to patient with line "We are expecting you at [clinic] on [date] at [time]. Not attending costs National Health Service GBP 160 approximately."
- Impact: Reduced did not attends by 2.7 percentage points

Applications of Behavioral Science: Helping Job Seekers Find Employment

- Country: Singapore
- Problem: Helping job seekers find employment
- Behavioral science concept involved: Commitment device; Chunking; Priming
- Experiment/Intervention: Job seekers given job booklets where they signed on the cover page to indicate commitment to job search program; Break down job search process into smaller tasks; Design consultation rooms to 'prime' job seekers with subtle motivational messaging
- Impact: 17-percentage point increase in job seekers who had found work relative to control group

Applications of Behavioral Science: Renewing Vehicle Licenses Online

- Country: Canada
- Problem: Low uptake of online public service delivery
- Behavioral science concept involved: Salience; Gain-framing; Loss-framing
- Experiment/Intervention: Renewal notice sent where information about web service stood out; benefits of renewing license online highlighted
- Impact: Salience and gain framing led to 4.3 percentage point increase in online uptake; Salience and loss framing led to 3 percentage point increase in online uptake

Applications of Behavioral Science:

Using Social Norms to Encourage Prompt Tax Repayment (1 of 2)

- Country: United Kingdom
- Problem: High level of late tax payment
- Behavioral science concept involved: Salience; Gain-framing; Loss-framing
- Experiment/Intervention: Social norms framed at different levels of specificity

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Applications of Behavioral Science:

Using Social Norms to Encourage Prompt Tax Repayment (2 of 2)

- Experiment/Intervention: Reminder letters: 1. Basic norm: "Nine out of ten people pay their tax on time"; 2. Country norm: "Nine out of ten people in the United Kingdom pay their tax on time."; 3. Minority norm: "Nine out of ten people in the United Kingdom pay their tax on time. You are currently in the very small minority of people who have not paid us yet." 4. Public gain: "Paying tax means we all gain from vital public services like the National Health Service, roads, and schools."; 5. Public loss: "Not paying tax means we all lose out on vital public services like the NHS, roads, and schools."
- Impact: Minority-norm statement had a larger effect, raising the number of taxpayers making payments by 5.1%. Basic-norm statement 1.3%. Country-norm 2.1%. Public-good messages 1.6%

Summary

- In many (so far mostly developed) countries, application of behavioral science has been found to improve policy making
- Time to expand its applications to developing country setting.
- Attractive because in many instances, behaviorally-informed interventions not costly to implement
- Rich literature and experience (although from developed countries) that can be tested in developing country context
 - Experiment/try them out. Context is important and what works for one country may not work in another country
- Create Behavioral Sciences Team, whether as a central agency, an inter-agency group, or a collaboration with a academic institution or even the Academy of Sciences.

Possible applications in the Philippines

Can behavioral insights be used to

- increase patent applications in Philippine universities?
 - Social norms?; Gain-framing; Loss-framing
- increase enrollment in STEM in Public Senior High Schools?
- induce rich parents of public tertiary school students to voluntarily pay (donate) despite Free Tuition Law?
- get drivers to behave better in traffic?
- get more of the self-employed to pay taxes?

Main References

- Executive Office of the President, National Science and Technology Council. 2016. Social and Behavioral Sciences Team Annual Report.
- OECD. 2017. Behavioural Insights and Public Policy: Lessons from Around the World, OECD Publishing Paris.
<http://dx.doi.org/10.1787/9789264270480-en>
- Samson A. (Ed.). 2017. The Behavioral Economics Guide 2017 (with an introduction by Cass Sunstein). Behavioral Solutions Ltd.
Retrieved from <http://www.behavioraleconomics.com>
- Thaler, R. and C. Sunstein. 2008. Nudge: Improving decisions about health, wealth, and happiness. New York: Penguin Group