

Can we better use social science theory to help define or even solve for security dilemmas such as finding norms in vulnerability reporting and fixes? As the title suggests applying behavioral economics to problems in cyber could unlock novel approaches to risk reduction across industries. In theory, a set of wise but small changes to areas like disclosure, detection and re-mediation can produce dramatic improvements in decision making and safety/privacy. This presentation takes the audience through "nudge" foundations and ends with suggestions and examples of success in risk-based policy.

Libertarian Paternalism

- Behavioural Economists Developing Philosophical Frameworks. e.g. Thaler and Sunstein's Libertarian Paternalism. Informs Nudge
- Libertarian Paternalism is Liberty Preserving, Does Not Include Regulation or Bans
- Libertarian Paternalism Wants to Make Choosers Better-off, As Judged by Their Reflective Selves
- Core of Approach, Behavioural Economic Findings Used to Change Choice Architecture

Unconsciousness

- Nudges: Appeal to Reflexive Cognitive Processes, System 1 and System 2
- Does System 1 Lead to Serious Mistakes? Example: Overemphasis on the Immediate
- System 1 Knowledge Can Inform Policy Design, Note: Getting People to Concentrate Has Mixed Results

Original Requirements For Nudge to be a Nudge

1. liberty preserving and no regulation or bans
2. no significant change to economic incentives
3. no overt campaigns of info or persuasion
4. informed by findings of behavioral econ

Behavioral Econ

- No broad definition accepted
- Observations systematically violate mainstream econ
- Box of tools
- Loss aversion (Adam Smith)
- Present Bias (David Hume)
- Probability Weighting
- Fairness in Ultimatum Games

Purported Nudges Attracted Interest From Policy Makers

- Probably Foremost Behavioral Insights Team
- Health
- Personal energy saving
- Reducing fraud (tax)
- Pollution
- Insurance (flood)

Changing Default

- Prompted choice for organ donation

- Opting out of corporate pension plans
- Strong crypto
- Hardened/No Access

Manipulation of Reference Point

- Highlighting benchmarks
- Good behavior
- Smart meters
- Tax payments
- Public reporting of behavior

Applications of Incentives

- Nintendo points for diabetic kids
- 'Holidays' from tax payments
- LazyTown
- Uptime for patching