Applications of Behavioral Insights and Nudge to Policy Planning & Implementation

September 14, 2018
The purpose of today’s presentation

1. Introduce the concept of “nudges” and behavioural insights
2. Discuss potential application to Strategic Planning
There is a wide gap between what we intend to do and what we actually end up doing … *Intention-Action Gap*

- Exercising more
- Sticking to a diet
- Recycling your waste
- Saving for retirement
- Spending less time on Instagram
- Cleaning up the closet
- Quitting smoking
- Being more punctual
- Reading more books
- Learning a new language
- Starting a new hobby
- Going for health checkups regularly
- Backing up your computer
- Getting an insurance
- Etc.

*Source: Nudge Lebanon Team Analysis*
We have biases that affect our decision making abilities and the extent to which we act in our own best interests ...

We overvalue immediate rewards at the expense of long-term ones—we have **Present bias and do hyperbolic discounting of the future**. We make decisions today that our future self would not have made!

We have a tendency to assess probability of some event by the ease with which such event comes to mind (**availability bias**)

The pain experienced from losses is twice as much as the pleasure experienced from equivalent gains—we have **loss aversion**

We prefer to keeping things the way they are (**status quo bias**)

We overestimate our own abilities relative to others and are **overconfident**

We have a tendency to search for information that confirms our existing beliefs (**Confirmation bias**)

We rely too heavily on the first value offered (the "anchor") when making a judgment

**Source:** Nudge Lebanon Team Analysis
Which table is longer and narrower?

A

B
Which one of these two squares is darker?
How much does the ball cost?

A bat and ball together $1.10

If the bat costs $1.00 more than the ball, how much does the ball cost?
How much does the ball cost?

Ball costs 10 cents
Bat costs 1$ more = 1.1$
Total = 1.2$

Ball costs 5 cents
Bat costs 1$ more = 1.05$
Total = 1.1$
1. Biases and heuristics ... a few examples

Loss aversion

Class Exercise: How much are you willing to bid for $20?

TWO RULES!

**Rule number 1:** bids must be made in $1 increments.

**Rule number 2:** the runner-up must honor their bid. That is, although the winner will take the $20 bill, the second place finisher too must pay the last bid he or she made, but receive nothing in return.

**Answers?**
Anchoring Bias Example 1

- **Kahneman & Tversky** asked a group of people to spin a wheel from 1 to 100
- Then they were asked to estimate the percentage of African Nationals in the UN
- **Results:**
  - People who spun a 10 estimated a 25% of African Nationals in the UN
  - People who spun a 65 estimated a 45% of African Nationals in the UN
- There was a direct correlation between how high the number they spun was and the percentage they estimate afterwards

Source: Kahneman & Tversky
Anchoring Bias Example 2

• In a 2001 study, criminal judges were given identical materials describing a hypothetical case of an alleged crime:
  - For half of the participants, the prosecutor demanded a prison sentence of 2 months (Low Demand)
  - For the other half, the prosecutor demanded a sentence of 34 months (High Demand)

• Results:
  – Given sentences were higher for participants who evaluated the high sentencing demand:
    \((M = 28.70\text{ months}, \ SD = 6.53)\) than for participants who evaluated the low sentencing demand:
    \((M = 18.78\text{ months}, \ SD = 9.11)\)
  – Final sentences differed by as much as 10 months

• “In many situations, people make estimates by starting from an initial value that is adjusted to yield the final answer [...] adjustments are typically insufficient”

Kahneman and Tversky, 1974

• In other words, we start with a value we know, called anchor, and adjust our views in the direction we judge appropriate, but this adjustment is insufficient

• Why? because we don’t know how far to move away or when our mental resources are depleted
Nobel Prize Winner Daniel Kahneman: Two Systems in Judgement and Decision-Making

**System 1**
- **Fast**
  - Automatic
  - Unconscious
  - Emotional
  - Daily Decisions
  - Prone to Error

**System 2**
- **Slow**
  - Deliberative
  - Complex Decision
  - Conscious
  - Effortful
  - Reliable
  - Lazy Controller

Source: Nudge Lebanon Team Analysis
Behavioral economics is becoming mainstream economics

### Conventional Economics

- For decades, classical economics assumed people’s decisions and behaviors are based on deliberative thinking of system 2, and that people are infinitely rational – or ‘Econs’

- When given a set of facts, Econs process everything to make the most optimal decision

- Most policies are designed with rational people (Econs) in mind, whereas majority are humans and have biases...

- The fact that the very fundamentals of economics are based on wrong assumptions puts in question the current models for policy making

### Behavioral Economics

- BE which is a discipline of economics that applies psychological insights into human behavior to explain decisions

- It rejects the overly simplistic and sometimes naive assumptions of classical economics about human behavior, and proposes more realistic model on how people actually behave

- In particular, BE takes into consideration that people are imperfect and are prone to making mistakes

- *The golden standard for BE is experimentation and Randomized Controlled Trials (RCTs)* ...

Source: Nudge Lebanon Team Analysis
Instead, for policies to change people behavior we have been relying on two classical tools …

Policy Making Levers to Influence People’s Behavior

1. **Command-and-Control Regulations**
   - *one does not always work*
   - …
   - *the other one is not sustainable*

2. **Rewards and Financial Incentives**

   “any aspect of choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives”

   R. Thaler & C. Sunstein

   It seeks to counter biases and mental shortcuts that are generally the result of an automatic, fast and unconscious “System 1” in the human mind
So the key characteristics of “nudge” are Four

Key Characteristics of Nudge

1. Small, architecture types of intervention: e.g., default rules, use of messenger, priming, reminders, feedback, salience

2. That steer people in the right direction, in a predictable way

3. They are cost effective, that is, it does not significantly alter the financial incentive structure: a subsidy is therefore not a nudge

4. They are choice preserving, they do not take away other options

It seeks to counter biases and mental shortcuts that are generally the result of an automatic, fast and unconscious “System 1” in the human mind.
The rise of nudge and behavioral insights application to public policies has been phenomenal, driven by 3 factors:

1. **State Limitations**
   - Limited enforcement power
   - Austerity measures

2. **Intellectual Capital on Behavioral Economics**
   - Writings of well-known behavioral scientists such as Thaler, Sunstein, Kahneman ... even older economists
   - Recognition through Nobel Prizes

3. **Rise of Nudge Units**
   - First nudge unit in the UK
   - Several countries followed
   - In the Middle East, this has started to happen

Source: Nudge Lebanon Team Analysis
Behavioral Insights set ups exist in different forms, e.g. governmental, NGO, academic, or social purpose

**Governmental Nudge Units**
- Are either fully or partially owned by Government
- Have their priorities cascaded from governmental agenda
- Many focus on improving public policy-making and citizen’s welfare, using RCTs and nudges
- Positioned either at the highest level of government with broad mandate, or housed in a sector-specific ministry with a more focused in their mandate

**NGO BI Initiatives (Non-Academic)**
- Non-academic centers have multiple legal structures: NGOs, NPO, foundations, ...
- Some operate like Nudge units in their focus on public policy experimentation in a non lab-controlled environment
- Their funding is from donor agencies and from beneficiaries on a cost-recovery basis

**Academic BI Initiatives**
- Housed within academic institutions
- Distinguished from Nudge Units mainly in their greater focus on research
- Sponsor research and experiments, and provide researchers with resources, e.g., database of behavioral research, laboratories
- Partner with governments and organizations that engage in behavioral science

**Social Purpose BI Companies**
- The number of private dedicated behavioural insights initiatives is growing
- Even consulting firms are moving into these areas but partner with experts from academia and NGOs
- Many of these have on their boards well-known academics
- They provide nudge experiments and behavioural advisory services on a commercial basis

Source: Nudge Lebanon unpublished paper on rise of nudge units; Makki Nudging in the Middle East, HBR Arabic (2016-5)
Nudging in public policy gained popularity thanks to establishment of Nudge Units worldwide

Social and Behavioral Science Team

Behavioral Insights Team

Nudgeco

Nudge Lebanon

Kuwait Policy Appraisal-Lab (KPAL)

2016

Qatar Behavioural Insights Unit (QBIU)

Center for Strategic Development Nudge Unit (in the making)

Source: OECD (2018); QBIU, Nudge Lebanon
Nudging and BI have been tested in a variety of public policy areas

- Healthcare
- Education & Human Capital
- Financial Inclusion
- Environment
- Infrastructure
- Economy
- Administration

... And many others

Testing “what works” using RCTs

Source: Nudge Lebanon Team Analysis
Most Arab countries have visions and strategy documents that seek to address complex policy challenges.
Development plans of most Arab countries include similar policy challenges many of which have strong behavioral roots.

**Public Policy Areas**

1. Sustainability
2. Health
3. Education
4. Public Finance Management
5. Social Welfare
6. Economic Growth and Entrepreneurship
7. Public Administration and Service Delivery
8. Humanitarian and International Development

---

Source: Nudge Lebanon and QBIU
Small cost-effective tools could be tried to promote environmental objectives, using social norms… making it easy
Many of the current health related challenges can be improved using behavioral insights …

- Reminders
- Social norms
- Salience
- Emotions
- Commitment devices

Health

<table>
<thead>
<tr>
<th>Diabetes &amp; Obesity</th>
<th>Medication Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health Problems</td>
<td>Cancer Screening</td>
</tr>
<tr>
<td>Traffic Accidents</td>
<td>Smoking</td>
</tr>
</tbody>
</table>
Many recent examples for using BI to address education-policy challenges targeting students, teachers and parents

- Improving student education outcomes and performance (in standardized tests)
- Reduce drop-out and absenteeism rates
- Improve teacher motivation
- Increase parental engagement
To encourage earlier payments, penalties are a classical tool but it turns out that using social norms is a powerful tool.

### Social Norms

Nine out of ten people in your town pay their taxes on time!

#### Percentage of Tax Debtors Paying Their Debt

- **Control**: 67.5%
- **Social Norm (National)**: 72.5%
- **Social Norm (Postcode)**: 79.0%
- **Social Norm (Town)**: 83.0%

+23%

Source: BIT Report: Applying Behavioural Insights to Reduce Fraud, Error and Debt, Nudge Lebanon and QBIU
A similar experiment was tested in Lebanon to get people to pay their utilities bills on time …
PFM-related interventions that use insights from behavioral sciences will become more relevant as a complementary tool.

- Increase payment of utilities and taxes on time
- Streamline fiscal applications and processes
- Improve compliance with rules and procedures
Various inclusion-related interventions are used to empower women and include a more diverse workforce …

- Increasing savings for pension
- Reduce discrimination
- Increase women employment rates
Behaviorally informing workshops for entrepreneurs can have great impact on learning outcomes!

Average Test Scores
(Out of 56)

+86.7%

16.2

30.2

Control
Retrieval Practice

Source: Nudge Lebanon and QBIU
Entrepreneurship interventions

- Facilitate access to finance
- Streamline processes and innovate in service delivery for businesses
- Behaviorally informed training and entrepreneurship education
Simple choice architecture interventions can have an impact on the desired objective, e.g., shifting the signature box.

**Average Reported Annual Usage per Car (in miles)**

<table>
<thead>
<tr>
<th>Signature at the end</th>
<th>Signature at the beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>23,670</td>
<td>26,098</td>
</tr>
</tbody>
</table>

Relocation of Signature Box: +10.26%

Behavioral sciences opens up potential for experimentation, innovation & public service delivery – reinventing government

Reduce traffic Violations
Streamline services
Reduce Corruption
Increase civic Engagement
Classical approach to Strategic Planning can be complemented by a behaviorally informed approach

Classical Strategic Planning Approach

1. Stakeholder Engagement
   - Public relations and systematic approach for selecting and engaging with stakeholders

2. Content Development
   - Benchmarking of best practices
   - Assessments of current state

3. Governance & Organization
   - Monitoring and Evaluation units
   - Policy and Planning units
   - Centers for coordination

4. Capacity Building
   - Workshops on planning and performance monitoring

5. Impact Assessment
   - Macroeconomic models
   - Financial and Economic Scenarios

Behaviorally Informed Strategic Planning Approach

1. Stakeholder Engagement
   - Behaviorally informed stakeholder engagement approach (e.g. “Mobilize, Engage, & Follow Through”)

2. Policy Agenda
   - Benchmarking interventions and RCTs
   - Policy of experimentation
   - List of behavioral challenges
   - Behavioral roots of challenges

3. Governance & Organization
   - Nudge Units
   - Community of practice
   - Ethical Review Committee
   - Inter-ministerial committees

4. Capacity Building
   - Workshops and Trainings in:
     - Behavioral economics
     - Policy experimentation

5. Experimentation
   - Different forms of experimentation (e.g. RCTs, DiDs, ...)
   - Behavioral public policy

Source: Nudge Lebanon Team Analysis
NL’s “Mobilize, Engage, & Follow-Through” approach is a behaviorally informed stakeholder engagement framework.

1. **Mobilize** (before)
   - Capturing attention of target population
   - Encouraging target individuals to attend events as a first step of capturing them in the system process

2. **Engage** (during)
   - Promoting participants to interact and participate during the event(s)
   - Building a safe environment with the right mind-set to promote sharing and active participation and, most importantly, behavioural change

3. **Follow-through** (after)
   - Ensuring that participants follow-through with the what they learned and sustain the intended behavioral change
   - Affirming that participants are ambassadors for behavioral change within their own communities

---

The “Mobilize, Engage, & Follow-through” framework has universal applications for different challenges that transcend a specific policy area.

Source: Nudge Lebanon Team Analysis
Nudge Lebanon increased the likelihood of vulnerable youth attending community support sessions by 23% using a commitment strategy accompanied with SMS reminders.

The intervention was particularly effective on young male population increasing their total attendance by 55%.

### Community Support Sessions Attendance
(in percentage, # of sessions attended out of a total of three)

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.8</td>
<td>2.2</td>
</tr>
</tbody>
</table>

The intervention was particularly effective on young male population increasing their total attendance by 55%.
The policy agenda is driven through an assessment of local challenges, but also guided by recent trends.

Driven by assessment of current challenges:

- Development of a policy agenda for experimentation should be primarily driven by an assessment of the current situation.
- This could be done by an evaluation of the behavioral roots of current policy areas.
- It could also be driven by detailed stakeholder engagement sessions whose objectives are to understand their challenges and identify their behavioral bottlenecks.

Driven by review of regional and global experiments:

- While all experiments should be related to current challenges, the trigger could be external.
- As such, a constant review of regional and global experiments is always a way to shed lights on potential application into the local context.

Policy Agenda of Experiments:

- Reducing energy level consumption
- Increasing screening for mental health
- Reducing obesity rates among children
- Improving workers welfare
- Enhancing parental engagement in children education
- ...

Source: Nudge Lebanon Team Analysis
The behavioural components of success of the operating model depend on a number of enabling factors:

1. **Nudge Unit**
   - Presence of an efficient structure that lends itself to good internal collaboration

2. **Advisory Panel**
   - Rigorous process for ethical review of experiments

3. **Ethical Review Committee**
   - Representation from locals along with regional and international heavy-weights with the right mix of academics and practitioners

4. **Inter-Agency Cooperation**
   - Ability to bring governmental and non-governmental stakeholders for collaboration and joint projects

5. **Community of Practice**
   - Leveraging of local talent around behavioral sciences and public policy in a network for exchange and collaboration

6. **Linkage with Academia**
   - Ability to attract academia in joint experiments and projects
Example team sizes of governmental nudge units

- Nudge Lebanon (LEB): Around 12 members
- Qatari Behavioural Insights Unit (QAT): 5 members
- Office of Evaluation Sciences (USA): Around 15 members
- The Innovation Hub (CAN): Around 10 members
- NSW Behavioural Insights Unit (AUS): 14 members
- Mind, Behavior, and Development Unit (eMBeD) (World Bank): 14 members
- The Lab @ DC (USA): 14 members
- Behavioural Insights Team (UK): Around 150 employees
- Behavioural Insights - Regulatory Policy Division, OECD (FRA): Around 30 members
- Behavioural Economics Team of the Australian Government (AUS): Around 45 members
Capacity building on behavioral insights and experimentation for various stakeholders involved in strategic planning

**Workshops & Seminars**

- Behavioral insights and nudging as well as its use in their work

- Behavioral maps (identify *biases* and *behavioral bottlenecks*)

- Develop specific tools for use by organizations in design and implementation of policy initiatives

- Basic statistics packages

- How to design experiments

Source: Nudge Lebanon Team Analysis
New methods of evaluating policy impact in particular, randomized controlled trials (RCTs)

**Randomized Controlled Trials (RCT)**
- An RCT is an experiment in which participants are randomly allocated into groups, such that each group would experience a different condition.
- Considered as the golden standard for experimentation.

**Pre-Post**
- A Pre-post intervention consists of:
  - **Baseline**: Measuring outcome of interest for a defined period of time.
  - **Intervention**: Introducing the variable & measuring the outcome of interest again.
  - **Post-Intervention**: Measuring the impact of the intervention.
- A pre-post assumes that the intervention was the only factor influencing any changes.

**Difference-in-Differences (DiD)**
- DiD is a refined version of the pre-post methodology.
- DiD controls for differences in the outcome between treatment and comparison groups during the pre-intervention period (i.e. baseline).
- DiD is a useful technique to use when randomisation on the individual level is not possible.

Source: Nudge Lebanon Team Analysis
A recap …

1. Behavioral economics is now mainstream economics

2. Applications of BIs to public policy are on the rise, almost every country in the middle east either set up a nudge unit, or planning one, or started applying behavioral interventions in one or more policy areas outside dedicated units

3. This is transformative:
   - it will bring a new skillset in government – behavioral sciences
   - It will bring a new culture of experimentation and testing “what works”
   - It will reinvent government services in innovative ways
   - Applications to monitoring and evaluation add more realistic and accurate results
APPENDIX
Carnegie Corporation of New York granted Nudge Lebanon $500,000 to set up the first nongovernmental Arab Consumer Citizen Lab (CCL)

The purpose of CCL is to improve public policy through use of behavioral sciences in national policies & public services

- Extends the discipline of behavioral economics to universities in Arab region
- Builds capacity of students and future practitioners
- Support problem solving by stakeholders, including government agencies, nongovernmental organizations, and academics

NL was awarded 1 of 8 social innovation grants for the Arab region to set up the Consumer Citizen Lab
Earlier this year, Nudge Lebanon held a conference on Behavioral Economics and Nudge in the Arab Region

Source: Nudge Lebanon Team Analysis
The focus areas of Nudge Lebanon revolve around compliance and socio-economic policies.

1. **Compliance and the Rule of Law**
   - Fighting Corruption
   - Reinforcing compliance and the rule of law (e.g., traffic)
   - Sustainability and Littering
   - Preventing violent extremism
   - Improving public service delivery (e.g., consumer protection)

2. **Socio-Economic Policies**
   - Improving social and financial inclusion
   - Improving healthy lifestyle and wellbeing
   - Supporting the Government in its Public Finance Management
   - Improving access to and quality of education
   - Improving humanitarian support and charitable giving
   - Promoting entrepreneurship

Source: Nudge Lebanon Team Analysis