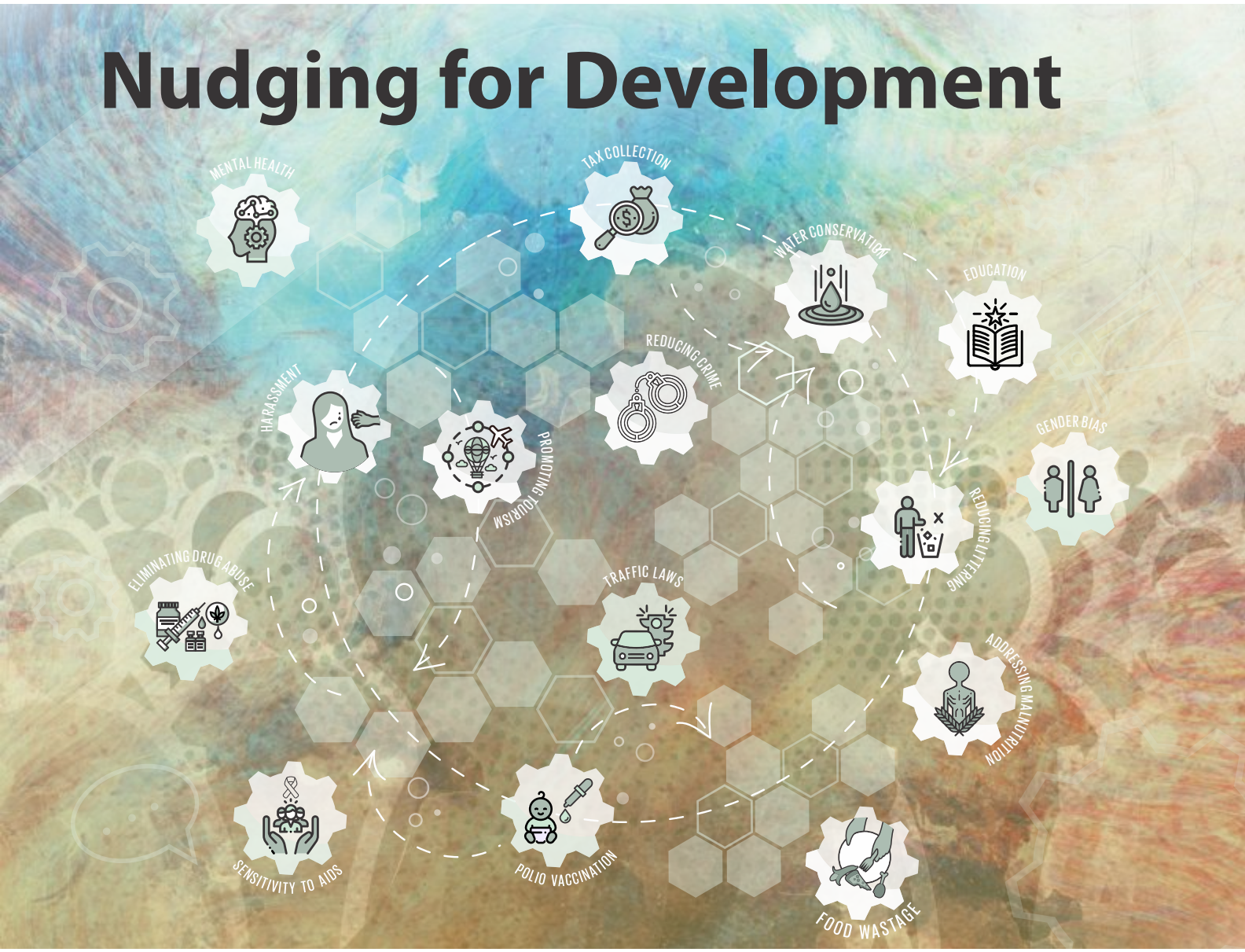
DEVELOPMENT ADVOCATE PAKISTAN

Volume 6, Issue 2

Nudging for Development



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Development Advocate Pakistan provides a platform for the exchange of ideas on key development issues and challenges in Pakistan. Focusing on a specific development theme in each edition, this quarterly publication fosters public discourse and presents varying perspectives from civil society, academia, government and development partners. The publication makes an explicit effort to include the voices of women and youth in the ongoing discourse. A combination of analysis and public opinion articles promote and inform debate on development ideas while presenting up-to-date information.

DEVELOPMENT ADVOCATE PAKISTAN

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June 2019

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OBSESSION


DON'T FORGET THE TAX IMPLICATION

Nudge for Social Change

Adding visual cues leading to dustbins has managed to decrease littering rates by 46 percent in Copenhagen, Denmark; adding bright warning signs before dangerous curves led to a 35 percent decrease in accidents in the United States; and using a popular children's television program in Iceland, to promote healthy eating behaviours, led to an improvement in children's diets by 22 percent.

Such examples and more show subtle ways in which different mediums have been employed at different times to influence behaviours positively. Attributed to as 'nudges', these cues influence behaviour towards a certain angle. Nudges are not largely based around economic incentives, rather, they focus on targeting the psychological nature of an individual by offering them 'attractive options'. In essence, they do not necessarily coerce people into accepting a certain option but use cues to steer people in directions that they can then choose from.

For nudges to be effective they must offer only a minor change in choices as most of the choices/judgements made by people are automatic rather than deliberate; second, they must appeal to social norms as people tend to follow what is more socially acceptable; and third, they should relate to local culture.

Nudges are not new: corporations have been using them for years in marketing to influence consumer behaviour, but what is new is the use of nudges by governments to seek behavioural change on issues related to public policy and local governance such as health, transport, waste disposal, etc.

As nudges are based largely on non-economic incentives, they are relatively easy to use and effective in influencing behaviours. For this reason, the potential in Pakistan is tremendous. Together with the Municipal Corporation of Islamabad, UNDP has experimented using nudges to promote water conservation amongst residents of the capital. Water conservation messages were designed using a design thinking approach and suggesting ways and avenues households can conserve water. These include messages for conserving water use in washrooms, kitchens, for washing cars and in gardening. Messages were also designed appealing to religious sentiments and severity of highlighting the water crisis. Results show that over 80 percent of the respondents are willing to undertake water conservation measures in response to water conservation material shared with them. Presently, we are developing water conservation messages for children to be included in their curriculum in order to nudge children into responsible behaviours from an early age. Other examples include nudges to strengthen the link between the provision of public services and local property tax collection. In an experiment conducted by taxation department and local government department in Punjab, public opinion was sought on preferences for funds allocation by local governments. Later, the public was informed that 35 percent of their property taxes were spent on these public goods and services. Through this experiment, revenue collection increased by a grand 41 percent.

There are plenty of areas where nudges can be employed. For instance, by tax authorities to promote timely submission of tax returns as done in London where reminder letters from the Queen helped collect more than 9 million GBP in over a period of 23 days. Similarly, by local administration to address the problem of littering, food and water wastage for example in the United Kingdom where ballot bins helped reduce littering by 20 percent.

By influencing people's behaviour, nudges complement government directives and actions. For example, the recent ban on use of plastic bags in Islamabad can be supplemented by designing nudges to motivate residents and businesses to discontinue the use of plastic bags and adopt sustainable means to carry their groceries and dispose waste.

Finally, Pakistan can benefit by infusing nudges in policy making. Nudge units based along the models of international ones, can be established in the public sector. These units can work on identifying potential areas where nudges can offer low cost-effective solutions in addressing simple problems. Much research needs to be done in this sector and the private and public sector must work together in incorporating what can rightly be described, the future of global business.

Introduction

Nudging for Development

What are nudges and behavioural insights?

A witty trick supermarkets usually 'apply' on consumers is the unique placement of food items on their counters to promote sales for certain products. Packaged and processed foods are neatly and systematically placed on shelves that are at eye level, whilst items such as vegetables and fruits are normally placed on lower shelves or spaces, all bunched together. The idea is to increase revenue by attracting consumers through convenience and a variety of options, offered by the packaged commodities. Alternately, some supermarkets, in a bid to promote healthy eating, do the exact opposite, by placing fruits and vegetables at eye level shelves in a bid to influencing behaviours.

So what really are nudges? They are liberty-preserving approaches that not only steer people in particular directions, but also allow them to go their own way.[1] In common usage, a nudge is a gentle push intended to get someone's attention, or prod them into action. Large behavioural changes can be achieved, with small changes in behaviour through small touches. Essentially, nudges are simple low-cost behavioural interventions to steer individuals by addressing specific psychological effects to make use of or overcome incorrect choices or unhealthy behaviour. They do not specify any restrictions on behaviour but influence by giving many opt-out options and center on social interaction, social influence and related social norms. Nudges are different from mandates, bans and policies that provide economic incentives in the form of subsidies and tax reliefs etc.

Behavioural Economics

Behavioural economics, a branch of nudge theory, is often labelled as a tool to manipulate behaviour. There is a growing concern that it can serve as an instrument, especially by companies or the government, in controlling behaviours. The key negation to this concern is that nudges or behavioural economics often serve as useful tools in actually aiding people in arriving at better decisions and avoiding mistakes that they would normally make had the nudge not been employed. For instance, providing individual choices when selecting off a food menu might confuse people. However, giving deals that offer more value for money would help them make better, more informed choices. Hence, nudges actually serve to help people, or atleast provide them an array of choices so as to enhance their decision making powers. Nudges harbour the power to create social change.

Behavioural insights provide a way out, but there is room to expand its use in terms of behaviour change at a large scale. Behavioural science encompasses decades of research from various fields, including psychology, marketing, neuroscience, and, most recently, behavioural economics. For example, studies reveal that shorter deadlines lead to greater responsiveness than longer ones; hence, social and psychological factors play a significant role in shaping decisions and behaviours. Therefore, behavioural economics, when used strategically has the potential to assist in achieving any desirable objectives. The establishment of Nudge Units in the United Kingdom followed by the United States and Australia, along with several behavioural insights teams, are a testament to the fact that nudges are gaining traction to solve problems.

Nudges and Public Policy

From the public policy perspective, nudges maintain the freedom of choice for users as the goal is to make life easier, simpler and reduce people's struggle in interacting with the government. The World Bank's World Development Report 2015 identified three principles helpful in applying new behavioural insights to design and implement nudge in development policy including-minor changes in choice architecture as most of the choices/judgements made by people are automatic rather than deliberate; second, keeping social norms in mind as people tend to follow what is more socially acceptable which can help in pulling people towards certain patterns of collective behaviour; and third, using mental models that comes from the cognitive side of social interactions (culture) to promote development objectives for example stereotypes.

Application of Behavioural Insights/Nudges

Policy Cycle:
According to OECD[2], behavioural insights are usually used at a later stage in the designing of a policy and regulation which only aids in improving implementation thus, helping in identifying the gap in policy implementation and its effectiveness. The study also suggests that policy implementation can be improved if behavioural insights are taken into consideration at the designing stage of policy and regulation. While designing a policy, assumptions of perfect knowledge and rationality can be relaxed, and policy can be suggested based on data and information collected/combined from surveys and experiments pointing out behavioural barriers towards intended objectives of the policy.

Decision Making Tools:
Behavioural science alone should not be expected to solve all problems which policies fail to address. It can contribute in addressing policy related problems but may not be solely responsible to solve a problem. In such cases, 'filters' are suggested before using behavioural insights in decision making. These filters include impact assessments, initial scoping and feedback from stakeholders etc. For instance, the Executive Order mandated by United States to consider behavioural insights through evaluation of cost and benefits associated with new policy or regulation, is a significant example in this regard.

How can Behavioural Insights in Public Policy be standardized?
Public bodies can establish guiding principles to ensure utilizing behavioural insights in their strategies/policies. This may start from certain initiatives to support

1. Cass R. Sunstein (2014), "Nudging: A Very Short Guide." 37 J. Consumer Pol'y 583.
2. OECD (2015), "Behavioural insights and new approaches to policy design." Available at http://www.oecd.org/gov/behavioural-insights-summary-report-2015.pdf

policy making and implementation. For instance, design workshops, testing, and user experimentation etc. The key to addressing problems is the use of scientific methodology through data and suggesting solutions, consideration of legal and cultural context, and monitoring for short- and long-term effects.

The Practitioner's Mini-Guide to Influencing Behaviours

Syed Hasnat Masood

Behavioral Design Consultant
White Rice

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Chief Executive Officer
White Rice

#	FICTION	FACT
1	**I am not trying to solve a behavioural problem, so I don't need behavioural design.**	You probably are. Ask yourself: Do I want someone to do something differently in order to achieve different outcomes? If the answer is yes, then you are looking to solve a behavioural problem, and this mini-guide may help.
2	**My project targets a wicked problem, wickedly complex. Behavioural design cannot help me.**	Nothing can, if you are not willing to define the right problem first in the right way. Behavioural design builds that step into its process, and from there onwards you can see that a wicked problem is largely a lot of sub-optimal behaviors by a lot of human actors overlapping or multiplying within a large system. Compare this with the alternative approaches you use at present. Then decide.
3	**I intend to apply both behavioural design and behavioural economics in my projects.**	Not really. Behavioural economics is the science of developing models of economic decision-making based on human psychology. It is specifically concerned with why humans make irrational decisions. Behavioural design is the application of the principles uncovered by behavioural economics and behavioural psychology about human decision-making, economic and otherwise, and the process is rooted in design thinking. You may be doing one of the two. Most likely, the second.

4	**I already use behaviour change techniques. I don't need behavioural design.**	Maybe, maybe not. You can compare behavioural design with your own intervention design process to make a call. Here is the general structure: • Step 1: Define the problem and try to remove any embedded assumptions about why it may be occurring. Often preliminary administrative/user data is used to pinpoint the sub-optimal step or behaviour that causes the most negative impact. • Step 2: Diagnose what behavioural bottlenecks may be driving the problem. Observations and interviews help here. Behavioural maps and influence frameworks are used to map decision-action points and identify opportunities to change target behaviours. • Step 3: Ideate and design interventions that directly address the key bottlenecks that were diagnosed. Prototype them, test them with users, and improve the final design. • Step 4: Evaluate the intervention's success in addressing the problem. Most largescale interventions designed by behavioural economists use randomized controlled trials (RCTs) or difference-in-difference models to measure impact under complex circumstances. On the other hand, firms offering short behavioural design sprints to clients err on the side of agility and market feedback, focus much more on prototype-testing with users, and direct clients to run pilots on their own. • Step 5: Scale if the intervention proves successful, but only after having done sound analysis of the data to fine-tune the design.
5	**Behavioural design is a cumbersome and costly process.**	Not necessarily. There are two formats for behavioural intervention design already in the market. One is a deeper, more rigorous process that can run from 3 months to a year, mainly due to its emphasis on thorough research initially and on RCTs for evaluation later. This process is often deployed for large-scale interventions that would likely influence the shape of policy. The other more agile process (termed "Behavioural Design Sprint") can be run within two weeks. It expedites all design steps, especially by restricting early research and later evaluation. Its aim is to make the design tangible as fast as possible in order to start gathering feedback and iterating.
6	**Behavioural design means using nudges.**	Nudging is the application of insights uncovered by behavioural economics in order to influence human decision-making "without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid." It is one tool in the behavioural designer's toolbox. Incentives and adding or removing options from choice architecture are some other tools. That said, nudges are the most popular behavioural design tool, because they often are minor adjustments with big rewards.
7	**Nudges are a cure-all!**	A nudge works best when the target group is positive about the behaviour the nudge is prompting. If there are strong prior preferences to act against the behaviour the nudge is promoting, the nudge is likely to fail. There are other reasons for failure too. Poor design, compensating behaviours, and short-term effects can stump behavioural designers.
8	**Nudges are common-sense communication tactics I can come up with myself.**	First of all, nudges are not common-sensical, because common-sensical things are by definition evident and nudges are tactics addressing mental shortcuts or cognitive errors humans make without knowing. Second, even if the success of certain types of nudges is known from other experiments, applying similar nudges without deference to a particular context and target group could backfire.

Littering

The Problem

Littering is a common behavioural issue in Pakistan–one that not only creates aesthetically unappealing sites but also has serious environmental repercussions. Garbage on streets, parks and residential areas is a common site in many cities of Pakistan and although the absence of a proper solid waste management system is partly responsible for it, individuals' behaviour towards littering has further aggravated the situation.

Access to dustbins in public places is the first and most common solution to this behavioural issue. However, this often fails to eradicate the problem because of two reasons. One, there is a cost in terms of time and effort attached to walking to the nearest dustbin and dumping litter in it. Most people resort to the easiest option by littering in the closest public space. Second, is the perception that one own's individual action is underestimated in what it might contribute. A small wrapper dropped on the street by a person has almost a negligible impact but when the same action is repeated by many people, a significant amount of litter adds up by the end of the day.

If the monetary costs of imposing fine are to be avoided–how else can we nudge people to not litter? Many countries have experimented with a range of ideas borrowed from the theories of behavioural economics to address the issue of littering. Some of these examples are discussed below.

The first solution applied is to increase the availability and accessibility to litter bins so as to reduce the cost of waste disposal for individuals. State authorities will have to ensure that bins are available in all public places and especially, in areas where people tend to gather, eat or smoke. The location of bins should be carefully selected to ensure that sufficient bins are available in areas where litter tends to gather the most.[1]

However, the placement of bins alone will most likely not have the desired impact; they also need to attract attention. This has been done in a variety of ways; 1) Painting bin in bright colours, 2) Enlarging the size of the bin designated for recyclable material, or 3) Designing the bins in an intriguing manner that attracts the target audience etc.[2]

i. Nudging through Creativity

A charity in UK by the name of Hubbub Foundation has used a variety of creative and engaging tools to find out the best way to discourage littering in people. The Neat Streets campaign by Hubbub Foundation has helped to reduce littering on the streets of London, Manchester and Edinburgh. Some of its most successful initiatives include the interactive dustbins that have been replicated in many countries. Research showed that most of the littering is done by young men that gather in the evening and the most littered item is cigarette butt. To

1. Clark, J. (2015) "Nudge Theory – how to stop people from dropping litter?" Article on Tutor2u. Online. Available at: https://www.tutor2u.net/economics/blog/nudge-theory-how-to-stop-people-picking-up-litter
2. Kolodko, J., Read. D. and Taj, U. (2016) "Using behavioural insights to reduce littering in the UK." Report for Cleanup Britain. Warwick Business School

target these young smokers, the ballot bin was created.[3]

The image shows ballot bins that display a question and asks people to vote on either of the two answers given. People vote by putting in cigarette butts in either of the two slots underneath each answer. With a glass at the front, the most popular response can be seen by the number of cigarette butts stacked in each column. This creates a fun and interactive way to encourage people to throw cigarette butts in the bin rather than on the streets. The questions are framed according to the interests of the target audience. For instance, if a bin is placed in an area where people often gather to watch sports events in the evening-the bin could have a question related to an upcoming match or a voting contest between two favourite players.[4]

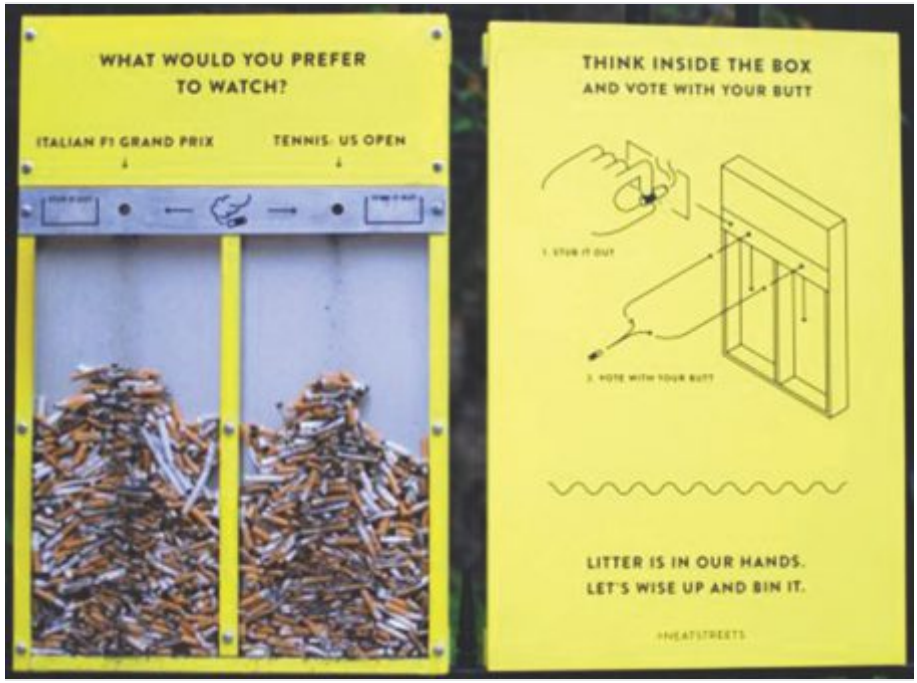
Measuring the impact of ballot bins over six weeks on Villiers Street of London, the Foundation found that its installation had reduced the number of cigarette butts thrown by smokers on the streets by as much as 20 percent. It has since then been replicated by many countries and is found to reduce littering by as much as 46 percent.[5]

ii. The Case of the Caramel Sweets

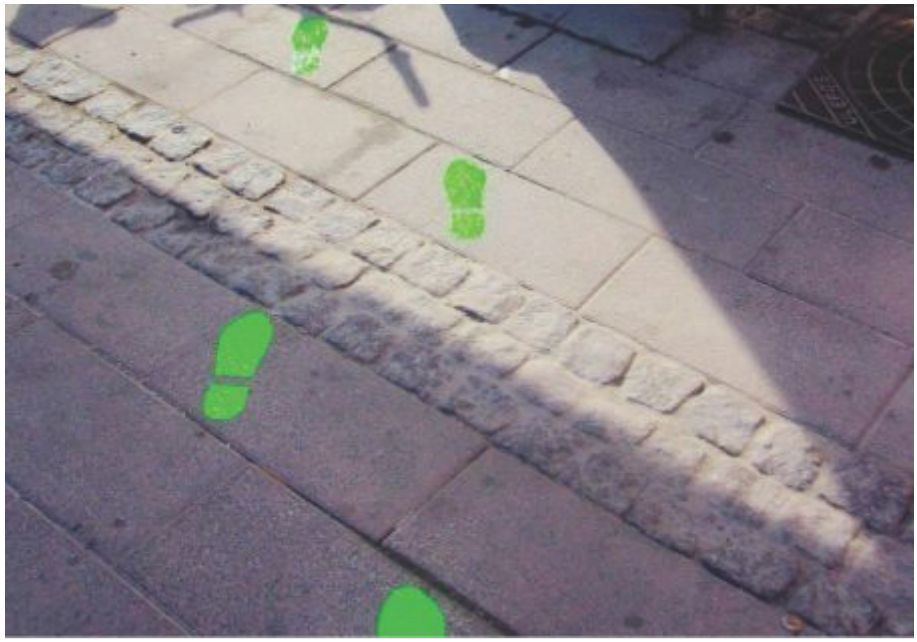
In 2011, a study was done by students from University of Southern Denmark led by Professor Pelle Hansen, to assess the impact of visual cues on people's behaviour towards littering. In the experiment, 1000 caramel sweets were given to pedestrians on the streets of Copenhagen. Later, all the nearby garbage bins, ashtrays, bicycle baskets and other places were checked to count the number of wrappers thrown. The same experiment was repeated for the second time but this time bright green footsteps leading up to the nearest garbage bin were painted on the ground. This change led to a 46 percent decrease in the number of littered wrappers showing that the green footsteps had caught people's attention, igniting a subconscious need to follow the footsteps while making them feel more cautious about littering.[6]

iii. 'Bin It For Good'

Another charity in UK, Keep Britain Tidy, ran a campaign with the name of 'Bin It For Good' to encourage people to throw litter in the bins rather than dropping it on the streets. The positive behaviour was reinforced by attaching the act of 'donating' for a local charity with putting litter in the bins. For a period of three months, a local charity was sponsored through colourful bins wrapped with posters that explained to the people in the area that the more litter that goes in the bins, the more donation is received by the local charity being partnered with. The charity was selected on the basis of the cause it advocated for and how well-known it was to the local people. The outreach of the campaign was also done using local media channels and social media tools.[7]



The campaign helped nudge people towards the use of bins in two ways; first, the eye-catchy and poster clad bins with the extensive local media coverage made the bins more prominent and secondly, the act of throwing litter also had tangible positive return - the satisfaction of knowing they are giving back to their community by helping a local charity. The first pilot campaign found that litter on the streets had reduced by as much as 42 percent on average. The next wave of campaign found that littering had reduced by 30 percent on average in all neighborhoods that it was implemented on.[8]



3. Hubbub Foundation. Available at https://www.hubbub.org.uk/
4. ibid
5. ibid
6. Jespersen, S. M. "Green Nudge: Nudging litter into the bin. I Nudge you–The Applied Behavioural Science Group. Online." Available at: https://inudgeyou.com/en/green-nudge-nudging-litter-into-the-bin/
7. "Keep Britain Tidy." Available at: https://www.keepbritaintidy.org/home
8. ibid

Safer and Sustainable Transport

The Problem

With the urban population growing at 2.70 percent annually in Pakistan, it comes as no surprise that traffic congestion is common in big cities and road accidents are frequent. Growing population has not only increased the number of private vehicles on the road but it has also increased the demand for public transport. Although avenues for public transport are limited in Pakistan but with the increasing investment in Bus Transit System, railway and other transport means, both public and private players are increasingly looking for tools to influence positive behaviours that can generate safe and sustainable transport.

The transport sector is vast and there are many facets to it that can be improved through user behaviour. In public transport, the rush during peak hours is a problem for commuters that can unnecessarily prolong waiting time, create traffic congestion and lead to extremely packed buses and railways to the point of being unsafe. The following are some case studies conducted for nudging towards safer and sustainable transport:

i. Peak Travel Hours

In India, the Bangalore Public Transport Company partnered with Stanford University to explore ways to reduce travel during peak hours. In the pilot project, lottery tickets were issued with transit passes to discourage travel during peak hours. The more a passenger travelled during off-peak hours, the more chances he or she had of winning the lottery. A 17 percent decline in commuters traveling during peak hours was registered through the new lottery system and it was even found to be economically sustainable as well.[1] This nudge was targeting people living on the peripheries of the city who can be flexible with their commute travel times. In Pakistan, peak hour travel can be discouraged in commuters of metro and other buses through similarly designed nudges.

ii. Road Safety

Warning signs on roads are common for controlling high speed flow of traffic but yet accidents still take place because drivers fail to pay heed to signs on speed limit. In Sweden, cameras have been installed for traffic safety and control but they are used only 5-10 percent of the time. Only the presence of cameras with a road sign attached is sufficient to serve as a strong nudge for people to drive carefully.[2]

Another alternative is to use design elements on the road to send subliminal signals to drivers that they are entering a different area and hence, need to slow down. This could be done in the form of markings on the pavement, changing the surface texture or painting stripes on the road. In Chicago, accidents would often take place on a dangerous S-curve on the Chicago's Lake Shore Drive despite the 25 mile per hour speed limit signs posted alongside the road. To address this issue, authorities painted a warning sign on the pavement well before the S-curve began and followed it with a series of white stripes that were gradually painted closer to each other as the curve got closer. This nudge created a visual warning for the drivers to slow down and alerted them in a more powerful way than just a speed limit sign was able to. It led to a 35 percent decrease over six months in the number of accidents reported on the curve.[3]

iii. Nature for Nudging

Visual cues have also been used in other creative ways to reduce speed. In Norfolk City in UK, 200 trees were planted at a decreasing distance along the roadside while approaching the village to give the allusion of high speed. This in itself prompted drivers to reduce their speed.[4]

1. "How can 'nudges' improve our transportation network." Blog post in Mobility, Urbanity and Ecology. A blog managed by students of The University of Iowa. Online. Available at: https://uiowatransportplanning.wordpress.com/2015/10/30/how-can-nudges-improve-our-transportation-networks/
2. Wijers, P. (2017). "Nudging Traffic". Blog post in Making Cities Safer. Online. Available at: https://making-cities-safer.com/nudging-traffic/
3. How can 'nudges' improve our transportation network. Blog post in Mobility, Urbanity and Ecology. A blog managed by students of The University of Iowa. Online. Available at: https://uiowatransportplanning.wordpress.com/2015/10/30/how-can-nudges-improve-our-transportation-networks/
4. Wijers, P. 2017. Nudging Traffic. Blog post in Making Cities Safer. Online. Available at: https://making-cities-safer.com/nudging-traffic/

iv. Stickers

Both passengers' and drivers' behaviour can also be changed through simple messages posted inside buses, railways or trains that prompt readers to act. The language of the message can have a powerful impact and as commuters are not engaged in much activity, they are bound to read the message and act upon it. For instance, in Kenya, stickers were placed inside buses prompting commuters to report against reckless driving. This led to a decrease in accidents not only because commuters started reporting more against reckless driving but also because it changed the attitude of the drivers.

Adherence to Medication

The Problem

Often patients of hypertension, diabetes and high cholesterol are prescribed a long course of medication, spreading over six months or more. Strict adherence to such a long-term medication schedule reduces the burden on the public health system and/or the patient's own out of pocket expenditure on health as well. Non-compliance means that patients have to frequently re-visit doctors in the future and spend more on healthcare. However, despite knowing the benefits of adherence to medication, patients often fail to follow through. This could be for a variety of reasons, either behavioural or rational, that causes patients to not complete the medication course or frequently skip medication in between. While different interventions are needed for different root causes of non-compliance, the 'forgetfulness' factor can be addressed through some targeted nudges.

Pharmacists and public health professionals have developed and tested a number of products and tools that can provide timely reminders and alerts for a missed dose. This ranges from text messages, email alerts to mobile apps and smart pill bottles that would glow and emit a sound to let patients know when a dose is missed. A low-tech version of a smart pill bottle is 'calendarized' packaging of medication for patients to easily follow through the schedule.[1] The following are some case studies conducted for nudging adherence to medication behaviour:

i. The Commitment Sticker

A joint research by University College London and Columbia Business School in collaboration with the pharmacy, Boots, in UK used behavioural theories to improve patients' adherence to medication. It tested the claim that patients are more likely to regularly take medicines if they are asked to make a commitment based on the personal consequences it might lead to. In the pilot experiment, two groups of patients were asked to sign one of the two types of commitment stickers when purchasing medicine; one with a warning on the consequences of non-compliance on personal health, and the second with a statement on the financial costs of non-compliance to the society as a whole. It was found that the patients who signed a commitment sticker with a warning on personal health consequences were more likely to adhere to their medication course than the group who were told about the financial costs to the society.[2]

ii. Gifting Gift Cards

Another study was conducted by Oklahoma Health Care Authority to assess the impact of different nudges on patients' compliance to intake of statins, a medication that is used to control health related outcomes, such as heart attacks and strokes. As patients who are prescribed statins may not feel any symptoms for a long time, they are likely to frequently miss a dose. However, to control heart diseases it is important that any patient who is prescribed statin should take it regularly. To improve adherence to this medication, Oklahoma Health Care Authority attached a small incentive in the form of a USD 5 gift card with each appointment scheduled for monitoring cholesterol levels and complemented this with salient messages explaining the consequences of not taking the medicine. This intervention led to a 75 percent increase in adherence to statin in the control group.[3]

iii. Winning the Lottery

The same authority also conducted an experiment to improve adherence to warfarin-a medicine prescribed for preventing blood clots. The patients were given a pill box that had a sensor attached to it to monitor pill intake. The financial incentive was a lottery win. Each day the pill was taken, the patient had either a high probability of winning USD 10 or a small probability of winning USD 100. If a dose is missed, the patient was automatically disqualified from entering into the lottery the next day. To further enhance the negative impact of being disqualified, the patients were sent a message highlighting what they could have won if they had not missed a dose. With a lottery awarded every five days, the experiment costed USD 3 per day per patient but it led to a decline from 22 percent to 3 percent in per day missed dosage.[4]

1. Abdukadirov, S., King, S. and Wille, D. (2016) "Taking Paternalism out of Nudge: The case of medication non-adherence among patients with chronic conditions". Mercatus Working Paper. Mercatus Centre. George Mason University.
2. Smith, A. (2019) "Boots test 'behavioural nudge theory' for medication adherence." Pharma Times. Online. Available on http://www.pharmatimes.com.
3. O'Leary, J. and Murphy, T. (2017) "How state and local governments can use nudge thinking to improve outcomes: beyond carrots and sticks." Deloitt Insights.
4. Ibid

Case Studies

Healthy Eating

The Problem

A healthy diet prevents malnutrition and non-communicable diseases (NCD) such as cancer, diabetes, heart related diseases, stroke etc. In 2017, approximately 11 million of deaths were attributable to unhealthy diet with low fruit and vegetable intake.[1] Promoting healthier eating cannot be stressed enough. Promotion of healthier eating is also aligned with the Global Agenda, it contributes to Sustainable Development Goal 3-Good Health and Well-being.

Amid food shortages, poverty, malnourishment, and lack of knowledge regarding healthy eating, 50 percent of population in Pakistan is obese which is a major cause of diabetes . Pakistan also experiences one of the highest prevalence in child malnutrition as compared to other developing countries; with little reduction in over the last two decades. National Nutritional Survey of Pakistan reports 33 percent children underweight (2011), almost 44 percent stunted, 15 percent wasted, and 50 percent anemic. Promoting healthier eating, thereby, is an equally important policy concern for Pakistan.

Despite several policy measures taken to educate and train consumers to opt for healthier eating habits, there has been limited success. More than another regulation or policy, people need a behaviour-a mind-set change-towards their dietary choices. Nudges based on social experiments can go a long way in creating that change.

Several measures can be adopted at community or city level nationwide in order to encourage healthy eating. For instance, popular cartoon and TV shows can be utilized to influence and encourage healthier food choices amongst children and adults. Shows based on superheroes-Burka Avenger in the case of Pakistan-can greatly influence behaviours. The following are some case studies conducted for nudging healthy eating behaviour:

i. 'Lazy Town'

Iceland, in realizing the prevalence of obesity and unhealthy routine amongst children, tried to influence their behaviour using a nudge. They observed children's daily routine and realized that 'Lazy Town', an Icelandic TV show, was quite popular amongst them. The government, leveraging on the popularity of this show partnered up with Lazy Town producers to introduce various health initiatives for promoting healthier eating and exercise amongst children. For instance, in one such initiative, in a large super market chain, they relabelled fruits and vegetables as "Sports Candy", the same name the show used for fruits and vegetables. This simple change triggered a 22 percent increase in the sale of fruits and vegetables in the supermarket, thus helping lower child obesity by nudging towards healthier food choices. Lazy Town gained its popularity in 1996 and since then, child obesity rates have reduced among 9-year-old children.

ii. The Power of Mobile Apps

Apart from deliberately eating unhealthy food, a huge proportion of people end up adopting unhealthier food choices due to limited availability of information as well. Realizing this need, a free smartphone app was developed[2] in America with the name of "FoodSwitch" to promote healthier food choices. For instance, anyone in a supermarket could use this app to determine the healthier food alternatives before adding anything to their baskets. This app can tell you what nutrients you are eating and suggest healthier alternatives for you and your family. Owing to its success, the app is now operating in Australia, China, Fiji, Hong Kong, India, New Zealand, South Africa, and United Kingdom.

iii. Using Positives and Negatives

Unhealthy diet choices are a global concern which lead to obesity and other chronic diseases. Realizing the need to intervene, over the past decade, the government of New South Wales (NSW) in Australia introduced a series of nutrition standards with the goal of promoting healthier food choices at schools, workplaces and health facilities.

One such initiative was 'Traffic-light-based' nutritional classification under which food was rated on three positive and two negative criteria. Where, the positive criteria were having one of these as the main ingredient – 1) a fruit or vegetable, 2) whole grain, or 3) lean protein/low fat dairy. Whereas, the negative criteria were to have fat and calorie content. Food with more positive rating was labelled green, with more negative criteria red, and with equal quantities yellow. Research revealed that a modest decrease was observed in the purchase of food with red labels and a small increase in the purchase of those with green labels. This scheme has been replicated in other parts of the world such as USA, UK, and many parts of Europe.

1. World Health Organization. Available at: https://www.who.int/gho/ncd/risk_factors/unhealthy_diet_text/en/
2. Designed by The George Institute for Global Health

Food Wastage

The Problem

Approximately, 1.3 billion tons-one third of the world's yearly food production-gets lost or wasted.[1] This wastage amounts to USD 680 billion in industrialized countries and USD 310 billion in developing countries-dissipating an amount of 670 and 630 million tons respectively.[2] Hence, more than a billion tons of food never gets consumed each year. In a world where one in nine people remain undernourished and approximately 795 million people go hungry, everyday food wastage is not acceptable.[3] To top that, 97 percent of food waste ends up in landfills, where the rotting food produces methane gas which is 30 percent more potent than the CO_2 as a greenhouse gas adversely impacting environment as well.[4]

Reducing food wastage thereby can result in a triple win for the world: for the economy, the food security and the environment. Realizing the need of the hour, many countries have introduced interventions to curb food wastage.

In developing countries 40 percent of food wastage occurs during post-harvest and processing whereas, in developed or industrialized countries, 40 percent food wastage occurs at 'retail and consumer' levels.[5] Food wastage is a universal concern and in Pakistan this problem is no different. In Pakistan, 40 percent of the food produced gets wasted during supply chain (production, post-harvest, transporting, processing) and at the consumption level.[6]

Unfortunately, apart from food loss in the supply chain, Pakistan loses a good amount of edible food particularly at weddings, catered events, buffet restaurants and overall at the household level. In a country where 6 out of 10 people go to bed hungry, food wastage is almost a crime. Pakistan must adopt nudges to influence the behaviour of Pakistani people to encourage them to make efficient use of food and reduce food wastage. These can be through food wastage information and awareness campaigns and partnerships between the government and restaurant/hall associations aimed at reducing and recycling food wastage at events etc.

Along with concrete policy interventions, countries have used behaviour influencing interventions to address food wastage. A few such cases are detailed below.

i. 'Stop Wasting Food'

Denmark is one of the leading countries in Europe that has reduced 25 percent of its food wastage in the past 5 years through its efforts. "Stop Wasting Food" commenced in 2008 in Denmark, and is its biggest movement against food waste; under which numerous projects, campaigns, events, debates and dialogues, and research projects have been launched to influence people's behaviour towards reduction of food waste. A few such efforts/experiments are mentioned below:

1. Goodie bags: It is popularly believed that Danish people only use "doggybags" to take food home if the waiter offers them. Understanding it might have to do with something related to the name and cost associated with it, in 2013, a conscious effort was made to rename the bags to "Goodiebags" to prevent people from feeling embarrassed to take food home. Stop Wasting Food and Unilever in collaboration, distributed over 60,000 of these free, which considerably reduced food wastage.

2. Information Campaigns: It was realized that if people aren't aware of what constitutes as food waste then they won't be able to prevent food waste. Thereby, Stop Wasting Food launched an information awareness campaign to educate people on how food gets wasted in their daily routines and how to prevent that. For instance, food gets wasted if you buy more than you really need, if you discard a wrinkled or bumped fruit instead of cutting off the wrinkled part, or putting newly purchased goods in the freezer before you have finished the same old ones etc.

3. Reduction in Plate Size: This was just a popular experiment attempted to see the effect of different size of plates on the amount of food wasted. At a standing lunch of 220 CEOs in the Danish Opera House, two different serving size plates were served at identical food tables. The experiment revealed that people with smaller plates left significantly less food to waste as compared to those with larger plates.

ii. Using Signage

In Vancouver, food wastage accounted for 40 percent of the total household garbage.[7] For reducing food wastage, city authorities set a goal to double the organic waste collection in a year. Under this goal they collected food scraps from all homes and duplexes on a weekly basis and built a new facility to compost it. For encouraging people to become part of it or to create their own composts in their communities, Metro Vancouver–a federation of 21 municipalities–started distributing free recycling signage with consistent colours and branding on their website. Consistent signage and colour at school, work, market, or around common recycling rooms helps people in reminding them regarding the benefits of recycling and environmental protection. They introduced signage in different languages to cater to the different populations residing in Vancouver such as Chinese and Punjabi. Since the commission

1. UN's Food and Agriculture Organization. Available at: http://www.fao.org/save-food/resources/keyfindings/en/
2. Ibid
3. Ibid
4. The Business case for reducing Food Loss and Waste. Available at: http://www.wrap.org.uk/sites/files/wrap/Report_The%20Business%20Case%20for%20Reducing%20Food%20Loss%20and%20Waste.pdf#page=3
5. Supra 1
6. The State of Food Security and Nutrition in the World 2018. Available at: http://www.fao.org/3/i9553en/i9553en.pdf
7. As reported by the Vancouver Mayor Gregor Robertson.

of the effort, around 26,000 tons of food scraps and yard waste has been collected and undergone composting in Canada. This nudge served a manifold purpose: to target food wastage whilst encouraging recycling practices. Hence, nudges sometimes have the capacity to target multiple issues via a single mechanism.

iii. Expiration Dates

Even France is dealing with the food wastage issue. Annually, France produces 10 million tons of waste food -including tons of edible food-costing the economy 16 billion euros per year.[8] If that is not enough, France also bears a huge environmental cost as food waste emits 3 percent of the country's carbon emission-15.3 million tons of CO_2.[9] The country has been fighting the issue of food wastage through policy interventions and behaviour influencing measures simultaneously. In the past 5 years, the French Government created several new laws, regulations, and campaigns to promote reduction in food waste at both company and household level. It is the first country to place a ban on supermarkets from disposing of unsold food items.

Apart from these policy efforts, few behavioural nudges have also been adopted. For instance, it was commonly observed that people refrain from buying food that was edible but was soon approaching its expiry date. A French start-up created an app-OptiMiam-to influence people's behaviour regarding shelved food approaching its expiry date. Even the name of the app was a nudge to make people feel good about shelved food as French word "miam" means yum. The app allows consumers to purchase food on cheap rates if the food is close to, but has not passed its expiration date. This app is currently functional only in Paris but has indeed contributed to the waste reduction in food.

iv. Love Food Hate Waste

In UK, millions of tonnes of good food is discarded; with 1.9 million tonnes of food wasted by the food industry alone.[10] The annual loss of food in terms of cost amounts to approximately GBP 20 billion[11] Approximately 250,000 tonnes of food discarded is still edible; which can make up to 650 million meals.[12] Realizing the need to intervene, WRAP–a UK based organization–created "Love Food Hate Waste" programme to educate people regarding unnecessary food wastage and to teach them strategies on how to prevent it. Most people do not consume the entire fruit or vegetable resulting in accumulation of skins, leaves, stalks and crusts as food waste. Love Food Hate Waste programme educates people regarding recipes for consuming the left-over fruit and vegetables. Yet another nudge that is geared towards decreasing food wastage.

8. French Agency for the Environment and Energy (ADEME).
9. Ibid
10. Figures from WRAP, Quantification of food surplus, 2016
11. The Business case for reducing Food Loss and Waste. Available at: http://www.wrap.org.uk/sites/files/wrap/Report_The%20Business%20Case%20for%20Reducing%20Food%20Loss%20and%20Waste.pdf#page=3
12. Figures from WRAP, Surplus food redistribution in the UK 2015-2017, 2018

Paying Taxes

The Problem

Sustainable sources of funding for social programs and public investments are required to foster economic growth and development. Programs that are aimed at promoting socio-economic uplift through providing health, education, infrastructure and other services are important to achieve the common goal of a prosperous, functional and orderly society.

For this, it is imperative that governments raise revenues. Taxation not only pays for public goods and services; it is also a key ingredient in the social contract between citizens and the economy.

The amount of income tax paid varies between countries, from almost 60 percent for high earners in certain countries to 0 percent in some offshore havens and oil-rich nations. Sweden tops the list with a whopping tax rate of 56.86 percent, followed closely by Denmark (56.22 percent), France (54.01 percent), and Spain (52 percent).[1]

Pakistan has one of the lowest tax collection rates in the world. As of 2017, only 1.6 million people in the country filed tax returns. Out of them, 400,000 showed income below the taxable income levels, another 200,000 had minimal tax, and only 950,000 paid tax of any significance. There is now political will to push through changes and revise the tax system altogether. Several policy and behavioural measures are being taken to encourage citizens to pay taxes. In doing so, Pakistan can learn from other countries who have used nudges in promoting tax paying behaviour:

i. The Power of the Pen

It was assessed that the UK Government loses billion in tax revenues because the tax payers often get late in making their payments. The UK Behavioural Insight Team (BIT) therefore, conducted a number of trials to investigate an effective way to motivate tax payers to make their payments. The late tax payers were sent letters

from Her Majesty's Revenue and Customs (HMRC) reminding them of their obligation.

With the help of HMRC, around 200,000 tax debtors were sent one of the following five kinds of reminders based on randomized controlled trial. The five types included the following social norms:

i. Basic norm: "Nine out of ten people pay their tax on time"

ii. Country norm: "Nine out of ten people in United Kingdom pay their tax on time"

iii. Minority norm: "Nine out of ten people in United Kingdom pay their tax on time. You are currently in the very small minority of people who have not paid us yet"

iv. Public gain: "Paying tax means we all gain from vital public services like the National Health Service, roads and schools"

v. Public loss: "Not paying tax means we all lose out on vital public services like the National Health Service, roads and schools"

The sixth controlled group was sent a usual letter for payment of taxes. The two other norms tested included Descriptive norms (paying taxes is the right thing to do) and injunctive norms (most people think that paying taxes is the right thing to do).

Both norm-based and public-good increased the likelihood of people paying taxes. The impact is as follows;

- Basic norm raised the tax payment rate by 1.3 percent
- Country norm raised by 2.1 percent
- Minority norm raised by 5.1 percent with largest effect
- Both Public good messages raised the payment by 1.6 percent

With encouraging tax payment by social norms, HMRC ended up collecting more than 9 million GBP in over a period of 23 days and similar messages were also included in the HMRC letters for tax payment.

1. World Economic Forum, Global Competitiveness Report 2015-16

Nudging for Development
Tax Collection Case Study

THE BEHAVIOURAL INSIGHTS TEAM

Note: The Case Study has been contributed by the Behavioural Insights Team.

Definition of the problem

Collecting taxes is a challenge for many developing countries, and this is certainly true for Pakistan. Pakistan's authorities have long-suffered difficulties establishing effective tax collection practices.[1] Reform of Pakistan's tax system is much needed-currently, it is estimated that only 1-2 percent of the working-age population is a registered taxpayer,[2] -1.4 million-[3] and the country has one of the lowest tax-to-GDP ratios in the world. The World Bank says that in order to support Pakistan's economic growth, reforms to improve tax administration, widen the tax base and facilitate tax compliance are critical (World Bank, 2019).[4]

Low tax revenues are somewhat due to a lack of taxpayer compliance; including both:

1. Whether eligible people file and pay tax returns and,
2. Whether these tax returns are accurate.

In the Pakistani context, lack of understanding of the benefits of paying taxes and lack of government trust are two frequently cited reasons for evasion of paying income tax. In such a context, non-regulatory interventions rooted in behavioural economics can provide a valuable alternative to more conventional reform programs.[5] The behavioural economics literature presents a range of possibilities for enhancing tax compliance. These include simple reminders to taxpayers, deterrent messages underscoring the legal obligation to pay taxes, and appeals to social norms or to a sense of moral duty. A number of experiments[6] suggest that interventions that increase the perceived probability of enforcement actions and/or the perceived severity of sanctions are the most effective in boosting taxpayer compliance.[7] However, local contextual factors influence the magnitude of the effects recorded in these studies. Most importantly, the low cost of these experiments and their potential to increase fiscal revenue have underscored the enormous value for money that behavioural interventions can generate.

How have nudges been previously used to address the problem: Examples from around the world

The Behavioural Insights Team (BIT) has run many trials targeted at increasing tax revenues by making simple changes to communications sent to taxpayers. While these behavioural nudges were originally tested with Radomised Controlled Trials (RCTs, considered the gold standard in evaluation) in the UK context, they have since been applied to a number of different countries and cultures globally. The following case studies outline BIT's recent work to improve tax collection in Indonesia, Guatemala and Costa Rica using behavioural insights.

i. Increasing tax compliance with the Indonesian tax authority

BIT supported the tax office and social security agency to establish a behavioural insights function at each organization, with the skills and structures to run their own projects. BIT built capacity of government officials while working with a team of civil servants in each institution to design and test the impact of different email reminders on compliance behaviour. These projects brought forward millions of dollars in payments owed to the government and facilitated rapid adoption of evidence-based policy, ensuring better provision of public services for millions of Indonesian citizens.

Working with the Indonesian tax authority (Direktorat Jenderal Pajak, or DJP), BIT ran their largest RCT ever, with 11.2 million taxpayers. The aim was to encourage taxpayers to submit their annual tax return at least two weeks before the deadline. In previous years, the online filing system crashed and there were long queues at local tax offices for manual filing because many taxpayers filed at the last minute. Such situations can erode tax morale and negatively impact tax revenue. Six weeks before the filing deadline in 2018, we tested six different email messages against a 'no email' control. These messages were co-designed with representatives from four DJP directorates, and most used very different language to conventional taxpayer communication in Indonesia, which tends to focus on regulations. The best-performing message highlighted that early filing avoids problems, and it provided a link to a website where taxpayers could choose a filing date and receive reminders in the run-up to that date.

Preliminary analysis indicates that it increased early filing by 7 percent and overall filing by 2 percent. It also brought forward an extra USD 1.93 million in tax payments at the point of filing, equivalent to USD 13.53 million if scaled to the whole sample.[8] The following year, DJP sent the email to all personal income taxpayers registered for online filing. This demonstrates that the adoption of evidence-based policy is often faster and more scalable when the evidence is generated by policy practitioners through capacity building initiatives.

1. Al Jazeera (2019), "Why Pakistan's economy is sinking." Available at https://www.aljazeera.com/indepth/opinion/pakistan-economy-sinking-190628174320798.html
2. According to Gordon and Li (2009) this is consistent with other developing countries. Gordon, R. and W. Li (2009). "Tax structures in developing countries: Many puzzles and a possible explanation." Journal of Public Economics 93, 855-866.
3. Federal Board of Revenue, as of December 2018
4. World Bank, "Overview of Pakistan." Available at https://www.worldbank.org/en/country/pakistan/overview
5. Slemrod, J., & Weber, C. (2012). "Evidence of the invisible: toward a credibility revolution in the empirical analysis of tax evasion and the informal economy." International Tax and Public Finance, 19(1), 25-53.
6. Hallsworth, M., List, J. A., Metcalfe, R. D., & Vlaev, I. (2017). "The behavioralist as tax collector: Using natural field experiments to enhance tax compliance." Journal of Public Economics, 148, 14-31.
7. Many of the works cited by Hallsworth dealt with the timeliness of tax filing, rather than the rate of payment or the total amounts reported.
8. USD 1.93 million refers to the money brought forward by the best performing version of the message - i.e., the best performing arm of the trial.

ii. Behavioural interventions in tax compliance: using reminders to promote tax compliance in Guatemala

In Guatemala, BIT worked with the Guatemalan Tax Authority (Superintendencia de Administración Tributaria, SAT) to carry out an RCT using reminders to promote tax compliance. The motivation behind this experiment was to see if tax reminders sent by the SAT could be effective at increasing tax declarations and payment in Guatemala. Individuals and businesses that had failed to declare their income tax for the 2013 Tax Year were randomly assigned to one of five treatment groups. One of the groups received the conventional letter sent by SAT each year. The other three groups were sent the conventional letter and specially designed letters that were developed using behavioural design. The fifth group was a control group that was not sent any letter. The specially designed letters dealt with the following. Three of the letters included additional persuasive messages:

- one included a social norms message,
- another highlighted non-declaration as a deliberate choice, and
- the third emphasized national pride.

The results show that whilst all letters were successful at increasing the rate of declaration relative to the control group, only two of the letters were successful at increasing the rate of payment. The conventional letter helped to increase declaration rates but did not have a statistically significant effect on the rate of tax payment or the amount paid relative to the control group.

The two best performing letters were the social norms and deliberate choice letters. These letters increased the rate of payment as well as the average amount paid, overall more than tripling tax receipts. The social norms and deliberate choice letters increased the average amount paid per taxpayer by USD 13.97 (210 percent) and USD 17.95 (269 percent), respectively, relative to no letter.

These results provide evidence that increasing the moral cost by referring to a social norms condition has a significant impact on payment. The results also show that framing the decision to evade as a deliberate choice can have a significant impact over and above the reminder and deterrent message. This message is aimed at removing inaction as a strategy to avoid blame and thereby remove the tendency to remain with the status quo of inaction.[9]

BIT estimated that the best performing letter (the deliberate choice letter), if sent to all taxpayers in the sample, would have generated an estimated USD757,837 of extra tax revenue in 11 weeks compared to no letter. The intervention is cost effective as the increase in revenue will be approximately 35 times more than the cost of sending out the letters. This will also reduce the administrative costs for the tax authority by encouraging taxpayers to pay earlier.

The sample included individual and business taxpayers and so, unlike previous studies in literature, BIT were able to estimate the impact of the same behavioural messaging on both types of taxpayers. The results are similar for individuals and businesses. This is the first such result, to our knowledge, that shows a positive impact on tax payment of increasing the moral cost for businesses.

iii. Increasing tax payments in Costa Rica

In Costa Rica, BIT tested sending emails to businesses to increase tax payments (an even lower cost intervention than sending letters). Working with the World Bank and the tax authority in Costa Rica, BIT sent emails to 12,515 firms that had failed to submit their 2014 income tax declarations. The tax authority also had third-party information on transactions made by all of these firms from the 2014 tax year (recorded by other firms, state institutions and credit or debit card sales).

Firms were randomly allocated to receive one of: no email; a behaviourally informed email (which was personalised, included a deterrence message, and contained a direct web link); or the same email but additionally including examples of transactions made by the recipient firm and highlighting that these were known by the tax authority.

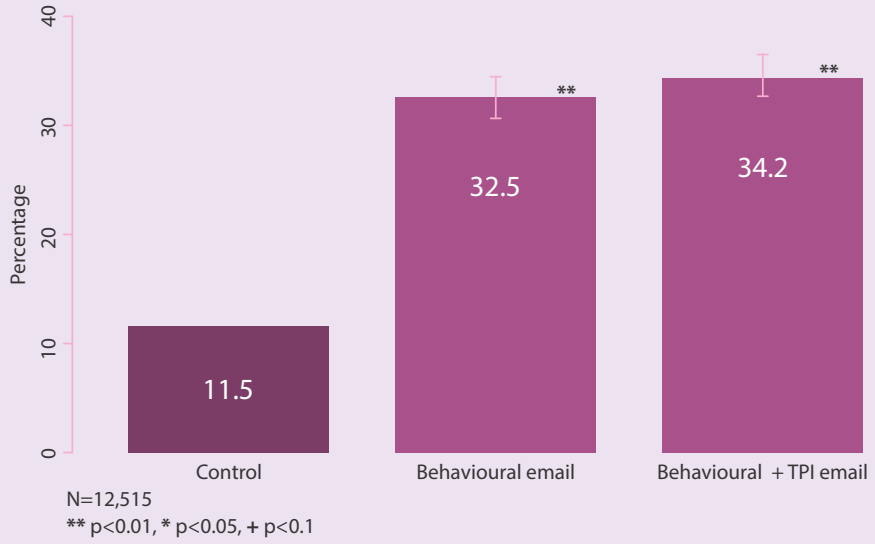
The results show that the behavioural email reminders nearly tripled the rate of declarations by firms from 11.5 to 32.5 percent. Including third-party information in the email increased declaration further still, to 34.2 percent (Figure 1). The behavioural emails also increased the

Box 1: Social Norms Messaging

Social norms communicate how one is expected to behave in a given context. Correcting misperceived social norms about what others do and approve of in the context of paying taxes can prompt people to shift their behaviour towards the norm, thereby helping to increase tax revenue.

For example, in our tax trial in the UK, when people were told in letters from Her Majesty's Revenue & Customs (HMRC) that most people pay their tax on time, it significantly increased payment rates. The most successful message led to a 5 percentage point increase in payments.

Figure 1: Rates of tax declaration under different email conditionsto 2070



9. Hallsworth, M., List, J. A., Metcalfe, R. D., and Vlaev, I. (2014). "The Behavioralist as Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance" (No. W20007). National Bureau of Economic Research.

10. Al-Jazeera (2018), "Pakistan's new rulers grapple with an old problem: How to get people to pay taxes." Available at https://www.reuters.com/article/us-pakistan-economy-tax/pakistans-new-rulers-grapple-with-an-old-problem-how-to-get-people-to-pay-taxes-idUSKCN1NL12W

average amount paid from USD 9 to USD 24, with specific third-party information increasing payment further to USD 27 (although this was not statistically significantly different from the behavioural emails without third-party information).

The emails were also found to increase the rate of tax declaration and payment in the tax year prior to the intervention, showing that taxpayers were more likely to catch up with previous outstanding obligations. Additionally, one year later, the emails were then found to increase declaration and payment in the tax year following the intervention (without any further communication).

This finding on habituation replicates that of previous work in Guatemala and suggests that behavioural interventions may permanently raise firms' perceptions of monitoring or enforcement and hence their compliance level, rather than just nudging them into payment. In this trial a single email changed behaviour a year later.

What is Pakistan doing in the area

Since Imran Khan has taken over as Prime Minister in 2018, the government has given high priority to tax reform and increasing the tax base. Reformation of the Federal Bureau of Revenue is currently underway, with staffing changes and an increasing focus on evaders and the cash economy.[10] There are several initiatives underway, such as bringing together a range of government data to create profiles of tax evaders, with the stated goal of broadening the income tax base and ultimately doubling tax revenue.

How can a 'nudge model' be enacted in Pakistan: way forward and policies

A range of the techniques described above could be applied in Pakistan to help increase tax collection. Learning from the Guatemala case study of appealing to social norms, national pride or deliberate choice can be applied in Pakistan's context to increase tax collection.

Similarly, there may also be a scope to use other sources of government data to deliver messages that demonstrate government awareness of an individual's or business' finances-this could complement the ongoing work where financial data of firms and individuals is being gathered from different sources. Work in Costa Rica has shown that this can be particularly effective at increasing tax compliance.

In summary, there are a range of opportunities for the application of behavioural insights to tax policies in Pakistan. Such behavioural interventions are particularly valuable as an alternative to conventional tax reform initiatives. With their great potential to increase fiscal revenue, along with their comparatively low cost to run, these methods also offer huge value for money.

Financial Savings

The Problem

The concept of 'nudge' has also proven a useful tool in increasing savings in the form of default enrolment. People tend to save more when they are enrolled in pension accounts by their employer automatically rather than when they open an account themselves. This idea has already been used in America and now being adopted in poor countries to increase the level of savings. With the emergence of mobile money, there has been a decline in unbanked adults in the world, therefore calling for testing whether mobile money can facilitate the saving programmes or not.

Introducing a low-cost, cash-in and cash-out service that digitally transfers the local currency using a mobile phone supported with a network of human resource facilitating the in and out service. Launched in 2007, 92 countries worldwide and over 118 million users are actively using the service. Wages are being paid through this service in Latin America, South Asia and sub-Saharan Africa.

i. Mobile-ize

Partnered with a mobile company- Roshan in Afghanistan, a mobile phone network-based saving account was designed allowing people to make deposits and withdraw money without ever visiting the bank. Initially 1,000 employees were introduced to the product "mobile-ize".

Employees were randomly selected for an automatic contribution of 5 percent of their salary to the savings account. Over a period of six months, they were able to accumulate an extra half month salary than those who had to opt for saving. There was also a 40 percent increase in participation. The following lessons can be derived:

- Default interventions matter, and firms can help their employees to save thus helping boost financial inclusion.
- Automatic saving programmes can provide a sustainable alternative to payroll accounts.
- The idea of digital finance can easily be used in developing countries by encouraging them to build by default, a portion for saving in interventions already being used through mobile money for example, cash transfers etc.

Case Studies

Saving Water

The Problem

The notion that water is plentiful-it covers 70 percent of the planet-is false, as only 2.5 percent of all water is freshwater. This limited resource will need to support a projected population of 9.7 billion in 2050; and by that date, an estimated 3.9 billion-or over 40 percent of the world's population-will live in severely water-stressed areas.

Considering the six-fold increase in the global use of water and its impact on climate change, scarcity and access to fresh water, policy makers are facing a critical problem to reduce the use of fresh water.

Water scarcity in Pakistan is a big challenge. The country, whose population has increased fivefold since 1960 to some 207 million, will run dry by 2025, with less than 500 cubic meters available per person in Pakistan. Pakistan only has a 30-day water storage capacity. The per capita water consumption varies significantly from 30 liter per capita per day (l/c/day) to 350 litre per capita per day. The gap between availability of water and its demand is forecasted to increase at an alarming rate from four percent in 2011, to 31 percent by 2025.

Several strategies have been used to promote water conservation in urban areas across the world. Prominent among them are pecuniary approaches as well as information or communications campaigns intended to foster awareness of water scarcity and encourage water conservation. However, recent advances in applied behavioural economics suggest that this toolkit could usefully be supplemented by simple non-pecuniary behavioural interventions-behavioural nudges-which may have a role to play and are relatively inexpensive.

i. Stickers and Plans

In order to encourage users to save water, in 2014, the World Bank's Governance Global Practice Group and the Central America Countries Unit, and ideas42 conducted a randomized controlled trial in Belen, Costa Rica so that behavioural interventions/nudges can be applied to save water.

The following three behavioural interventions were applied;

1. Peer Comparison: Comparing household's water usage to their peers in their local neighbourhood:

- Direct feedback on water bills with a brightly-coloured sticker. Households above 'neighbourhood mean consumption' received "frowny face" sticker. Those below the average consumption received "smiley face" sticker and a congratulations message (see images below).

2. Peer comparison: Comparing household's water usage as the average household in their cities.

- Same as above but with comparison to average city consumption.

3. Plan making- how to do so? And establish personal goals for water use.

- Postcards were shared with a message about household's entire water consumption of a particular month as compared to average Belen household in the same month. It also asked the participants to establish personal goals for reduction in water usage from a set of six tips/options-with a goal to encourage clear intentions in making consumption.

As a result of these nudges, neighbourhood comparison reduced water usage between 3.6 percent and 5.6 percent. City comparison had no significant impact. The plan-making intervention reduced water use between 3.4 percent and 5.5 percent compared to the water consumption of the control group.

Furthermore, plan-making appeared as the most effective solution for low-consumption households, whereas neighbourhood comparison appeared as the most effective solution for high-

consumption households. The results also showed that, in terms of monetary benefits, monthly water savings amounted from USD 2,600 to USD 5,200. Belen, each month, on average can save approximately 6,720 cubic meters of water, equivalent to 87,300 baths, 94,080 washing machine loads, 188,000 showers and 222,000 dishwasher loads.

ii. Using Human-Centered Design

In Islamabad, Pakistan, over the past 5 years, water shortage has elevated to the level of crisis. The water shortage is at 106 million gallons per day and increasing. Water supply in the city has decreased due to reduction in supply from water reservoirs and ground water depletion. Extensive and unregulated usage of ground water for household and commercial purposes is another dilemma that is resulting in massive depletion of ground water resources. In addition to dwindling supply, water scarcity is also attributed to over

consumption. It is quite evident that people waste water due to its low monetary value and limited regulations that prevent wasteful use of water.

A pilot experiment conducted by the United Nations Development Programme in Pakistan, focused on demand management using behavioural nudges to reduce domestic water consumption. This included executing a set of nudges on a select number of households from different sectors of Islamabad.

A baseline water audit was conducted for 800 households, nudges were designed using a human centered design approach by conducting focus group discussions with water users. Through a randomized control trial, the change in water usage by households receiving the nudges was compared with those not receiving the nudges to measure the final impact. Types of nudges employed included designing interventions (posters) and reminder stickers/posters at consumption points.

This experiment has been quite effective in identifying new and using different approaches to the way we work. This pilot study, encourages practitioners and policy makers to consider the impact of nudges. Notably, nudges have exciting potential for conservation to create potential opportunities, persistent cognitive biases and 'irrationalities' when determining how best to shift consumer behavior in the desired direction i.e. water wastage reduction.

Opinion

Behavioural Insights for Sustainability: Nudging Plastic Cutlery Out of Food Delivery

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Last year, about 1 in 8 people worldwide dialed a phone, clicked on a webpage, or tapped a mobile app to order food, carried directly to their doorsteps.[1] And with the proliferation of emerging start-ups on digital platforms, there is only growth in sight for the food-delivery market. In 2019, total revenue for online food delivery is expected to surpass USD100 billion-a figure that could surge by more than 50 percent over the next five years.[2]

But along with pizzas and french fries, this industry is delivering an environmental crisis. Containers, cutlery, and bags-frequently plastic-are infrequently recycled (and tedious to process because of food residues), piling up in landfills and threatening fragile ocean ecosystems.

Take the example of China, the world's hungriest customer of such delivery services. The country produces about two million tons of packaging waste from online takeout a year; that's the same as all plastic produced around the globe in the year 1952.[3,4]

How can we mitigate this burgeoning ecological threat? While supporting restaurants in transitioning to environmentally friendly materials is an important long-term priority, a short-term option is to target a significant category of waste that many customers do not even need or want: disposable cutlery.

Rooted in field experiments and market research by B4Development-the first nudge and behavioural insights unit in the Middle East-and Nudge Lebanon, this piece explores plastic cutlery as a case study for different forms of "nudging" that can be applied to encourage sustainability.

Preserving Choice

Advocates for behaviourally informed public policy often use the term "liberal paternalism" to promote their approach. That is, behavioural insights units consider how elements of "choice architecture"-the decision-making environment-can be arranged in a manner conducive to some prosocial goal.

Nudges preserve individual choice while guiding citizen-consumers toward the ostensibly better course of action. These can be compared against more conventional (and coercive) regulatory strategies, like outright bans of unhealthy or environmentally harmful products, that serve to force behaviour change.

Few market leaders in food delivery have made disposable cutlery entirely unavailable. Many might reasonably worry that such an abrupt policy shift will frustrate customers and put them at a competitive disadvantage.

However, a significant share do provide it automatically with each order and lack a convenient opt-out mechanism, if any at all-to whether or not users actually want the cutlery. This group includes Uber Eats, which processes more transactions than any other mobile delivery app in the USA.[5]

But a growing number of companies are providing their customers with the ability to choose the environmentally friendly option-and the design of these features is where choice architecture can be harnessed for good.

Defaults

When customers are provided with an "opt out" feature during the check-out process, experience shows that a sizable number will select it.

Talabat, the largest food-delivery platform in the Middle East,[6] launched this option in September 2018 and saw adoption for up to 11 percent of Qatari orders during the first 8 months of its rollout.[7] When South Korean start-up Shuttle Delivery began an analogous initiative around the same time, customer interest was even greater; 22 percent of orders came without cutlery after 5 months.[8]

While these are promising successes, psychological research suggests it is possible to do much better. It is human nature to proceed with an option that's automatically pre-set, even in light of

* The author would like to thank Samuel Zwickel and Helena Klauznicer from B4Development for research and editorial support.

1. United Nations, Department of Economic and Social Affairs, Population Division (2019), "World Population Prospects 2019: Data Booket." Available at https://population.un.org/wpp/Publications/Files/WPP2019_DataBooklet.pdf
2. Statista (2019), "Online Food Delivery – worldwide." Available at https://www.statista.com/outlook/374/100/online-food-delivery/worldwide
3. The New York Times (2019), "Food Delivery Apps Are Drowning Chia in Plastic." Available at https://www.nytimes.com/2019/05/28/technology/china-food-delivery-trash.html
4. Our World in Data (2018), "Plastic Pollution." Available at https://ourworldindata.org/plastic-pollution
5. Fortune (2019), "DoorDash Has Pulled Ahead of Grubhub, Uber Eats in the On-Demand Food Delivery Race." Available at https://fortune.com/2019/03/11/doordash-tops-grubhub-on-demand-food/
6. Talabat Blog (2019), "Our Story." Available at https://blog.talabat.com/our-story/
7. Talabat corporate management
8. Shuttle Delivery Blog (2019), "In 5 Months, Shuttle Customers saved 35,000 units of disposable cutlery." Available at https://www.shuttledelivery.co.kr/blog/in-5-months-shuttle-customers-saved-35000-units-of-disposable-cutlery/

superior alternatives.

A small but growing number of companies are introducing "opt in" features-and this change in default propels even more dramatic waste reduction. In a pilot with one of its partner restaurants, London-based Deliveroo saw a 90 percent drop in plastic cutlery consumption.[9]

Active Choice

A major obstacle to implementing the more sustainable "no cutlery" default, delivery services may contend, is that most customers expect forks, spoons, and knives to be automatically included with their orders. A rushed user might scroll past the "opt in" box in their checkout, then receive his or her delivery and feel frustrated at the sight of soup and salad sans utensils.

One nudging strategy that averts this problem is to entirely remove the default and force customers to affirmatively choose one of several options. After considering the alternatives, the patron must make an active choice that is rooted in at least some degree of reflection.

In order to test the impact of this kind of nudge, the Nudge Lebanon team coordinated with the call center of a Beirut restaurant to see whether a verbal prompt about cutlery delivery would drive a reduction in plastic waste. Before finalizing an order, customer support staff said the following statement in Arabic:

"In order to preserve the environment, we are encouraging our customers to reduce the use of plastic, which is why we would like to ask you if you wish to have plastic cutlery with your order."

Out of 620 customers who heard the prompt during the two-week intervention, only 137 asked to receive cutlery-a 77.9 percent decline from the baseline condition (in which plastic cutlery was delivered automatically). The B4-Development team ran an analogous study in Doha, Qatar, and saw a 59 percent decrease in the same measure.

In the context of electronic ordering, this paradigm could be applied by adding a checkout step wherein the customer must actively select either "yes" or "no" in response to a message about cutlery before submitting the order. However, none of the more than 30 food-delivery apps tested by our researchers had implemented such a system.

Other BI Applications

Critically important to how successfully these decision-making structures-both defaults and active choice-shape behaviour is how the options are communicated to users. Behuaviorally informed adjustments to the message are cheap and simple, yet they have a substantial impact on perception and judgement.

In the field experiment on active choice, the prompt brought to mind the priority of preserving the environment while callers decided whether or not to ask for plastic cutlery. Although it was not tested, the stripped-down message, "do you wish to have plastic cutlery with your order," should be considerably less effective. The restaurant's stated focus on reducing plastic waste alluded to a social norm of environmentally sustainable behavior. If my peers are using reusable forks, customers might think, maybe I should as well.

The strategies for presenting these nudges are numerous. To name just a few possibilities:

-Platforms could attribute the prompt to a well-liked celebrity or political figure who endorses environmentalist causes, pairing it with that person's picture as well. Choice of messenger influences automatic attitudes and emotions about a statement.

-An incentive scheme could reward users with some perk, like a free meal or piece of merchandise, for consistently opting out of plastic cutlery. Those who don't participate might regret missing out.

-In addition to changing the content of a message, thoughtful graphic design can draw in the customer's attention. A salient stimulus could harness attractive fonts, eye-catching colors, and nature-related imagery.

Given an extensive variety of approaches to nudge design, randomized testing is necessary to determine what form (or combination of forms) works best in a particular context. What message is most compelling? Does its effect on behaviour plateau-or even wear off-over time? These questions are exactly the focus of "nudge units" in government and NGOs concentrated on behavioural insights research.

Behaviourally Informed Regulation

While a few food-delivery companies are piloting their own nudges as part of a corporate commitment to environmental sustainability, some government bodies are implementing regulations aimed at spurring industry-wide change. This can be particularly effective when services feel leery about adopting more forceful nudges-like a "no cutlery" default-that have the potential to frustrate customers.

San Francisco, California, in the United States of America, recently adopted a city-wide ordinance that bans restaurants from automatically including disposable cutlery and other food-related accessories with orders, whether in stores or online. However, they are still available upon customer request-a simple change in default motivated by the human tendency to go with the status quo. Although compliance is not universal, the city's Department of Environment is using education and outreach to guide local eateries in adopting the changes.[10]

What is the point at which academic theory should be translated into behaviourally informed policy? Experimentation is crucial to understanding not only what measures have an impact, but moreover which solution has the most impact. Findings in university laboratories are important, but may not always translate as anticipated to messy social problems in the real world–a matter further complicated by cultural differences across regions. This process of testing, measurement, and analysis–central to the work of nudge units like B4Development and Nudge Lebanon–is essential for creating evidence-based public policy.

After such interventions are proven through smaller-scale pilots, innovative policymakers can harness the full potential of behavioural insights by implementing them for the wider population. At the scale of millions (or even billions) of people, this translates to a massive step towards environmental sustainability.

9. Deliveroo Newsroom (2018), "Deliveroo set to dramatically reduce plastic use in UK." Accessible at https://www.uk.deliveroo.news/deliveroo-is-to-make-plastic-cutlery-an-opt-in-for-all-uk-customers-which-will-help-dramatically-reduce-wasted-plastic-cutlery.html
10. San Francisco Chronicle (2019), "Want a lid with your coffee? In SF, you may have to ask." Available at https://sfchronicle.com/business/article-Throwaway-line-Restaurants-adapt-to-new-SF-rules-14087270.php

Opinion

The Nudge Theory in Perception Management: A Nudge in the Right Direction

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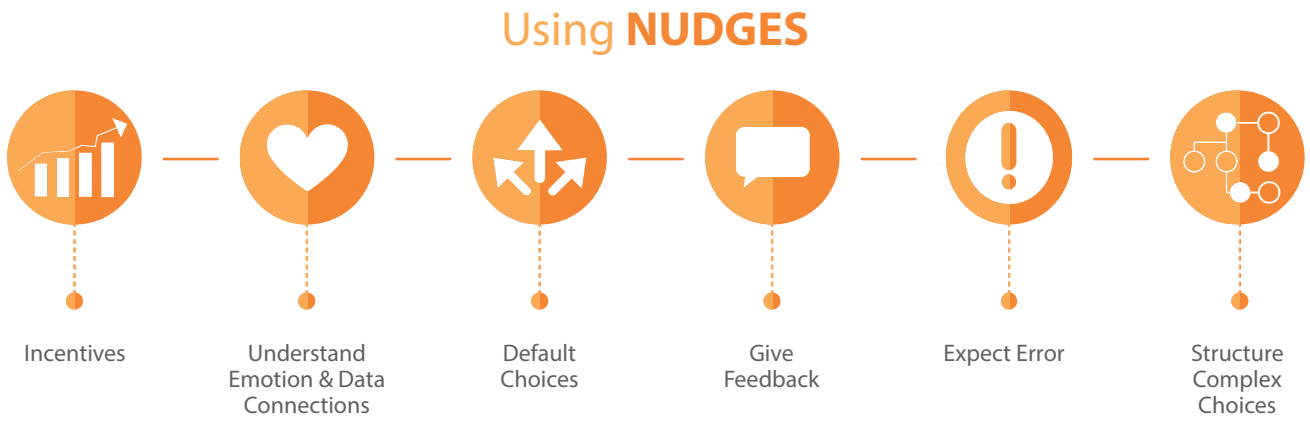
Human beings are governed by two basic decision-making systems located in the brain; the reflective cognitive system and the automatic cognitive system or to put it simply, logic and instinct. The former focuses more on thought and deductive reasoning whereas the latter deals more with one's gut feeling; seeing the benefits now and the costs later. A simple example would be the consumption of a donut where logic would dictate that there would be a long-term cost to one's health, however in most cases the flavourful immediate benefit of the donut would outweigh the long-term unhealthy effect. It is clear now that while there is a perceived freedom of choice, there are a handful of underlying factors that influence a decision-making process which can range from existing biases, temptations, as well as experience through design.

The Nudge Theory takes the decision-making process into consideration and by employing a nudge, alters a person's behaviour in a predictable way without removing any options, or significantly changing their economic incentives.[1] Topics that are controversial in nature lean more heavily towards instinct and gut feelings. The question is; how can end users re-evaluate their innate perceptions especially when they're driven more by instinct rather than logic? The Nudge Theory expands upon this by tackling six core facets; providing incentives, translating pure data into more meaningful mediums of dissemination, providing users with autonomous choices, expecting error in the process, allowing users to give feedback, and structuring complex choices with the help of empathy and user experience.[2] As of late, 'nudging' has gained immense popularity within the public and not-for-profit sectors to alter existing perceptions, especially around topics that may be considered social taboo.

The issue of child abuse is one such social taboo particularly relevant in Pakistani society, and unfortunately has only continued to grow at an alarming rate. While extensive media coverage has played a large role in shedding light on the topic, many of these cases still go unreported due to the social stigma attached to the issue, especially in the rural and impoverished areas of Pakistan and people are unwilling to accept it as a widespread epidemic.

Figure 1: Visual Representation of Nudge Tactics



1. Pelle Guldborg Hansen (2016), "The Definition of Nudge and Libertarian Paternalism: Does the Hand Fit the Glove?," Available at https://pdfs.semanticscholar.org/bf9a/b210d222e7e3973a565f04b7b75040ada1d2.pdf.
2. Thaler, Richard H., & Sunstein, Cass R. (2009), "Nudge: Improving Decisions about Health, Wealth, and Happiness."

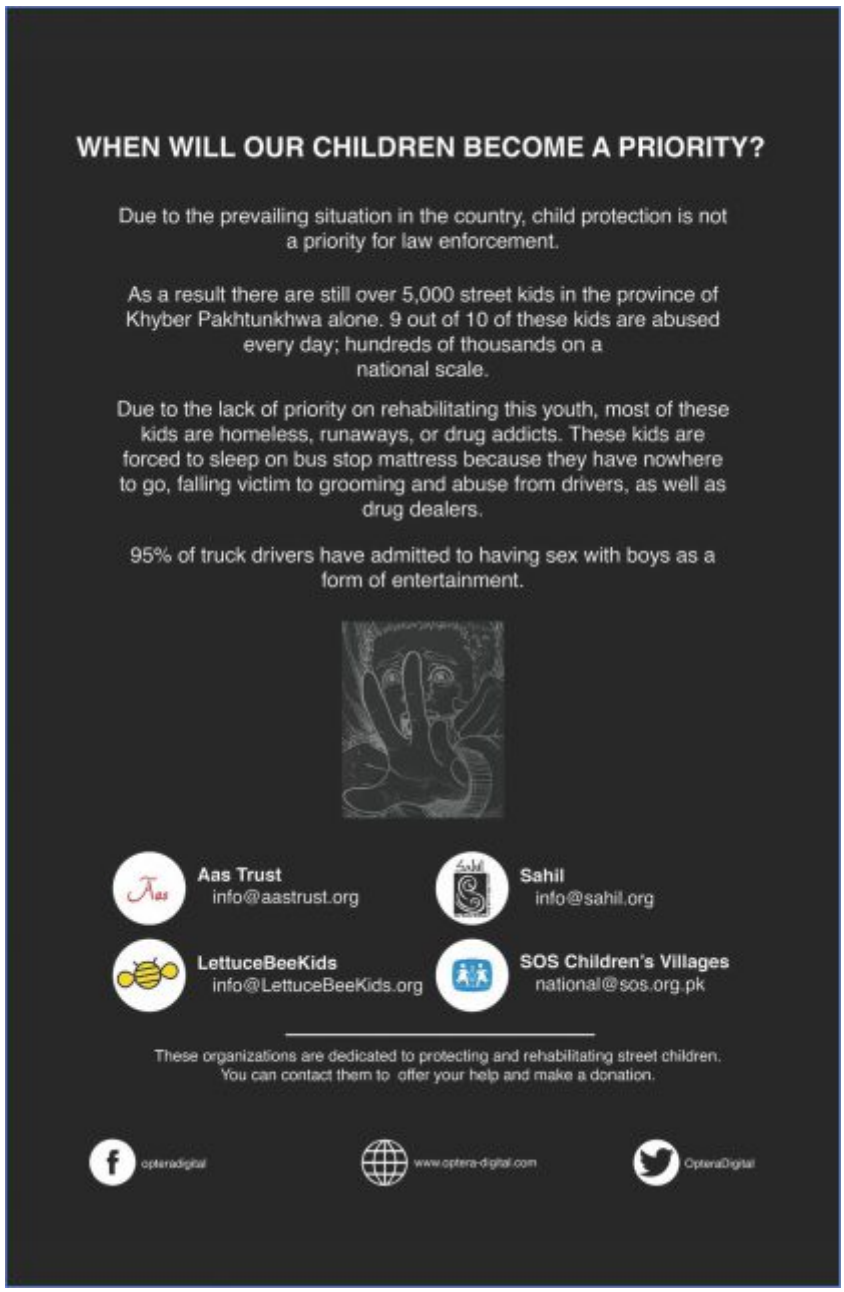
Children who face abuse are often scared into silence by their abusers and are made to feel shame, and those that do come forward are often not believed, or silenced by their elders out of a misplaced sense of religious and social morality, and to avoid a 'scandal'. Nationalism and patriotism also come into play, where people are unwilling to accept that abuse is rampant in their society and country, deeming it to be baseless propaganda, and would rather skirt around the topic and keep silent.[3] This happens at the expense of the mental health of these children, and their lives being destroyed.

The first step to combat such rampant issues and the ignorance surrounding them, is to start a conversation about them. Conversations can lead to a call-to-action, a nudge, to raise awareness and invoke empathy. Creating a bridge of understanding and presenting facts in a way that resonate with people can lead to effective changes in ideas and perception, especially about topics considered to be taboo.

One such example to raise the veil of societal taboo is Reality Girl, which was created to effectively start a conversation about such a topic as well as nudge various members of society to act and make a change. Created as a single-issue comic book, Reality Girl places readers in the shoes of Sarah, a privileged girl who is ignorant about the horrors that take place around her. Through a series of events, Sarah encounters a young homeless child who is being routinely abused at a bus stop; and with her preconceived notion of the world shattered around her, Sarah decides to stand up and protect the child and other innocents from the perpetrator. The eight-page comic book relied heavily on visual storytelling in the form of black and white imagery. Through specific image placement, the creators were able to invoke specific emotions within the readers; nudging through placement. This tactical nudge is specifically helpful when encountering decisions that are made infrequently, with possible outcomes that are hard to imagine, and feedback is not immediate. In the case of Reality Girl, the comic served as a starting point of the nudge; alerting viewers to the horrors street children face.

To nudge people to act, a simple message was placed at the end of the comic which provided real statistics along with a call to action which stated; "When will our children become a priority?" This text was supported by an image of the crying child from the comic, followed by a list of organizations to reach out to, to help and make a change. Casual reinforcement is also a key part of a successful nudge; while users can be influenced into initially going against their gut, they must also be occasionally reminded of the core intended message. Due to this reason, a long-term social media campaign was launched in tandem with the release of Reality Girl targeting popular platforms such as Twitter, Instagram, and Facebook.

Figure 2: The Back Cover of Reality Girl



Through these platforms, people were not only able to offer feedback but also feel as if they were a core part of the change conversation that was taking place; this feeling is known as the Spotlight Effect of nudging. Additionally, seeing active responses to their feedback along with recognition from others online further aided in moving the conversation forward through a nudge phenomenon known as "Following the Herd," wherein people follow the majority opinion; this was all executed in an organic way, allowing the conversation to flow rather than be forced externally. This resulted in praise from both local and foreign audiences, with an existing hashtag being overtaken by that of Reality Girl's thus shifting the entire online narrative through a single nudge.

However, nudging is not just limited to addressing sensitive issues or steering a certain conversation forward. In fact, the Nudge Theory has been quite successful in

3. Mehnaz, Ayesha. (2018), "Child Abuse in Pakistan - Current Perspective," National Journal of Health Sciences, 3(4), 114-117, Available at: https://njhsciences.com/wp-content/uploads/2018/11/Perspective.pdf

Figure 3: Social Media Impact of Reality Girl

22,000 people reached over the course of the campaign (mostly unboosted, except one boosted post).

All top #Reality Girl posts on Facebook are about the comic itself.

4,600 total posts reach on Facebook (unboosted).

500+ likes on Instagram spread out through a variety of posts (unboosted).

5/10 top #Reality Girl posts on Instagram about the comic itself.

Figure 4: Choice Based Architecture in the Aaj Kal Video Game

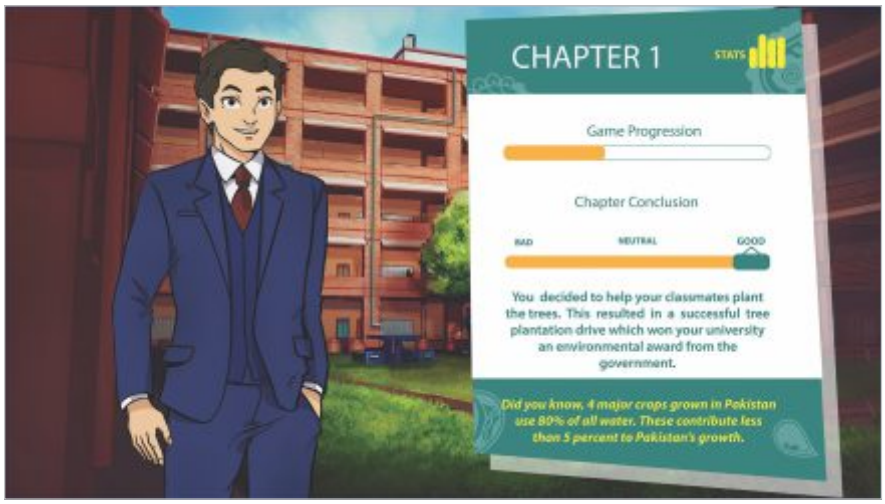
influencing choice architecture; affecting the decisions through layout, sequencing, and the range of choices that are available.[4] These facets of choice architecture are closely knitted with the base rules of the Nudge Theory which involves the framing of choices and the default options. The following principles were demonstrated through a mobile video game called 'Aaj Kal Ka Zamana'; which was a part of the Pak@100 campaign launched by World Bank Pakistan and was presented in the form of an interactive visual novel. The video game chronicles the story of two young male friends, Aaj and Kal, and their journey through life from their school years to their professional years. Aaj is a hard-working, driven individual who refrains from slacking off, does his work on time but also does not miss out on the fun in life, while Kal is the complete opposite and puts things off till later, slacks off and just wants to be carefree in life without taking responsibility for anything. The player assumes the role of the third character in the game, who is friends with Aaj and Kal, making up a trio and the game revolves around facing issues and choices throughout life.

The aim of the video game was to engage the youth of Pakistan about matters relating to civic and moral duties as well as the impact their actions can have on their country's economic growth and success. Throughout the course of the game, the player is presented with different choices that seem inconsequential at first but through each choice, the player is able to see the city change around them; for better or for worse based on their decision. By allowing players to visually see and be able to hear (through music queues) the impacts their actions have on their surroundings, players were able to make more informed decisions; the decisions the game wanted them to make. This nudge was supported by real time feedback by the game itself where at the end of each chapter in the game, the players could see their progression report detailing the consequences along with subtle reinforcements relating to the Pak@100 report itself. This allowed players to learn information that they would normally perceive as "dry" and "boring" in nature. Similar to Reality Girl, Aaj Kal Ka Zamana also allowed the conversation to flow through various tie-ins which included a full-length comic book that is available both digitally and physically across Pakistan. The comic book detailed the journey of Aaj and Kal together and how their contrasting personality played pivotal roles for those around them.

The examples listed above prove that Nudge Theory can indeed be effective in influencing change in preconceived

4. Scheibehenne, B., Greifeneder, R., Todd, P. (2010). "Can There Ever Be Too Many Options? A Meta-Analytic Review of Choice Overload." Journal of Consumer Research, 37(3), 409-425. Available at: doi:10.1086/651235

Figure 5: The Report System of the Video Game



notions and existing biases without forcing the change. Through simple placements in the experience, users can overcome their gut feeling and use logic to make a difference, thus changing the course of their behaviour altogether; they no longer eat the donut without thinking with a simple nudge.

Using Games as a Nudge: A Case Study On Assessing the Gender Bias Gap

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The Problem

It is no surprise that the gender gap in Pakistan's Labour Force Participation Rate remains to be one of the highest in the world. Women constitute over 49.18 percent of Pakistan's population but only 14.5 percent of the labour force; this figure includes both the rural and urban participation rate as of 2017-18.[1]

There is a clear cultural barrier and inherent perception or bias that exists within the community when it comes to female participation in the workplace which often restricts them from entering into the workplace. In some cases, women who do retain positions in the workplace are often made to feel uncomfortable or are subjected to hostile conditions that eventually force them out of the organization. These conditions are not limited to South Asian or Middle Eastern societies and are prevalent across the globe; a recent study showed that over 81 percent of the female workforce worldwide have faced harassment, bias, or unfair and hostile conditions at the workplace.[2]

Furthermore, discriminating HR practices such as all-male interviewing panel or unethical probing questions during interviews also discouraged women to work. Most women often feel more comfortable through online interviewing practices or through written exchanges where verbal communication is kept to a minimum.

In this context, a recent gamified recruit platform known as C-Factor was launched in Pakistan wherein fresh graduates were matched to potential employers after partaking in a series of interactive situational judgement tests. The candidates were assessed on the basis of their core competencies and over 64 percent female participation was recorded; female participants were more comfortable interacting with the game's assessment mechanism rather than through face to face assessment.

The aforementioned biases have severely impacted women participation in the job market. A recent study has shown that

1. Pakistan Bureau of Statistics (2018), "Labour Force Survey 2017-18 (Annual Report)," Available at: http://www.pbs.gov.pk/content/labour-force-survey-2017-18-annual-report
2. National Public Radio (2018), "A New Survey Finds 80% of Women have Experienced Sexual Harassment," Available at https://www.npr.org/sections/thetwo-way/2018/02/21/587671849/a-new-survey-finds-eighty-percent-of-women-have-experienced-sexual-harassment

women apply for jobs when they feel that they are 94 percent qualified whereas that number is lower with males, at 64 percent.[3] While laws against female harassment at workplaces have been put into place, a lot still needs to be done to improve our cultural norms and provide a safe environment for women to work.

The Solution: Nudging through Gamification?

Data collection in the workplace has often yielded mixed results; methods such as surveys, newsletters, one on one interviews, and questionnaires are often seen as time consuming by the employees or in some cases, a breach of privacy, especially when the topic is considered as culturally sensitive. Due to these reasons, the data is often either incomplete or inaccurate in nature. It has been reported that over 70 percent of business transformation efforts fail due to lack of engagement.[4] An effective way to overcome such a hurdle is through the introduction of gamification wherein a potentially tedious subject is transformed into a video game, allowing the players to learn the information in a more interactive manner. Through the process of gamification, users are placed at the center of the narrative thus allowing them to experience the subject in a more engaging manner and respond more accurately in return.

The process of gamification has gained more popularity over the years and is slowly being integrated into government and institutional agencies abroad, especially under the moniker of "games for change." Findings from a study conducted at workplaces and academic institutions reveals that, over 80 percent of the participants feel more productive if their university/institution of work are more game-like in nature.[5]

A Gamified Gender Bias Solution

The Samosa Game was envisioned as a simple web based mini-game wherein players were given access to a workspace or other area such as a university class, or generic organizations, and were given the task of populating the space with male and female workers according to their perception. Upon completion, users were given a prize code that would earn them a free samosa thus providing an incentive or meaning, to complete the game and earn a reward.

The main objective of the Samosa Project can be summarized as follows:

Figure 1: Start Screen of the Samosa Game

'To analyze a workforce's view on gender parity through a non-invasive and gamified method.'

The project is supported by a fully functioning back-end that will provide clients with a complete list of player scores and assessments, with both singular and cumulative data. With an easy to navigate, non-intrusive user interface (UI), the game allows the user to interact seamlessly with the process, thus eliminating the need for often lengthy and intrusive workplace surveys and interviews. The game also refrains from asking personal questions and simply obtains the participants email address, their gender, and the name of their organization.

The Samosa Game generates a simple two stage scenario for players, the first stage being how their current workspace looks like. This entails having to populate the workspace with a set of male and female options to choose from, who are equal in their attributes and skills such as leadership, teamwork, creativity, motivation, problem solving, and communication.

These competencies are given to a male and female each and only one of each competency may be picked. In picking either the male or female option, the player will show who they view as better suited for a role, whether it be a Male for a Creative role, or a Female for a Teamwork role. After the player completes this first stage, the second stage asks them how they wish to see their current workspace, which requires them to repopulate the space as they see fit, after which they are given the prize code.

Figure 2 : Visual Depiction of the Stages

The dual stage gameplay showcases two things; the first stage displays how the player's current workspace looks like in terms of gender balance. The second stage depicts how the player wants their workspace to look like in terms of gender balance, thus bringing to light any gender bias the individual player may have.

Depending on the number of Male vs Female characters chosen, the back-end system then generates the bias results by using a psychologically verified calculation method. These results will show three varying degrees of bias; Low, Medium and High Bias towards either males or females.

3. Perez, Caroline Criado. (2019), "Invisible Women: Data Bias in a World Designed for Men," Random House
4. Incentive & Motivation (2017), Available at: http://incentiveandmotivation.com/70-per-cent-business-transformation-efforts-fail-due-lack-engagement/
5. Zoe, Eleni (2018), "The 2018 Gamificaiton at Work Survey," TalentLMS, Available at: https://www.talentlms.com/blog/gamification-survey-results/

The data is secure, and only accessible to the clients and the back-end hosts, ensuring that players do not feel they are under scrutiny or that their answers may be in anyway incriminating, which would in turn skew the results as they would be less inclined to answer truthfully.

The Results

The Samosa Game was deployed in a variety of workspaces and organizations consisting of people of varying age groups and backgrounds, both in their upbringing and in their education; a start-up incubation facility, a private medical practice, and various studios across the country. This enabled a wide testing pool to test various preconceived notions and parameters to test out the following hypotheses:

Hypothesis 1: Do preconceived roles within an organization influence gender perception?

Hypothesis 2: Does the visibility of certain roles within an organization influence gender perception?

An equal number of male and female workers were chosen at random from various posts in said organizations and were asked to draw from their real-life office experiences and setups. The participants ranged from the top brass to office assistants, and were tested individually in privacy to foster a scrutiny-free environment and to avoid peer pressure. Some of the testing parameters were related to preconceived gender notions, inherent biased thinking, influence of societal norms and inter-office dynamics. This resulted in some very intriguing discoveries relating to gender bias (Table 1).

Table 1: Results

Total Participants	Bias (Towards Males)	Bias (Towards Females)	No Bias
44	20.45%	22.72%	56.81%

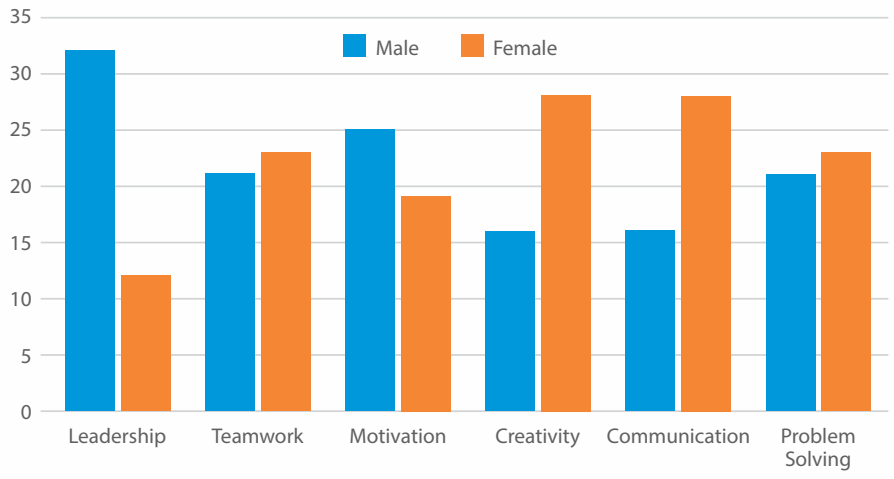
Existing Bias in the Workplace

The data collected above demonstrates a clear existing trend in relation to the first hypothesis; organizations with males in higher level roles such as CEOs and Managers are associated with leadership. From the testing pool, Studio A had a male CEO, however the managerial roles were occupied by females and while there was an overall gender imbalance in the company, due to the visibility of the managerial roles, the employees were influenced into thinking that there was not a gender imbalance in the workplace, thus proving the second hypothesis.

Furthermore, attributes such as teamwork and communication were directly correlated to these managerial positions, whereas motivation directly correlated to the male leaders. In addition to this, in an organization where a male and female occupied similar roles, the younger players (millennials/Gen-Z) made their choice based on who they related more strongly to, and who they thought was a better fit for that role (Figure 3).

It should be noted that while a majority of the candidates were satisfied with how their current place of work looked in terms of gender balance; a handful of female candidates expressed clear dissatisfaction during the first level of the game and upon seeing the workplace visually laid out.

Figure 3: Overall Attributes Polarity For How People View Their Offices

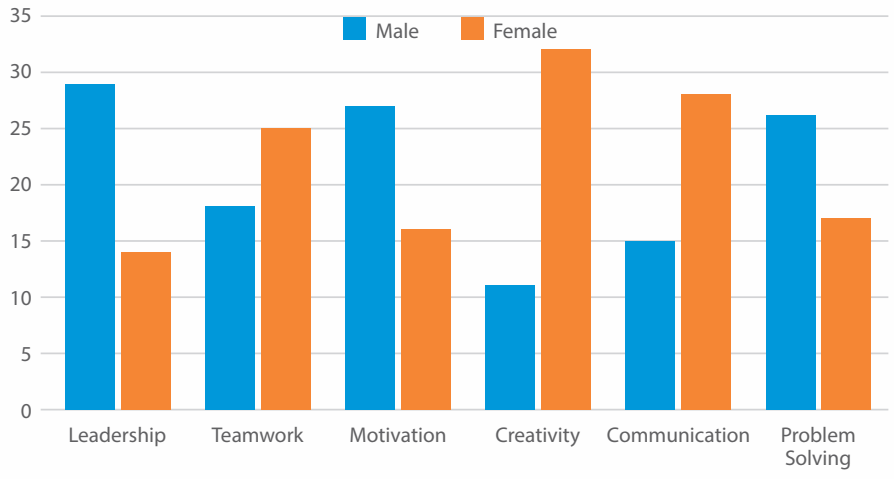


Do the Candidates Demand Change?

In addition to assessing the candidate's perception and their internal bias, the second level of the game posed a question relating to organizational change. By asking the question, "What do you want to change about your workplace?" candidates were given the autonomy to change aspects that they did not agree with. This resulted in minor to significant changes for both male and female candidates. There was a clear drop in the amount of people who chose a male for the Leadership role, while the number of females chosen for the same role increased. There was also a marked drop in the number of males chosen for the Teamwork attribute, while the females chosen for the same increased (Figure 4).

An increase in the number of males chosen for the Motivation attribute was another interesting find, while the number of females chosen for the same attribute decreased by a substantial amount. The prevalent idea of females being better suited to Creativity roles was further solidified by a notable increase in females chosen, while the number of males showed a slight decrease. The gender ratio in the Communication attribute remained largely unchanged, with the testing pool leaning

Figure 4: Overall Attributes Polarity For How People Want Their Offices



heavily towards females being better suited to it. However, it was the Problem Solving attribute which was the most interesting, as it was the only attribute that showed a complete reversal in gender ratios. From initially being higher in the number of females chosen, it was completely dominated by males chosen by the players in the second round.

Conclusion

Gamification as a nudge, has evolved into a tool for data collection and analysis through a non-invasive and highly interactive manner, especially when it comes to subjects that may be considered sensitive to address in routine methods. Through the deployment of the Samosa Game, candidates were given an incentive in the form of a free samosa and were eager to solve a game as they were put in the center of it all. Through a validated assessment and a dual question method, the candidates were not only able to identify an existing gender bias in the workplace from their perspective, but were also tested on their internal bias as well which yielded the following results:

1. Preconceived roles within an organization influence gender perception.
2. The visibility of certain roles within an organization influence gender perception.
3. If two individuals of different genders occupy similar roles, the player chooses the person they relate to more closely.
4. Males are more preferred in the problem solving role by both genders.
5. The female bias is directed more towards creative and communication based rules.

Behavioural Insights for the Public Sector: How Cities Can Tackle Pressing Problems with Behavioural Science

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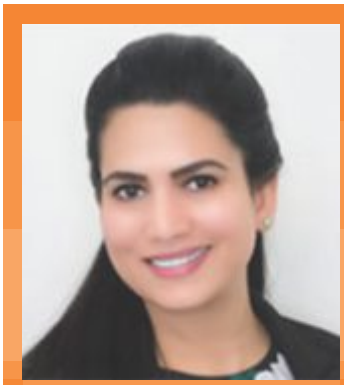

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Supplying residents with reliable potable water, power, sanitation and public transportation are key priorities for city administrations around the world. Yet cities globally find it increasingly challenging to fulfill these key responsibilities, and indeed to raise the revenues that make them feasible.

Consider water provision: skyrocketing demand from growing populations combined with diminished or more variable supply due to climate change has produced crippling water shortages in many cities. This is most stark in reports of cities like Chennai, India and Cape Town, simply running out (or facing an imminent danger of running out) of water. Water shortages are likely to worsen over time. Urbanization is accelerating, with 68 percent of the world's population projected to live in urban areas by 2050. Unsurprisingly, two-thirds of the world population is projected to be living under water stressed conditions as soon as 2025. The pressure on water utilities and power grids may seem unsustainable now–but it is likely to get even worse.

Investing in infrastructure and alternative sources of energy or water can help increase the supply of these critical resources, but these solutions are both costly and take time to come on-stream. So what can governments do today, even as they work on augmenting supply in the longer term? A key step involves finding ways to change consumption patterns so these resources are used more judiciously. This is, of course, a challenge-but the challenge need not be insurmountable.

The patterns and levels of use of resources like water and electricity are essentially driven by the decisions and actions of millions of people. Fortunately, this means that we can turn to the discipline of behavioural science-the study of how people make decisions and take action-to help generate overlooked insights into why people use these resources as they currently do. These same behavioural insights can then inform innovative strategies to help people consume less. Indeed, promising, quick, and cost-effective evidence-based behavioral solutions for helping people consume fewer resources already exist-and cities that need rapid solutions and have limited public funds could benefit enormously from adopting them.

To understand how this approach works, consider the case of Belén, a small municipality in Costa Rica, which has a growing population expected to face chronic water scarcity by 2030. Faced with this prospect, Belén's municipal authorities tried employing general awareness campaigns about conserving water and even raising water rates, but with little sustainable effect.

Behavioural scientists from ideas42 and the World Bank took a different approach: by applying a behavioural lens to the problem, they discovered several subtle but overlooked drivers of water use. A key finding was that it wasn't as if residents wanted to waste water-rather, most were aware of the need to conserve, but they simply did not think there was any scope to do so. Residents also found it difficult to determine which activities consume the most water and what steps could therefore meaningfully reduce consumption. Further, people did not really know how their own household water consumption compared to that of their peers: in the absence of a clear benchmark, it was hard to know whether a given level of water use was high or low.

These 'behavioural bottlenecks' didn't just explain why people used water the way they did-they also contained the germs of ideas for ways to make conserving easier. Our team used the idea of descriptive social norms-a comparison of someone's behaviour to that of their peers-by adding a simple sticker to their water bill comparing their water use to their neighbours' use. In fact, the sticker gave people a very intuitive way of evaluating how their behaviour compared to the norm, by displaying a happy face if they used less than the average household in their neighbourhood or a sad face if they used more. In another intervention, postcards were sent along with their bills inviting residents to compare their water consumption to average monthly consumption in their community. The postcards encouraged

1. ideas42 is a nonprofit behavioural design lab that creates social impact through the application of insights from behavioural economics to public policy challenges around the world. Since our founding at Harvard University in 2007, we have worked successfully in the fields of consumer finance, microsavings, health, education, road safety, criminal justice, and others. Our projects feature the rigorous application of qualitative and quantitative research methods to diagnose the nature of behavioural impediments to beneficiaries' actions and decisions, followed by the design of new program delivery methods to "nudge" beneficiaries towards realizing better outcomes for themselves. In all cases, we seek to ultimately identify the impact of these nudges through rigorous testing. For more information about the organization and its current projects, see www.ideas42.org. For information on ideas42 current initiatives orf international cities, please visit www.ideas42.org/cities or email us at cities@ideas42.org

people to set their own goals for reducing water use-leveraging the power of what behavioural scientists call 'implementation intentions.' It then invited them to identify which of several easy steps they would take to achieve these goals, thus tackling confusion about how to reduce water consumption in practice.

The results were both striking and quick. Households that received one of the 'behavioural interventions' described above, experienced a drop in water consumption ranging from 3.4 percent to 5.6 percent in the following month, compared to a randomly selected 'control group' which did not receive any intervention. These one-time interventions continued to generate significant reductions in water use for up to four months after they were implemented. Interestingly, a version of the 'social norms' sticker that compared households' water use to the whole town was not as effective as the comparison to people's neighbours-implying that while people clearly respond to comparisons to their peers, it also matters that they think the group they are being compared to is relevant.

This case in Belén provides a powerful example of how a simple nudge, designed well, can have a meaningful and surprisingly durable impact on what can otherwise seem like an immutable behaviour. This intervention could be adapted and used in other neighbourhoods and cities around the world to reduce water consumption and conserve this precious resource.

Behavioural interventions have also successfully reduced electricity consumption. In Cape Town, South Africa, residential and commercial energy demand accounts for 83 percent of electricity consumption in the city. In partnership with the University of Cape Town, behavioural scientists from ideas42 designed an intervention to address electricity use at a twenty-four-story government office building in Cape Town. This, too, leveraged the idea of social comparison.

Employees working on some floors received information about how their weekly electricity use compared to that of other floors as part of a weekly inter-office competition to use less power. A second group of floors received these emails too, but were also assigned a weekly "energy advocate"-a randomly chosen employee who was tasked with finding ways to help the floor use less power. The results were remarkable for an intervention that was little more than a set of emails: the first treatment group showed a 9 percent reduction in electricity use, while floors that also had energy advocates showed a 14 percent reduction in power use compared to floors that received neither intervention. These reductions challenge the conventional wisdom that it is harder to nudge the behaviour of people who do not face the financial consequences of their behaviour (such as employees in office buildings) than it is to nudge in residential settings, where people benefit financially from conservation efforts.

As with the nudges used in Belen, interventions such as these can be adapted to other contexts to help reduce the strain on power grids in cities with energy shortages.

Behavioural nudges are not limited to tackling resource conservation alone: they can help public agencies with a wide range of public service challenges. For instance, limited tax and other revenues severely constrain governments' ability to finance much-needed public services. Tax evasion is the single largest contributor to this issue. Here, too, behavioural science can help: often people are not intentionally evading taxes, but may simply forget or face other behavioural barriers to complying.

In Guatemala, tax collection is exceptionally low, only 12 percent of the GDP in the years between 2011 and 2015. The Superintendence of the Tax Administration (SAT) of Guatemala, in collaboration with the World Bank and the Behavioural Insights Team, tested simple behavioural reminders to help boost tax payments in a large, nationwide randomized controlled trial. The objective of this experiment was to learn which behavioural lever most effectively increased the number of taxpayers filing their taxes and the total collection of income tax.

The teams sent carefully worded letters to individuals and firms who had failed to pay their income tax in 2013. Four different behavioural principals were tested, and two of those messages prompted both a higher rate of payment and a higher average amount paid conditional on payment. The two successful messages were a deterrent message that framed non-declaration as an intentional and deliberate choice, and a social norms message that referred to taxpayers who had already paid their taxes. The effects were persistent even 12 months later, suggesting the letters increased overall revenue for the tax authority rather than merely changing the timing of tax payment. Researchers estimate that the best performing letters have the potential to generate approximately USD 760,000 in additional revenues for the country, while the cost of sending letters to all taxpayers is only USD 21,090.

Since the experiment, the government of Guatemala has continued to use these results to design their communication materials. It also repeated the experiment using different delivery channels, such as email and text messages. The intervention in Guatemala serves as a powerful example of how low-touch and low-cost behavioural interventions can help governments tackle a complex problem like tax evasion to improve funding for public services.

As policy makers and government practitioners around the globe tackle these challenges, it is important to adapt for context and scale the evidence-based behavioural interventions that we know have worked. The examples above are just a few of the many applications of behavioural science to public service delivery. After all, the delivery of public services by definition entail interaction between public agencies and people. All such interactions are governed by human behaviour; therefore, the solutions to challenges in these interactions must be rooted into an accurate understanding of human behaviour.

So how should city and provincial governments in Pakistan that want to leverage behavioural science in public service delivery get started? A helpful starting place is to learn what's already been done. The Behavioural Evidence Hub is a database of successful behavioural interventions conducted by different researchers and organizations around the world. It also includes interactive checklists to assess if communications, spaces, and processes are behaviourally informed (and how to improve them if they aren't). Other resources for this type of information include what leaders in the field are saying about the future of behavioural science-in this very publication, for example, and others.

Policy makers and government practitioners around the world are increasingly turning to behavioural insights to solve problems, improve government services, and change lives. Addressing behavioural barriers isn't a silver bullet-there are many structural barriers that require appropriate solutions-but they can make a significant impact on government services (and citizens' lives) without requiring policy overhauls or large injections of funds.

say that again

"...nudges assume socially positive outcomes that are choice-worthy."

Nathan Maddix

Founder, BIG-Behavioral Insight Global, Online UN Resources in Behavioural Insignt for Public Policy

Raheel Waqar

Chief Executive Officer
White Rice, Pakistan

Note: The following series of interviews have been conducted by Mr. Raheel Waqar, CEO, White Rice

The Pakistani policy-maker is grappling with serious challenges, such as increasing tax collection, reducing energy and water consumption, and improving the efficiency of public welfare programs.

All of these targets can benefit from the application of behavioural science, especially in the current situation where the government is short of funds to provide people with economic incentives.

Come to think of it, economic incentives, are expensive and they really are just systematic and cognitive changes to the choice environment and choice architecture. The aim is not for people to change just because of a monetary incentive, rather you are giving people a reason to do something with a positive outcome for them and they will keep doing it as long as the money is there.

Pakistan faces major challenges, such as increasing tax collection, energy conservation, and especially reducing power theft. In your perspective and experience, how can nudges be used?

This is a great question. There are two notable examples I would want to focus on. One that I have more experience with is energy conservation; the other is tax collection which is very similar.

In tax collection, for a more general audience, major nudges can be applied on social norms by helping people understand how they compare to other people similar to themselves. You could influence people who don't pay on time or may not know about their taxes, such as benefits they could claim.

Energy conservation is a broad topic that has a range of considerations from habits to beliefs to bill payment. Again, one can think of social norms about how people compare themselves to their neighbours but in this case directly on how much energy each household is using and how much each is paying. Indeed, a lot of research has been done on households and energy consumption to help people think more about energy, which is a very murky idea for many, due to kwh which can be confusing. Opower is a famous example for simplifying how people understand energy, with now up to around 80+ utilities in the USA. They send "home energy reports" to show people how their performance compares to others, which gives an idea of how wasteful or progressive their consumption habits are. Energy reports are effective because they give you feedback and show you how you compare with your neighbours, using smiley face ratings smiley faces (frowning = below average, smiley = above average). And it works-and, admittedly it is weird that it works so well. People talk a lot about it, now that people can clearly see that it works that it works, and some believe we use this method it more often. This is a good example of nudging because it did not cost much to implement and has substantial gains.

My focus on energy in Pakistan would be a reminder to people to pay on time and reminders of how much energy they are using, displayed through a lot of concerted effort to improve customer feedback mechanisms and increase engagement.

There are a lot of studies to show that any type of information about your energy usage habits has an effect on how you are going to use it, not only social norms. Many people have good intentions but simply do not know their own habits or behaviours, especially with energy, which is often hidden and converted into prices. Visualized displays, whether reports, digital tech products, or meters, can help users monitor energy every day rather than only seeing a report each month. At this time, we are seeing many types of feedback mechanisms to achieve this goal. For example, load disaggregation shows each appliance by visualizing what is causing spikes in your energy throughout the day, such as an appliance versus a light switch. So you can actually see a huge spike when you turn on certain appliances, which tells how much energy an appliance is using. In the United States you can check frequency at different times and the rate you will be paying based on the time of day, because it differs throughout the day in many places. If we want to influence energy habits, we need to break into those through various types of feedback goal reminders.

The third major area of nudges I would say would be defaults, where you can think about who is getting what type of energy and what the rules about that energy are. Also, you can think about technologies and different types of applications of energy for energy efficiency, like smart thermostats. Smart thermostats are 'smart' because they have auto default temperature setting with a preset optimal point, or you can set it according to your preferences and it will keep you within a certain to prevent other users from cranking up the AC/heat to feel the effects faster. This is a good, simple illustration that may have a dramatic effect as it prevents you from over-consuming your AC or heating.

Now, international organizations cannot do many of these things in practice. Most of the things I have mentioned so far are technological examples and/or require in-home products, but we can find clever ways to use mail letters or alter different types of government forms in order to apply different effects. This is what Pakistan ought to focus on. UN representatives should ask: For which policies specifically can you get hold of something by paper or digitally and add or alter the choices communicated via that medium?

After that, we can use behavioural interventions that encourage people to stop using their ACs. This might be messages you can communicate to people through campaigning, public announcements, marketing, or producing a reminder which people can put on their refrigerator. These types of low-level interventions can be termed 'nudges' because you are trying to effect a change in somebody's choice by placing an intervention right at the moment of decision.

The government is trying heavy incentives and enforcement on certain things. You say tax issues are a big thing-is there anything else you feel has the opportunity to use nudges which you know currently exist?

Policies may be well-intentioned in providing resources or support to citizens, but it is never guaranteed that such policies will align beliefs and behaviours sufficiently to meet their goal. Even when using incentives, a relatively large incentive can be offered without changing actual beliefs or behaviours in the long-run. This means that after the incentive runs out, the behaviour change might stop too.

Consider electric vehicles (EV) in the United States. Manufacturers of electric vehicles were given large subsidies, which were passed on to consumers. Without those subsidies, we do not know in policies are EV adoption will continue to be as successful. Monetary incentives in policies are an old economic tool, and a good one. That's great, assuming that you have the money for this approach, but governments and national organizations often don't have money. They have to make choices of who gets what type of aid and why, and thus many people are left out. Furthermore, policymakers may not know why people are not making full use of a program or policy in an area which effects them, such as consumer rights or welfare benefits. A nudge's role to optimize the good outcomes which, in theory, are already assumed to be happening. For example: Let's assume that 75 percent of people have access to some benefits, say food stamps. The same person may not receive food stamps every week. Maybe they don't go back every week to collect the stamps because a family member is ill, or maybe they forget. There's always more we can do to ensure there is the best possible environment for them to come closer to receiving 100 percent of government aid, or a social program or a policy goal program or policy goal. In the UNDP, there is more we can do at the behavioural level to ensure people are making full use of the programs and options available to them, both within the UN organization itself and with partners in country offices.

As many UNDP representatives know, the job is never really done, and unfortunately we have a long way to go for many things. We have seen some positive results from nudging. Above all, we don't want to just throw money at the problem. We want to understand how people are using resources they have been given, and how to improve services. Doing this requires some scientific evidence. We don't want to have any distractions or barriers in the way. In the example of EV, we hope that people will want to buy electric vehicles rather than simply doing so for the money to do so. We want beliefs to change and to make it easier for behaviours to align with those beliefs. To extent the analogy, we want the process of buying EV to be made and for the price to be within reach. Thus nudges complement public policies and programs, including incentives and subsidies.

When people work against their own interest for some reason, is that a good characterization for nudge?

No, not really. Nudges encourage people to go that extra step in their own interest, so in that sense they amplify positive policy outcomes by helping someone achieve a previously established goal that they already believe in or which the government has collectively decided is positive. For example, back to the food stamps example. A nudge helps someone who wants food stamps by guiding their choices to get food stamps more easily when they are already looking. Helping them to get something they already want is in accordance with the policy-making process fo good governance. We would want to give timely information and provide clear choices to enable the positive outcome, and nudges assume socially positive outcomes that are choice-worthy; they are not external or arbitrary to the policy. There may be choice inconsistencies shown by behavioural economics, but that is secondary.

Compared to nudges, behavioural interventions start from the outside and are then put in people's way. Thus changing the outcome. Take, for instance, a training program that provides materials for achieving an outcome (better health) instead of changing how the people are already interacting with an existing process (choosing how to donate organs on a government form). So there is a slight-but very important-difference. Nudges do not create a new choice of outcomes, but work within current constraints. They should not change the local policy goal. Nudging optimizes and behaviouralizes the policy process. It structures choices to make positive outcomes more likely to be achieved. Any time that a behavioural or cognitive error could occur, whether that be memory, timing or lack of information., nudges can improve outcomes by making processes smoother and helping to overcome human limitations in meeting the policy on one's own terms.

What is the first step you think that the Pakistani government could take in integrating that work, especially in rolling out policy? What would be your recommendations for integrating nudge work in their policy initiatives and the other work they are doing in planning policy? What is the other application you see?

I would recommend five steps to follow in order to begin using nudges to complement policy making. In general, you need to identify policies that have behavioural components, narrow these down to behaviours that are the most accessible, predict eventual ways the policy application could go wrong in light of cognitive and behavioural limitations, and then try to achieve policy goals in a complimentary manner, not trying to do too much. The goal is not to nudge every policy, but if a nudge is there, it's good. Think about nudging as tightening screws instead of drilling new holes altogether. To get off the ground right away, there are usually some obvious low-hanging fruit that can be targeted to get going and score "easy wins." These positive results are important in building trust and support throughout government divisions and partners. I know this is the approach many nudge units have taken, especially with reminders and default options.

Let us take a more in-depth look at each of these steps in the process. Each step offers a guiding question followed by some helpful explanations.

I. Prioritize Policies: Which Policy? Take note of the recent policies in Pakistan. Prioritize which policies are likely to resonate with citizens, stakeholders and the expertise of available staff. These may be high-need areas or popular topics. Recent, topical policies are also likely to be most amenable to public funding and public support and the political will necessary to improve upon them. Narrow down to three or four

policies, and prepare to deep dive into the main features of each to understand what many call "behavioural bottlenecks" and constraints.

ii. Bottlenecks: What might get in the way when people are interfacing with these policies? Map out the potential behavioural bottle necks–those features of both the human actor and the behavioural process itself–that could lead to problems for that policy outcome. Write out all possible ways that someone could "miss the mark" of that intended policy goal. Where in the process could have things gone wrong? Was there a step that is extraordinarily difficult? You may want to conduct qualitative research by asking a small group of citizens about their experiences. After barriers have been detailed, work with experts and available staff to link back to behavioural science literature on what has been done before and integrate approaches like reminders, defaults, social norms, which appeal to memory, choices, and identity, respectively. This part seems daunting, but the solutions usually fall out of the specific bottlenecks. Further, the behavioural science literature is extensive and provides many resources, strategies, methods, and nudges that have worked.

iii. Constraints: What are the cognitive and emotional constraints? If we think about the intended outcome of each policy to be an average outcome with variance and outliers, then we can think about changing that outcome with nudges to improve accuracy by making it more likely that people hit that target on average. However, people are constrained by more than processes. In addition to logistical and procedural barriers, we also need to assess how information and emotions may impair decision-making for minorities, subgroups, and other segments of the population. This is similar to analyzing bottlenecks, but it is important to think about the "mind stuff"-- what messages are connoting, what information people have and the degree of its clarity, and how emotions and attitudes about actions (driving to a health clinic) may impact the target (increased vaccinations). We would want to put ourselves in the shoes of those whom the policy affects and ask ourselves, what are my specific constraints as the person who has to actually do this, and how will I respond to a nudge? Will anyone respond abnormally to changes in the process? We should think a lot about those constraints to make the policy as effective as possible, and there are ethical reasons to do so as well in case changes help one subgroup but harm another inadvertently.

iv. Implement: How will this practicably and feasibly be implemented? At the end of the day, each of the theoretical issues and solutions you have discovered in (2) and (3) (the discovery period) will have to actually be put in place by a government agency or public partner. Outline how this will actually be achieved in practice. This is the reason earlier we deep dived on 3-4 policies, in case one or two are not viable. When thinking about viability, consider data collection: What are the outcomes (outputs) that can be measured, quantified, or monitored? Also consider also expertise and which experts know how to preserve data quality in surveys and systematic procedures. I do not think you need to find a behavioural insight expert per se, but you do need someone who is trained in behavioural sciences of some type, who knows how to run and implement data. And honestly, that's a lot of people from any field in behavioural, decision, and social sciences.

v. Evaluate in context: How will you evaluate and interpret findings in context? Working with an expert is helpful because they are able to use the nudge theory in a way that complements the context. Behavioural insights are so context driven; you just need to find the best theory you know and try to apply it with an understanding that context is king. Nudge theory is a guiding approach on how to steer decision-making, but it is very much conditional on the context as to what that looks like. Have a plan in place for how you will interpret the findings. What distinguishes nudges from other methods are specific context-driven evaluations, being able to say this did in fact improve decision-making for the majority of people in this specific case; otherwise, it is merely theoretical, or we are just behavioural designers or policy makers without scientific processes.

How do you see behavioural design process that uses behavioural psychology in it, and how is it different from nudge work?

That's an interesting question because behavioural design and behavioural psychology share many common properties and even approaches. If I had to differentiate them for theoretical purposes, I would say that a behavioural designer is actually thinking more about how people are going about an experience (such as user experience or user design), whereas a behavioural psychologist is thinking about causal effects-what factor is causing an intended or unintended effect. Of course, there's much overlap between these worlds. Behavioural interventions (programs, activities, exercises, etc.,), often used by behavioural psychologists to change behaviour, have usually one goal in mind which can be hypothesized and thematized. They are added into a process after the original design because something has not gone completely as planned. Additionally, behavioural interventions as compared to design can encompass any external medium put in a process, such as a training program. Nudges, too, are largely speaking improvements to what was initially designed as adjustments to a step already in a process, such as a decision procedure in choice architecture. Behavioural psychologist's thus use interventions and nudges, whereas designers focus on building the basic platform and path analysis by which users engage and interact, often toward a goal but not always. Since behavioural designers do not know how users will respond to a process, program, or experience, behavioural interventions and nudges are useful to optimize and improve behavioural outcomes.

If you had to talk about your opinion on how the SDG targets can be achieved using behaviour science, what's your perspective and take on this?

First, SDGs are ideal but not yet fully informed by empirical evidence on human behaviour. They are the highest goals we can have in literally every area of our life. They are pretty much made without knowledge of behaviours and what people are capable of given local resources, constraints, and incentives-similar to many policies. Behavioural science can show where people are able to reach up to meet these ideals, why they may fail to reach these goals within the timeframes the UN sets out, as in the Agenda 2030, and what motivates people to internalize these values with coherent beliefs and behaviours. With knowledge of behavioural considerations, motivations, and limitations, we may be able to better achieve the goals instead of preaching about the ideals. In effect, UN representatives all believe in the goals, but we do not know the best way to achieve them. Behavioural science can improve communications, systems, and procedures to coordinate around SDGs. By using behavioural methods, we can evaluate programs and embed scientific thinking about human motivation at every step of the SDG process. We can generate data and surveys on behaviours that can be built upon for years to come to provide resources to program staff, country offices, and public partners. Since all UN programs are designed to align with the goals, this is not insignificant and is in fact quite revolutionary.

This comes back to the age-old practice of countries saying we want to grow, grow by increasing GDP instead of focusing on practical steps people can take. The same goes with SDGs: The goal isn't to reach the goal, the goal is to always have a goal and try to reach it. It's an ideal, and behavioural science can tell us what people are capable of in each category. We can set more realistic goals and work with people on beliefs and behaviours to get them to believe in those

goals and not just tell people that they should be better when many people are simply responding to local constraints, information, and incentives.

Behavioural science tells a lot about the "why" of human behaviours, choices, interests, and preferences within systems, as well as basic descriptive data about people. Behavioural science may tell us what is going right or wrong and the reasons for both. To promote SDGs, we can move away from general statements and to the nitty gritty of the data. Nowadays this isn't a tough request for country offices, as today we are pretty good at collecting data. We can design better surveys. We can evaluate, randomize and control for group differences. We are very sophisticated now. Sharing and networking to work together is now very easy. There is no reason then for not doing it the right way with data-driven solutions that track how behaviours can be improved over time. If we did this, it would be easy to identify and close gaps.

That brings us to the main point about why behavioural science is necessary for SDGs: funding. A lot of money is spent on improving policy making and capacity building which currently is a lot of guesswork-behavioral design without behavioural psychology. Instead, we can have programs with more evaluation. We can promote design with science together. In terms of our ethical duties, behavioural science can tell us for whom what kind of program or intervention was most helpful. Further, we can identify who might be marginalized and falling behind, not just countries in aggregate, but people within countries who we can help and then funnel money to those specific groups and their needs with targeted interventions. Finally, the UN has a lot of initiatives and programming without measurable impact when it comes to the basic drivers of human behaviour in the long run. We don't know if we are actually changing beliefs, whether these beliefs are mapping onto behaviours, or whether as a group we are simply ticking boxes off in terms of the most immediate priorities. Behavioural science can guide use toward achieving the SDGs by providing transparent, verifiable data driven solutions, interventions and nudges to understand human behaviour which can be hypothesized and thematized. They are added into a process after the original design because something has not gone completely as planned. Additionally, behavioural interventions as compared to design can encompass any external medium put into a process, such as a training program. Nudges, too, are largely speaking improvements to what were initially designed as adjustments to a step already in a process, such as a decision procedure in choice architecture. Behavioural psychologists thus use interventions and nudges, whereas designers focus on building the basic platform and path analysis by which users engage and interact, often toward a goal but not always. Since behavioural designers do not know how users will respond to a process, program, or experience, behavioural interventions and nudges are useful to optimize and improve behavioural outcomes.

say that again

"...nudging is about the deep understanding of decision making, to come up with behavioural change and it needs to work on multiple levels."

Tom De Bruyne

Co-Founder
SUE Behavioural Design, Amsterdam

How do you use nudges in your work?

This question needs an understanding of the context of nudges. I would say that in my work as a practitioner, I think nudging is first and foremost all about using a deeper understanding of human decision making to come up with interventions for behavioural change. That's why we prefer to talk about behavioural design than "nudges". Behavioural Design touches upon a broader range of insights, tools and techniques one could use to influence minds and shape behaviour.

It includes designing the behaviour of a citizen, consumer, employee, voter, donor etc. In the end, it is all about trying to figure out in this specific context which behaviour you want to design, and how you want to change behaviour. The better you undestand why people do the things they do, the easier it becomes to come up with tactics for behavioural change.

The most important challenge as a practitioner is that you need to come up with nudges or interventions that work on multiple levels. For example: When we want to design behaviour to come up with a proposition for people to donate to the UN refugee agency, our interventions need to work on several levels:

- One of them is the level of attention, the need to figure out the way to break in to people's attention.
- It also needs to work on the level of perception, so that it matches with the way people think about themselves. So, we need to carefully think about how we frame things so that people do not just ignore it.
- Our nudge also needs to trigger certain behaviour or to break certain habits.

The biggest misconception about nudging is that they are all about the use of tactics. It is much more than that. If you take the broad scope about human decision making, nudging is one of the tools in a broader toolbox of behavioural design techniques that can be used to design perception, attention, experience, behaviour habits etc.

So I would say nudging is about the deep understanding of decision making, to come up with behavioural change and it needs to work on multiple levels.

Could you share an example from the work you have done in which you have seen a role of behaviour design and how you used and applied nudges in public policy, public campaigning, or mass awareness raising?

Well, there are so many cases. A recent one was a project we did in the Netherlands on how to nudge people into more recycling. For the campaign, we had to come up with interventions to trigger people to prevent people from disposing their waste in public places. Although there were all kinds of facilities for people to drop their household waste, the current behaviour was that they would throw the wrong stuff at the wrong place, or they would just drop it next to the container, and that apparently is a big problem.

It is a really difficult thing from a process management/government point of view to figure out how to recycle properly. So, we came up with different kinds of interventions, most of them were on a habit formation level.

For instance, one of the interventions was that we connected IT-chips with waste containers, giving credits every time someone disposes his waste in it. So, every time you contribute to recycling you save up more credits. With those credits, you can get a lot of advantage on buying waste bins or other recycling products sold by the government in city halls.

Another communication intervention involved distributing posters in apartments and neighbourhoods where the problem was the biggest. On this poster, there were 3 simple squares in actual size of the specific containers. It was a simple reminder to the people that the things they want to recycle would actually fit in the container.

The final thing was the product intervention. On the recycling facility, a plate with sensors would be installed. The moment people would place stuff next to the container, the sensors would detect it and there would be a sign and a light and the buzzer beeping. So you would get an immediate feedback which would urge you to rethink the desired behaviour.

I think the moral of the story is that you always need to think about addressing the problem with interventions both in the product design as well as in the communication around the product.

When you look at the process, how do you compare the behavioural design process and the process followed for behavioural economics? What difference do you see?

I think our process differs from that. I do understand the necessity of academic rigorous research because if you want to convince policy makers to invest in the specific policy that would touch the life of maybe hundreds of thousands of people, it needs to be right.

On the other hand, I would counter that argument with speed and agility. The way we approach things is much more in the spirit of the lean startup. We put a lot confidence in doing interviews and observations, and doing it rapidly. With our insights from rapid prototyping, we often do a second sprint (which we call a refinement sprint), in which we often do some prototyping in the real world. We feel that the speed of doing fast sprints of quickly adapting, retesting and prototyping actually works really well for us.

An important argument against the obsession with scientific proof is that infuence is incredibly context-dependent. The slightest difference in the way you present a choice, can have a gigantic difference in how people perceive it. That's why I much rather prefer aggressive experimentation. Prototyping and testing teaches us a lot faster what works, how it works and why it works.

All organizations want to move fast. The goal of a Behavioural Design Sprint is to discover key insights and design an intervention that could actually trigger the desired behaviour. The faster you understand the problem through rapid experimentation, the more confident you will become to make progress. So, instead of doing a rigorous academic AB testing, we are much more about the experimental methods. We try things, test them out in the real world, try to see what works and why it works.

You have already touched on the point of misconceptions a bit but are there any other misconceptions around nudges that you feel?

First and foremost the biggest one is that nudging is about tactics, it's not. It is about deep understanding of human decision making because the influence is very contextual. In a specific context an intervention might work, in a different context it simply might not work. So, you need to understand the context. You need to understand the force that prevents people from performing the desired behaviour, whether its cultural beliefs, simple lack of understanding, lack of ability, lack of will or a bad habit that stands in the way.

So many times we discovered in our prototype test, that the nudge we were absolutely convinced of, just did not work at all. Most of the time, it was because the words we used, triggered all kinds of unwanted thoughts.

Let me give you an example: We did a prototype test for the UN refugee agency where we were looking for a couple of value propositions for people to donate the cash based assistance. The thing is that you cannot easily motivate donors to support the cash assistance program because people have all kinds of anxieties and doubts about it. We experimented a little bit, and were convinced in the prototyping phase to work with the "investor"-frame. We figured out that "become a humanitarian investor" would spark curiosity and excitement.

We pitched this idea to the donors, and to our surprise, people were offended by what we were thinking. This simple idea to become a humanitarian investor triggered all kinds of negative capitalist associations. People actually felt insulted. They felt that they are not doing the right thing. They feel they are giving the money and an anonymous family in a refugee camp will take the money from a cash machine. We didn't think like that when we were designing the value proposition. A quick test revealed that all kinds of defense mechanisms and anxieties were triggered by our frame.

This is an example how nudging is not just about tactics. It is understanding the hypersensitive nature of humans. We need to understand everything about the intervention that we design such as: who is the designer of the intervention, what are the words being used, etc. It all affects the the ways in which the target audience may interpret the intervention.

So building on this, the type of work that you do, both in your sprints and behaviour design projects, what sort of problems are suited for the type of work that you do?

Nearly everything we do, in some way, has the goal of influencing the behaviour of people. Understanding how influence work is actually a big blind spot in all kinds of disciplines that are occupied with behavioural change. One could argue that every field is about behaviour change. The government wants to change the behaviour of citizens, companies want to influence the behaviour of consumers and employees, politicians want to influence the behaviour and perceptions of the voters, families want to influence the behaviour of kids and so on.

The common denominator in all those stats is that understanding how influence and decision-making works, really is a missing layer. Most professionals are not aware of human decision making, irrationality or system 1 thinking. That is why the economy is screwed up in many ways. The whole economy is designed with rational actors in mind. This bad understanding of human decision making lead to the 2007 financial crisis. We all counted on the fact that bankers would be rational, but they turned out to be hyper irrational and highly triggered by all kinds of incentives that triggered gambling behaviour. So I say everything is a behavioural design challenge.

The biggest problem we are facing in every discipline is that most of the time, people who are responsible for designing a campaign or a marketing program have a wrong idea about the people they are trying to influence. So, the interventions they use are wrong. They try to persuade, argue, or convince companies to use bonuses and really stupid incentives, thinking that people are driven by the desire to make more money. However, the most successful companies understand that people are driven by the desire to do meaningful things and solve interesting problems. Thus, in every aspect of life, a better understanding of human decision making really helps to come up with better society, better companies, better marketing programs etc.

Right. So coming back to the next question. Looking at the behaviour design sprint process and the regular design spring process, what do you see the behavioural design sprint in terms of what does it add to the process? What is the take away at the end of the day?

I would say within the three steps of design thinking, if you use better understanding of human thinking and decision making, you will take better analysis of forces that shape people's behaviour, and thus you will be better at spotting opportunities.

In the ideation phase, you may use the signs of influence. Behavioural economics and nudge thinking contribute to better ideation.This also improves things on the level of prototyping because when you have a better understanding of human decision making and how influence works, you have a better idea what your prototyping should be solving e.g. to take away a barrier, an anxiety, a prejudice, a problem or a pain. The better you understand what you are designing for based on human understanding, the better your design thinking process is. I would say design thinking is a creative methodology, and the layer of behavioural psychology on top of it improves it exponentially.

How do you think behaviour design can be applied to solve sustainable goal challenges and other social challenges out there that are large scale problems that affect millions of people?

I would say that behavioural design is invented for these challenges. The reason why I argue this is that these are classic wicked design problems. These are the problems where you want to change

behaviour of a large group of people.

Every bigger outcome starts with specific behavioural change. The behavioural design work focuses on the bigger goal, as our design goal, then we break it down to very very specific behaviour. We try to figure out what are the specific behaviours that need to be changed, which makes the bigger goal possible to address.

Interesting thing is that if you take no poverty or zero hunger as an example, they all consist of all kinds of behaviour that need to change in order for this gigantic outcome to take place. That would mean both the government needs to change certain behaviours, farmers need to change behaviours, and the behaviour of investors need to be nudged in order for them to act more sustainability instead of applying disaster capitalism.

Another example would be to achieve zero hunger; it is an incredibly abstract concept and is the sum of maybe a hundred different behaviour and habit changes and incentives combined to eventually lead to communities, businesses and government rethinking the way that they approach distribution of wealth and the production of food in such a way that it contributes to no more hunger.

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