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## **Nudge Concept and its Controversy - The Behavioural Economics Applications**

**Muhammad Masyhuri**

Faculty of Business and Economics, University of Pecs., Hungary | [masyhuri.muhammad@gmail.com](mailto:masyhuri.muhammad@gmail.com)

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### **Abstract**

Over the decades, the nudge idea of behavioural economics (BE), disseminated by Thaler & Sunstein (2008) in their well-known book, has generated controversial views among many academics and scientists around the world. As an application area of behavioural economics (BE), nudge theory and the nudge concept has found many supporters, but at the same time has generated controversial views among many academics and scholars around the world, especially with regard to its broad definition, decision-making architectures, and libertarian paternalism concepts. Interestingly, this concept has attracted a lot of attention from key government officials, especially in the UK and the US, to change the behaviour of the population to a significant extent. The aim of this study is to discuss the nudge concept and its application to current situations and also to shed light on the critical views of this concept. It was found that this concept, although it has many critics, is considered a useful tool to change the behaviour of people or customers without using coercive measures to achieve the desired result.

**Keywords:** Behavioural economics, Nudge theory, architectures, libertarian paternalism

### **Introduction**

Over the decades, the nudge idea of behavioural economics (BE), disseminated by Thaler & Sunstein (2008) in their prominent book, has generated controversial views among many academics and scholars around the world.

On the one hand, it is acknowledged that this concept is still appropriate for the present and could mean economic progress for human health and welfare in the future. As a result, Nudge has generated significant interest among academic scholars, receiving more than 5,000 citations across disciplines (Earl, 2018; Egan, 2017). Perhaps the most famous event came from the two major governments of the United States and the United Kingdom, where the U.S. government created the Social and Behavioural Sciences Team (SBST) and the U.K. government created the Behavioural Insight Team (BIT), both of which established dedicated

Nudge departments to support soft behaviour change in the population at a tremendous level through the application of the Nudge concept (Benartzi et al., 2017; Government, 2010; John, 2018). Subsequently, the implementation of this concept has been used extensively throughout the world, particularly in government and in many sectors, including health and education (Benartzi et al., 2017; Ly & Soman, 2013). In the current pandemic of new viruses Corvid-19, the United Kingdom and the NHS of the Netherlands have also implemented this approach to reduce the impact of such viruses (Behavioral Insights Team, 2020; Green, 2020; S. Mills, 2020).

On the other hand, the nudge approach is considered flawed and is not an operational and compelling strategy for the type of behaviour change needed to solve communities and large-scale social problems (Baldwin, 2014; Frey & Gallus, 2016; Goodwin, 2012; Kusters & Van der Heijden, 2015; Levy, 2019; Moseley & Stoker, 2013).

The purpose of this paper is to explore and discuss the BE application of the nudge concept and its application to current real-world situations, and to attempt to explain critical views of the concept. Several components will be explained. First, the definition of the nudge concept is discussed, including the pros and cons of this concept. Then, the application of the nudge concept is explained, particularly in important sectors. The following section provides considerations and recommendations for improving the nudge concept. Finally, the last section is summarised with the conclusion.

## **Nudge Concept – A Literature Reviews**

This section first explains and discusses Thaler and Sunstein's definition of nudge and their idea of libertarian paternalism (Thaler & Sunstein, 2008). It will then introduce some of the theories and ideas about human behaviour that have shaped nudge theory and discuss how other scholars have defined and argued for the concept. In addition, an analysis of how various Nudge interventions work will be presented.

### **Definition and Concept of Nudge**

As a noun, nudge is defined as “a gentle nudge, usually with the elbow”; as a verb, nudge means “to nudge someone gently, especially with the elbow, in order to attract or gradually direct their attention in a particular direction” (Oxford Learners Dictionaries, 2020).

Thaler et al. (2009) defined nudge as a specific feature of “choice architecture” that alters the behaviour of human activity in an expected way without hostile selection or significant change in the situation; as such, interference should be easy to achieve and is not mandatory.

### **Choice Architecture**

Choice Architecture is the core concept of Thaler & Sunstein's concept of Nudge Works. Choice architecture is considered the atmosphere in which people make choices by seeking change in the physical and social environment to stimulate people's behaviour without limiting choice (Levy, 2019; Thaler & Sunstein, 2008). Therefore, it is highly likely that an architect's evolving choices will influence the behaviour and collaboration of people within a structure. In this case, decision architects, either governments or corporations, can smoothly influence the decisions of others as actors. For example, a decision architect may determine that the food

display in a restaurant should be changed to offer fruits and vegetables, which may encourage people to choose healthier alternatives. Nudges typically work by enticing the automatic system of the human mind to help people live better (Thaler et al., 2009).

In their book, Thaler & Sunstein (2008) provide a broad but concise definition of nudge, which at its core is about changing people's decision-making architecture to influence their behaviour. It is a broad definition because a wide range of interventions fall under the umbrella of nudge, and at the same time it has a specific meaning that provides clarity about which interventions are nudges and which are not. While there is general agreement in the academic literature that nudge is a broad concept, Hollands et al. (2013) critically note that Thaler & Sunstein do not provide a clear definition of nudge because, by their definition, nudge could include all interventions that influence people's behaviour, with the exception of economic incentives, laws, and regulations.

What is clear here is that the notion of nudge is not a stand-alone intervention. Accordingly, Thaler et al. (2009) present Nudge as a broader concept that can cover many different types of interventions, such as the application of a particular selected choice to expand opportunities; the application of choices to how difficulties are limited; the emphasis on what others do in a social encouragement to inspire particular actions; and interventions that might change the physical and social environment in response to human behaviour.

### **Libertarian Paternalism**

The concept of libertarian paternalism is seen as central to Thaler and Sunstein's concept of nudge. Libertarian paternalism strengthens nudge theory and has been referred to as a political philosophy or ideology (Baldwin, 2014; Hollands et al., 2013; Kusters & Van der Heijden, 2015; Marteau et al., 2011). Accordingly, Thaler et al. (2009) define libertarian paternalism as an approach that protects selection autonomy while legitimising choice architects to guide individuals' choices through their own judgmental decisions. Thus, Nudge possesses two distinct concepts: as libertarian by upholding an individual's right to choose as they wish, and also as paternalist meaning that it can drive the authority to seize the government that people behave to improve their welfare outcomes.

Since libertarian paternalism is considered a dubious concept, the Nudge concept is not considered fully autonomous (Le Grand & New, 2015). Other scholars acknowledge that while nudges do not have an impartial impact on individual liberty, they can develop a proper balance when evaluating other governance interventions, such as regulations, and attempt to reduce the impact on individual liberty (Santos Silva, 2022). Some scholars have disagreed with Thaler and Sunstein on their definition of paternalism. For example, Hausman & Welch (2010) believe that whether those exposed to a nudge agree that it is beneficial to them is not determinative in classifying an intervention as paternalistic. Thus, paternalistic interventions do not always preserve freedom of choice.

### **The Development of the Nudge Approach**

Cognitive Systems - the human mind: the automatic and reflective system

Since the 1970s, the nudge concept has drawn on research from BE and countered the notion that people inherently make sensible choices that are beneficial to themselves, as assumed by traditional economic theory (Thaler & Sunstein, 2003, 2021). However, sometimes people make poor decisions that they would try to change if they had complete information, unlimited rational capacity, and the freedom of self-control. Research by psychologists has been used to examine how the minds of people who tend to make poor choices function and who might benefit from nudges. These researchers define two cognitive systems in the human brain, namely the automatic system, characterised by uncontrolled, rapid and unconscious thinking, and the reflective system, characterised by rational, calculated and sluggish thinking (Table 1).

Table 1. The Two Cognitive Systems – Automatic vs Reflective

System	Automatic system (System 1)	Reflective system (System 2)
<b>Features</b>	Uncontrolled; Effortless; Associative; Fast; Unconscious; Skilled; Intuitive	Controlled; Effortful; Deductive; Slow; Self-aware; Rule-following; Rational; Deliberative; Conscious
<b>Example</b>	Speaking your first language	Speaking in a foreign language

Source: Thaler et al. (2009) p.22

This notion is at odds with an accurate interpretation of cognitive psychology, in which humans are portrayed as having two mindsets that interact and shape human behaviour (Kahneman, 2011; Marteau et al., 2011). Cognitive psychologist Daniel Kahneman (2011) was instrumental in the development of nudge theory and promoted the use of the terms of the two-system theory of mind, namely System 1 and System 2 for what Thaler & Sunstein refer to as the automatic and reflective systems, respectively. Following Thaler & Sunstein (2008) two cognitive systems approach to the human mind, they contend that people too often rely on their automatic system rather than the reflective system to make decisions.

### Heuristics

Thaler et al. (2009) specifically draw on the work of Kahneman and Tversky to show how people often use heuristics, or rules of thumb, to make decisions, leading to systematic errors or biases that result in poor decision making. They focus on three types of heuristics, anchoring, availability, and representativeness, which arise because of a complicated relationship between the automatic and reflective systems of the human mind (Samson & Gigerenzer, 2016). Anchoring is the process of being asked a question and using an anchor, a known number. The problem with using anchors is that they are subject to biases because the person changing the value in question is often not appropriate. Availability heuristics occur when people are asked questions that typically relate to risks, and responses are often biased depending on what people remember or associate with the risk in question. Finally, representativeness or similarity heuristics occur when people make judgments based on stereotypes or what they perceive to be representative rather than on more accurate probability (likelihood) considerations.

In summary, Thaler and Sunstein show that the heuristics people use in their daily lives can often lead to poor decisions. One example of how nudge interventions work is by influencing errors in human decision making, such as people's reliance on these rules of thumb, to promote better decision making and well-being (Sande, 2016).

### **Loss aversion**

Other theories that have influenced the nudge approach include the idea of loss aversion, which makes losses seem greater than rewards (Kahneman, 2011; Samson & Gigerenzer, 2016). Thaler et al. (2009) provide research showing that people highly value the goods they own and do not want to give them up. Moreover, when they have to give up a good, they feel the loss more strongly than the pleasure of gaining the same object. Consequently, they argue that loss aversion leads people to be satisfied with what they have, even if a change would be for their goods.

### **Status quo bias**

It is argued that people exhibit a status quo bias caused by inertia and lack of attention that leads them to stay with the current situation or status quo regardless of whether it is in their best interest (Thaler et al., 2009; Samson & Gigerenzer, 2016). Nudges, which work by carefully selecting the default option and giving people the right to choose not to do so, are recommended when people face many complex decisions and aim to influence human behaviors to promote individuals' well-being. For example, the default option has been used in practice to automatically enroll people in annuities in the United Kingdom to encourage them to save for retirement, and it has been recommended as an approach to help people in the United States choose prescription drugs that have numerous and wide-ranging features (Thaler et al., 2009).

### **Framing**

Thaler et al. (2009) show that the way problems are formulated or described influences human behaviour. In this approach, certain aspects of a problem are highlighted to influence response or subsequent action (Moseley & Stoker, 2013). According to Thaler et al. (2009), framing is a powerful impetus because people tend to make rash decisions and because people's reflective systems are unable to test whether reframing a problem would lead to a different response.

### **Dynamic inconsistency**

The economic idea of dynamic inequality is discussed in nudge and describes a situation in which individuals initially prefer an option that may promote well-being, but then act differently. This is partly explained by the influence of the immediate environment on human behaviour and the lack of self-control (Thaler et al., 2009). For example, individuals may intend to exercise because it is beneficial to their health, but other environmental factors, such as the lure of TV, may prevent them from actually doing so. Posting self-commitments is suggested as a behavioural approach that can help individuals achieve their goals, such as losing weight, and overcome self-control issues because of people's desire to adhere to public statements and avoid the potential embarrassment of breaking such commitments (Thaler et al., 2009).

### Deferred gratification

Thaler et al. (2009) define investment goods, such as physical activity and healthy eating, as goods where the benefits are deferred and do not provide immediate gratification, leading people to pay too little attention to them. Nudges can be used to raise people's awareness of investment goods. It has been argued that nudges are most effective when the action in question is perceived by the person to be the right thing to do, and therefore nudge can help bring the response to the forefront of the human mind (Moseley & Stoker, 2013).

### Salience

In the economic concept of supply and demand, it is assumed that incentives and price arguments are necessary to influence behaviour (Thaler et al., 2009). This means that higher prices lead to an increase in supply and consumers demand less. It is argued that incentives do not work if people do not pay attention, and therefore nudge theory brings into the debate about the effectiveness of government intervention that incentives must be salient in order to work. Salience is defined as a major influence on human behaviour and occurs when people's attention is drawn to what is new and appears relevant to others (Dolan et al., 2010). In addition, Thaler et al. (2009) argued that modest increases in the price of electricity to reduce consumption may have less influence on desired behaviour than when the increases are made salient, such as through the use of thermostats that reveal the cost. In summary, salience is a feature that choice architects can use to guide people toward incentives that have the potential to increase human well-being (Thaler et al., 2009).

### Social influence

Another important aspect of nudge theory is the role of social influence in shaping human behaviour. One challenge is knowing how to encourage or discourage certain behaviours or beliefs. Thaler et al. (2009) argue that an important reason people are influenced is because of the power of conformity. They highlight two important ways in which other people influence us: first, through information about what other people think or do, and second, through peer pressure due to concern about what others think and fear of not being liked (Thaler et al., 2009). This human tendency to conform can be used to steer people in welfare-enhancing directions. An example of a social norms-based approach to reducing alcohol consumption is an educational campaign in Montana, USA, that highlights statistical information about alcohol consumption, including the fact that a large percentage of residents do not drink alcohol, to encourage citizens to adopt healthier behaviours related to alcohol consumption (Thaler et al., 2009).

In summary, nudge theory identifies reasons why people make poor judgments or decisions, such as using heuristics, being influenced by how a problem is presented, or lacking self-control (Chapman, 2014). Thaler and Sunstein do not seem to offer analytical categories for how nudges work through various mechanisms of change, such as stimulating our automatic system or harnessing the power of social influence. The focus is on nudge interventions that work through the automatic system to influence behaviour and improve people's lives. According to (Saghai, 2013), a nudge increases the likelihood that a person will make a certain

decision or behave in a certain way by changing the atmosphere to shape the involuntary cognitive processes to support the desired outcome.

### **The Opponents Parties of Nudge concept**

Since its inception, the nudge idea has already found many opponents (Barton & Grüne-Yanoff, 2015). Most criticisms of nudges involve exploiting people's policy-making mistakes to influence other people's decisions, rather than helping them make a better decision (Baldwin, 2014; Sunstein, 2016). There is also concern that governments may use nudges to benefit their own purposes instead of residents, and a view that governments may be unfair in their decisions (Le Grand & New, 2015).

Goodwin (2012) argues that the strategy of using nudge in decision making should be banned in the United Kingdom because it violates the goals of government that support the concepts of authorization, autonomy, and impartiality. In addition, its use may not be an effective strategy for effecting behavioural change in individuals necessary to overcome problems in communities. In other words, as argued by Levy (2019), Nudge could interfere with personal autonomy in terms of freedom of choice.

Other scholars, such as Frey & Gallus (2016), describe two major criticisms of the Nudge concept when implemented in public policy settings. The first criticism is the narrow focus on liberal paternalism, which advocates failure to achieve welfare-enhancing outcomes because it may impede people's freedom of choice. The second criticism is that government decision makers are also subject to biases in their decisions.

However, Sunstein (2017) has identified all the weaknesses and found that nudges may also be unproductive and less effective than assumed for five other important reasons: (1) some nudges must induce misperception in the target; (2) some nudges have only immediate results; (3) some nudges (in rare cases) lead to results that go in the opposite direction; (4) some nudges are originally based only on a misunderstanding of the parts of the architectures that might influence people's movement in certain circumstances; and (5) some nudges lead to compensatory behaviours or no results. When a nudge is less effective, architects of choice have three possible outcomes: (1) no action; (2) the nudge variation is more than good; and (3) they need more reinforcements of the nudge effect through counteracting activities, incentives, commands, or prohibitions.

As argued by Le Grand & New (2015) and Kusters & Van der Heijden (2015), at least two major shortcomings occur in the application of the nudge concept, namely nudge legitimacy and nudge accountability and transparency.

#### *Nudging legitimacy*

The most common criticism of nudge theory relates primarily to the political philosophy of libertarian paternalism, which might interfere with people's moral freedom; as a result, people might not make their own decisions. In other words, government intervention must give up people's freedom of choice, even if the government has already developed a viable alliance with citizens (Kusters & Van der Heijden, 2015; Le Grand & New, 2015).

*Nudging accountability and transparency*

The second critique, nudges, is seen as lacking transparency and accountability in their actions. For example, when governments try to make different decisions than people would have made in general through the use of nudge tools at an involuntary level, it is most likely to lead to counterintuitive problems, as the majority of people do not believe in the government's correct methods (most people believe that there is always a hidden agenda of the government) (Kosters & Van der Heijden, 2015; Le Grand & New, 2015).

**The Proponent Parties of Nudge concept**

Although there are many critics coming from both academics and scholars, proponents of this concept are also gaining a significant number of voices. As Chapman (2014) notes, Nudge was initially introduced as an ethical concept and not used as a commercial manipulation mechanism or for exploitation by government. Slowly but surely, however, the Nudge concept has found massive impact and application around the world. Today, the principles and techniques of the Nudge concept are increasingly applied in many areas and motivations of groups, such as business, organisational leadership, politics, economics, education, and welfare.

Ebert & Freibichler (2017) pointed out that Nudge has been shown to marginally affect the productivity of knowledge workers by being based on intuitions from behavioural science and emphasising and filtering the organisational environment that requires the inspiration of quick thinking to increase efficiency and inspiration. As a result, nudge management is believed to offer many advantages over other change management methods because nudges are generally not cruel actions, are easy to scale, and do not require workers to significantly change their habits.

Other proponents of the nudge concept have been pointed out by Frey & Gallus (2016), who explain that nudge is an exciting concept; only small or even zero-cost interventions can help individuals manage their obstacles and behaviours in their personal goals. People can also have seamless determination and homo economicus cognitive abilities in developing better decisions.

Mills (2013), another proponent of the nudge idea, contradicted Goodwin's (2012) views in his paper. He argued that nudges fit well with the goals of government to improve the promotion of self-control; despite its libertarian roots, nudge is seen as well aligned with the preference for people's self-determination; therefore, it could also be used to promote willpower under non-paternalistic conditions.

Notwithstanding, Gravert (2019) takes a neutral stance by explaining that the Nudge approach can be consistent with other conventional methods of behaviour change, such as regulatory policy (which limits people's choices by excluding certain choices), economic motives (which make specific substitutes stronger by changing their value), and material (preference- or defiance-based behaviour change).



### **Application of Nudge concept**

Although the Nudge concept has taken much criticism from academics, scientists, and politicians, it is undeniable that it is being applied throughout the world, not only in the public and government sectors, but also in the private sector, education, health care, and many other areas.

Perhaps the most notable event was the widespread application of the nudge concept in the UK and US government sectors. The U.S. government created the SBST and the U.K. government created the BIT, which established dedicated Nudge departments that use Nudge approaches to help gently change society's behaviour on a large scale (Benartzi et al., 2017; Government, 2010; John, 2018). This method has subsequently been adopted by other government sectors on other continents, most notably in European and North American countries, including Norway, Sweden, Denmark, the Netherlands, Austria, and Canada (Kosters & Van der Heijden, 2015). As Peter John (2018) mentions in his book "How far to Nudge?", many governments have applied this concept because Nudge can provide more essential facets of behaviour by linking it to the tools and methods of current government policy. By reorganising government methods, such as new taxes or regulations, public policy can expand its authority to get people to voluntarily change their behaviour for the good of the community. In this scenario, the scope of public behaviour is much broader than the nudge approach, which can apply behavioural insights to all government activities; and this approach also allows one to act across the full range of tools and instruments to implement the chain of government actions. A fruitful strategy depends on network interfaces within government officials and can win the response of parties among residents and community institutions.

The second most common application of the Nudge concept in the real world is dedicated to the health and environmental sectors; it has already proven successful in the health systems of the United Kingdom, the United States, and the Netherlands (Green, 2020; Kroese et al., 2016; S. Mills, 2020). In the Netherlands, for example, this concept has been applied in the central station by involving customers to help them make healthier food choices. The results have been satisfactory, and almost 90% of customers have chosen this approach (Kroese et al., 2016). Similarly, nudges are regularly used to support the promotion of health well-being, such as smoking cessation and healthy food choices in public environmental health systems in the Netherlands (Green, 2020). Even during the current new Corvid 19 pandemic, the U.K. health care system, as well as the Dutch health care system (NHS), used a nudge approach to prevent a more widespread viral infection (Green, 2020; S. Mills, 2020).

In the corporate and organisational spheres, this approach has also been applied, for example, in the cafeteria of Google (Ebert & Freibichler, 2017; Egan, 2017), which uses nudging to simplify and restructure the choice architecture of its employees by simplifying predetermined productivity guidelines and policy decisions and improving the perceived freedom of knowledge workers in line with information and knowledge sharing. In promoting healthy eating, the cafeteria has established a food choice showcase to promote employee health and productivity.

The table below shows different nudging applications in different contexts and sectors in some countries. The table shows that the nudge concept is mainly applied in governmental sectors, be it health, environment, finance and taxation, or non-governmental and non-profit organisations (Kosters & Van der Heijden, 2015; Wendel, 2016). Interestingly, although Tagliabue et al. (2019) argue that nudges are naturally considered Type 1-directed facets, Table 2 shows that it is very likely that Type 2 nudges may have a more legitimate impact on creating a positive behavioural environment. To some extent, Type 2 nudges are more effective than Type 1 nudges (Lin et al., 2017; Rachlin, 2015).

Table 2. The Nudge Application in Different Contexts, Country and Results

Type of Nudge	Items Context	Nations	Results
Nudge Type 2, Provide differences information; Pre-set differences in choices donation	Funding money	the UK	Positive significantly (270% differences)
Nudge Type 2, Comparison religious thoughts versus non-religious thoughts	Funding money donations	Canada	Positive significantly (230% differences)
Nudge Type 2, Comparison opting out vs opting-in	Body Organ donation.	Sweden, Austria, Denmark, NL	Positive significantly (60–85% differences)
Nudge Type 2, Comparison Opting out vs opting-in	Charitable giving donations	the UK	Positively improve by 43%
Nudge Type 2, Personalised information	Court fines repayment	the UK	Positively improve by 30%
Nudge Type 2, Letters simplification	Outstanding payment on tax liabilities	the UK	Positively increase by 30%
Nudge Type 2, Comparison clean urban environment vs non-clean environment	Stealing and littering	Netherland	Positively difference by 25–35%
Nudge Type 2, Comparative behaviour (close peers vs distant peers)”	Household on tax payments	the UK	Fairly positive difference by 10%
Nudge Type 2, Upfront signature	Miles travel report to the insurer	the US	Fairly positive difference by 10% improvement
Nudge Type 2, House-to-house information on food-waste recycling	Food remaining	the UK	Moderately increase positively by 3%
Nudge Type 2, Message design	Body organ donation	the UK	Moderately increase positively by 1% depending on the message
Nudge Type 1, Comparative information on risk vs information on absolute risk	Breast cancer	the US	Likely positive indirectly from the medical study
Nudge Type 1, Presenting healthy food attractively	Healthy food selections	the US	Varied (23% increase for vegetables, but 7% decrease for starchy vegetables)
Nudge Type 2, Comparative behaviour information	The use of energy	the US	Varied (5% increase of under-performers’ behaviour; 8% decrease of over performers’ behaviour)
Nudge Type 1, Media campaign	Pension savings	Sweden	Negatively impact (unclear)
Nudge Type 1, Forced selection	Prescription subsidy plan selection	the US	Negatively impact (unclear)
Nudge Type 2, High, low and no token reward for desired behaviour	Volunteer work activities	Israel	A high negatively for the low token (35% decrease); moderately decrease negatively for high token (8% )

Source: Kosters & Van der Heijden (2015)

As Kosters & Van der Heijden (2015) point out, Nudge tests, trials, and evaluations should be conducted regularly and continuously to achieve the desired results of the Nudge approach.

To make the application of the nudge approach meaningful in the organisation, Wendel (2016) suggested several steps that have already been tested in another organisation, namely

- a) Identifying possible variations of a good or statement that can be confident will increase enactment.
- b) Experimentally implementing test changes on the smallest population available (or with limited time) to obtain meaningful statistical results.
- c) Direct implementation of instructions to the rest of the target population
- d) Conducting replications and testing of all conceivable changes (repeating steps a-c).
- e) Investing in technology funding to make the repetition stages as cost-effective as possible by choosing specialised tools such as Adobe Target without prior practical or arithmetic knowledge.

### **Nudge improvement consideration**

As Kusters & Van der Heijden (2015) noted, nudges have been shown to work with one group or in one setting, and it is predictable that they will work in another setting. However, the effectiveness of Nudge was extremely context dependent, meaning that Nudge interventions that worked in one setting may not necessarily work in another context (Radio, 2013). Therefore, it is believed that sound comparative studies are essential to better understand the performance of Nudge as a governance intervention.

To make entry into the nudging concept as simple as possible, (Gravert, C & Nobel, 2019), a Swedish institute of behavioural scientists, have proposed and developed a characterization of instruments to determine the type of nudge that works best in a single situation. They argue that their findings show that subjects find this Nudge typology fruitfully applied, promoting the REFINE matrix to improve the Nudge typology (Figure 1).

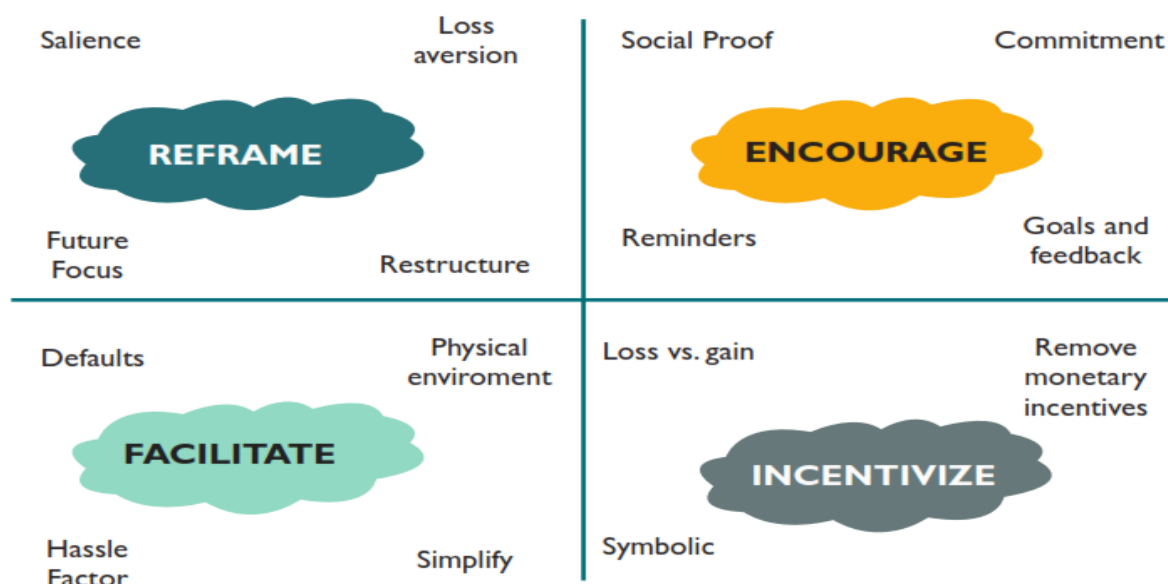


Figure 1. The Typology Improvement of Nudge using REFINE Matrix

The method characterization of REFINE matrix stands for: Reframe, Encourage, Facilitate and INcentivizE.

The first Nudge characteristic in the REFINE matrix is Reframe, i.e., offering evidence in a multifaceted system to respond to a cognitive error. The nudge type under this reframe consists of: a salience increase of a specific option, reframing between cost and profit communication, applying focus to an upcoming year, framing, and reordering option by reverse redistribution of decisions.

In the Encourage nudge characterization, a knower is used to provide data for a specific environment by using some communication modes between the architect of choice and the "nudge" people to develop behaviours towards a desired and exciting question. The example of Encourage nudges, among others, the use of creating social habits by creating better behavioural norms. Different types of Encourage nudges, such as timely cues and feedback to others about their performance.

In the facilitation category, some practises are routine while others are complex. In summary, facilitation can influence somatic atmosphere. For example, when Nordic Choice Hotels reduced the plate size at a banquet buffet from 24 cm to 21 cm in diameter, people were more likely to serve themselves and take less food, and they also left less food waste. The result was a 19% decrease in food waste. This is an excellent achievement not only for the hotel chain and its environment, but also for the health of its guests. Other features of Facilitate nudges include factors such as simplification and hassle.

The last feature of the REFINE matrix is INcentivizE, which means that incentives are applied in a psychologically learned method rather than just giving a traditional reward and punishment. It is about reformatting incentives by implementing cognitive biases in a more useful way. Thus, to bring about behaviour change, it is not enough to give a person money or vice versa, but to examine whether cash is a unique tool at all. For this reason, it can be redesigned into an effective approach. Other incentives include the inclusion of loss and gain incentives, the complete elimination of monetary incentives and symbolic incentives.

## **Conclusion**

This paper discussed the nudge concept, its advantages and disadvantages, and its application in the real world. As part of the behavioural economics approach, this concept has attracted the attention of many psychologists and economists since its inception. However, it should be noted that, like it or not, nudging theory is already being applied in many organisations and institutions around the world, especially in the government, health, and education sectors, which is in line with the original goal of the book's authors that this concept serves to improve people's health, wealth, and happiness. Therefore, this concept is still considered applicable for current and possible future use.

However, since only secondary sources from academic and scientific literature are evaluated in this paper, it is limited for the author to provide the best empirical results for the Nudge application concept. Therefore, further empirical field studies are needed to fully explore such a concept.

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