Nudge Theory

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What is Nudge Theory?

Nudge theory is a flexible and modern concept for:

- Understanding of how people **think**, make **decisions**, and **behave,**
- **Helping people** improve their **thinking** and **decisions,**
- **Managing change** of all sorts, and
- **Identifying** and **modifying existing unhelpful influences** on people.

Nudge theory was named and popularised by the 2008 book, '*Nudge: Improving Decisions About Health, Wealth, and Happiness*', written by American academics Richard H Thaler and Cass R Sunstein. The book is based strongly on the Nobel prize-winning work of the Israeli-American psychologists Daniel Kahneman and Amos Tversky.

This article:

- Reviews and explains Thaler and Sunstein's 'Nudge' concept, especially 'heuristics'(tendencies for humans to think and decide instinctively and often mistakenly)
  Relates 'Nudge' methods to other theories and models, and to Kahneman and Tversky's work
  Defines and describes additional methods of 'nudging' people and groups
  Extends the appreciation and application of 'Nudge' methodology to broader change-management, motivation, leadership, coaching, counselling, parenting, etc
  Offers 'Nudge' methods and related concepts as a 'Nudge' theory 'toolkit' so that the concept can be taught and applied in a wide range of situations involving relationships with people, and enabling people to improve their thinking and decision-making
  Offers a glossary of Nudge theory and related terms

Background - Thaler and Sunstein

'Nudge' theory was proposed originally in US 'behavioral economics', but it can be adapted and applied much more widely for enabling and encouraging change in people, groups, or yourself.

Nudge theory can also be used to explore, understand, and explain **existing** influences on how people behave, especially influences which are unhelpful, with a view to removing or altering them. There are lots of these unhelpful 'nudges' everywhere - notably in advertising and government; some accidental, many very deliberate.

Note: This article is not a reproduction or extraction of Thaler and Sunstein's work - it is a summary, interpretation and extension of 'Nudge' theory, including the main terminology, expanded by supplementary methods, with helpful explanations, examples and connections, to related ideas and concepts of motivation and management.

Accordingly, if you seek to understand Thaler and Sunstein's work first-hand, or to research and extract from the original Thaler-Sunstein source material, then you should obtain their book 'Nudge', and also explore Kahneman and Tversky's earlier work. If you extract/quote from this article please clarify in the citation that the extract is taken from this article/webpage, (which is, therefore, a 'secondary source' in terms of the theories of Thaler, Sunstein, Kahneman and Tversky). Like any review this article is open to debate as to how precisely it interprets and represents the original (Thaler-Sunstein/Kahneman-Tversky) work, and this is especially so because of the adaptive and developmental nature of this article.

Introduction

Nudge theory is credited mainly to American academics Richard H Thaler and Cass R Sunstein. They built much of their theory on the 'heuristics' work of Israeli-American psychologists Daniel Kahneman and Amos Tversky, which first emerged in the 1970s in psychological journals. The name and concept of 'Nudge' or 'Nudge theory' were popularized by the 2008 book, '*Nudge: Improving Decisions About Health, Wealth, and Happiness*', which became a major international best-seller. Kahneman's 2012 book, also a best-seller, '*Thinking, Fast and Slow*' contains much of the fundamental Khaneman-Tversky theory which underpins the Thaler-Sunstein 'Nudge' concept. Amos Tversky is somewhat neglected in citations for Nudge theory because he died in 1996.

Nudge theory seeks to improve understanding and management of the 'heuristic' influences on human **behaviour** (US spelling: behavior), which is central to 'changing' people.

Central to behaviour is decision-making from the choices available.

Nudge theory is mainly concerned with the **design of choices**, which influences the decisions we make. Nudge theory proposes that the designing of choices should be based on how people actually think and decide (instinctively and rather irrationally), rather than how leaders and authorities traditionally (and typically incorrectly) believe people think and decide (logically and rationally).

In this respect, among others, Nudge theory is a radically different and more sophisticated approach to achieving change in people than traditional methods of direct instruction, enforcement, punishment, etc.

The use of Nudge theory is based on indirect encouragement and enablement. It avoids direct instruction or enforcement.

Here are some simple examples to illustrate the difference between traditional enforced change and 'Nudge' techniques:

Enforced Change	Nudge Techniques
Instructing a small child to tidy his/her room.	Playing a 'room-tidying' game with the child.
Erecting signs saying 'no littering' and warning of fines.	Improving the availability and visibility of litter bins.
Joining a gym.	Using the stairs.
Counting calories.	Smaller plate.

Weekly food shop budgeting.	Use a basket instead of a trolley.

Nudge theory accepts that people have certain attitudes, knowledge, capabilities, etc., and allows for these factors (whereas autocratic methods ignore them). Nudge theory is based on understanding and allowing for the **reality** of situations and human tendencies (unlike traditional forcible instruction, which often ignores or discounts the reality of situations and people).

Fundamentally (and properly, according to its origins) Nudge theory operates by **designing choices** for people which encourage **positive helpful decisions**; for the people choosing, and ideally for the wider interests of society and environment, etc.

Additionally, Nudge theory offers a wonderful methodology for identifying, analysing and re-shaping **existing** choices and influences that people are given by governments, corporations, and other authorities. Given that so many of these choices and influences are extremely unhelpful for people, this is a major area of opportunity for the development and use of Nudge theory, even if it were not envisaged as such by its creators.

Nudge theory is very relevant to leadership, motivation, change management, and many aspects of personal/self-development.

Nudge theory also draws from and connects to many other models of motivation and management, for example:

- the classic motivational theories of Maslow, McGregor, Herzberg
- philosophical thinking, such as the psychological contract, and ethical business and management

Nudge theory seeks to **minimize resistance and confrontation**, which commonly arise from more forceful 'directing' and autocratic methods of 'changing' people/behaviour.

Note the differences:

Enforced Change	Nudge Techniques
'Forcing' methods drastic, direct, and require conscious determined effort (by the person/people being 'changed').	Nudge methods are easier for people to imagine doing, and less threatening and disruptive to actually do.
'Forcing' methods are confrontational and liable to provoke resistance.	Nudge methods are indirect, tactical, and less confrontational - nudge methods may be cooperative and pleasurable.

Significantly, and easily overlooked, Nudge theory can also be used to identify, explain, and modify **existing** heuristic effects on people and society groupings - especially where these effects are unhelpful or damaging to people/society.

Overview and Relevance

Nudge theory initially emerged in the early 2000s USA as a radical approach to influencing people's interaction with financial systems, notably pensions, savings and healthcare - so as to improve quality of later life, (not to enrich financial corporations).

This last point is significant - **Nudge was initially developed as an ethical concept**, by academics, for the **improvement of society**, not as a mechanism for commercial exploitation, or government manipulation.

From these beginnings, the Nudge concept now offers vastly bigger implications and applications.

Nudge principles and techniques are now increasingly significant in communications, marketing, and the motivation of groups: in business, marketing, selling, organizational leadership, politics, economics, education, welfare; really in any situation where someone or a body of some sorts seeks to influence a person or a group of people, for example a customer group, or an entire society - or simply yourself, as an aid to improving personal health, wealth and well-being.

Nudge theory for example can help the parenting of a child; or at the other extreme could help a world government manage a global population.

Nudge has dramatically affected thinking and methods for motivating and changing people.

Nudge theory advocates change in groups through **indirect** methods, rather than by direct enforcement or instruction.

Central to the Nudge concept is that people can be helped to both think appropriately and make better decisions by being offered **choices that have been designed** to enable these outcomes.

Here is a simple table showing varying characterizations of, and differences between, traditional 'directed' change and Nudge-oriented interventions, in terms of keywords and tactical notions.

'Nudge' At A Glance

traditional 'directed' or 'enforced' intervention	modern 'nudge' intervention

Direct, obvious	Indirect, subtle
Legislation, rules, laws	Enablement, facilitation
Judgmental	Non-judgmental
Enforcement, policing	Help, assistance
Spin, slant, emphasis	Translation, interpretation
Sell, negotiate, push, pull	Offer, wait, give space
Deadlines	Open-ended
Bias	Neutrality
Controlled information	Enable understanding
Instruction, direction	Educate, inform
Persuasion, cajolement	Example, evidence
Encouragement	Referencing peer activity
Justify, argue	Referencing social norms
Non-compliance penalties	Self-discovery, heuristics
Enforced choices, imposed	Free choice
Dichotomous options	Unlimited options
Imposed action	Option of zero action
Pressure	No pressure
Paternalistic, parent-to-child	Adult, equal
Talk down to	Discuss with
Selective truth	Openness, nothing withheld

The roots of Nudge theory can be traced back to a wide variety of psychological models and philosophical concepts, especially the theories on thinking and decision-making of Kahneman, Tversky and others.

From a philosophical and motivational standpoint, Abraham Maslow understood and articulated the ethos and principles of Nudge theory in the 1950s and 60s, a half-century before it was named. Maslow's famous Hierarchy of Needs model represents the most fundamental 'heuristic'

tendencies of human thinking and decision-making. Erik Erikson's life change model is of similar significance, although neither Maslow or Erikson used the 'heuristic' in describing their concepts.

Nudge theory also correlates strongly with, and/or draws from, other positive theories entailing the improvement of people's situations, such as:

- McGregor's XY Theory,
- Facilitative decision-making,
- 'Clean Language',
- NLP (neuro-linguistic programming)
- Transactional Analysis
- The Psychological Contract
- and aspects of Cybernetics.

Perhaps the most compelling early evidence that Nudge theory has become a very significant concept for managing change, people, and societies, is that governments - notably the US and UK - very quickly developed specialized 'Nudge departments' to use Nudge methods in helping to shift societal behaviours on a very big scale. The effectiveness of the methods are such that the UK government 'Nudge Unit' (officially called the 'Behavioural Insights Team') was privatised in 2013 (very little that has enormous potential is retained by the UK state in modern times..), with the official announcement: "Since the 'Behavioural Insights Team' was created in 2010, there has been considerable media interest in the team's work. Often referring to the team as 'the Nudge Unit' (after the work of Professor Richard Thaler, co-author of Nudge and academic advisor to the team), much of the media interest has focused on the influence this team has had within Whitehall and overseas; and the methods and insights that the team has applied to public policy..." This quote was taken from the UK government 'Behavioural Insights Team' website, Mar 2014. It remains to be seen whether this particular 'Nudge Unit' will be able to uphold the philosophy advocated by Nudge's creators. Probably not, as the privatised company is selling its services to the corporate world and other governments, and will inevitably seek to maximise profits for its investors.

On which point, it's important to note that **anyone can use Nudge theory** (see 'Anyone can use Nudge theory'). It's simple and easy if you read a little about it to understand how it works.

Definitions

The dictionary definition (OED - Oxford English Dictionary) of the word 'nudge' in its traditional sense is helpful in appreciating Thaler and Sunstein's approach to the 'Nudge' concept:

Nudge [verb] -

- "Prod (someone) gently with one's elbow in order to attract attention."
- "Touch or push (something) gently or gradually."
- "Coax or gently encourage (someone) to do something."

Nudge [noun] -

- "A light touch or push."

(Oxford English Dictionary)

Incidentally the origin of the word nudge is uncertain. It compares with Norwegian 'nugga' and 'nyggja', to push or rub, which suggests the word may have Norse or Viking origins in English.

Thaler and Sunstein don't actually give a specific definition of 'Nudge theory' in their book, although a definition of a 'nudge' is given in the book and quoted by Wikipedia (2014):

"...A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behaviour in a predictable way 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. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not..." (This is the penultimate paragraph of the introductory chapter in Thaler and Sunstein's 'Nudge' book, and refers to the book's opening scenario of designing choices in a cafeteria queue. It's the nearest thing to a definition of 'Nudge' by the authors that appears in the book.)

Here's Wikipedia's own definition of Nudge theory:

"Nudge theory (or Nudge) is a concept in behavioural science, political theory and economics, which argues that positive reinforcement and indirect suggestions (to try to achieve non-forced compliance) can influence the motives, incentives and decision making of groups and individuals alike, at least as effectively - if not more effectively - than direct instruction, legislation, or enforcement..." (Wikipedia, 2013-2014)

Here are further definitions (Businessballs 2014) which reflect an expanded view (of the potentially wider use) of Nudge theory. The expanded view of Nudge theory's potential use (offered by this article/guide) is that:

- Nudge theory can be applied far more widely than to 'behavioural economics'. Nudge theory can be applied to virtually any type of human relationships where the alteration of people's thinking and decision-making may be beneficial for those people, and to wider society and the planet as a whole.
- Nudge theory also offers a basis for identifying and assessing many and various **existing** influences on people's thinking and decision-making - either accidental or intentionally designed - especially influences which produce unhelpful thinking and decisions for the people concerned and wider society and the planet.

These wider applications invite correspondingly wider definitions of Nudge theory:

"Nudge theory, named and described in Thaler and Sunstein's 2008 book '*Nudge - Improving decisions about health, wealth and happiness*', is **an approach to understanding and changing people's behavior/behaviour, by analysing, improving, designing, and offering free choices for people, so that their decisions are more likely to produce helpful outcomes for those people and society generally**, and this particularly should be compared with outcomes typically arising from traditional enforced or directed change, and compared with

carelessly or cynically designed indirect influences. Nudge theory was initially envisaged to apply chiefly to areas of economics and health, especially those managed by the state and local/ corporate authorities, but the 'Nudge' concept is actually much more widely applicable, to most human decision-making, and the ways that human-decision-making can be assisted. Note that Nudge theory can also be used to identify and modify or remove **existing** unhelpful 'nudges'." (A Chapman, Businessballs.com 2014)

And a shorter one:

"Nudge theory **enables the analysis, improvement and design or re-design of influences on people's thinking and decision-making**, according to **how people actually make decisions** (instinctively), rather than according to **how leaders and policy-makers tend to think that people make decisions** (logically and obediently, like robots), extending to the appropriate use of these 'thinking systems' in given situations." (A Chapman, Businessballs.com 2014)

I'm always open to better suggestions of definitions, and given that Nudge theory is quite new and still evolving I am sure some will emerge.

History and Origins

Nudge theory was **named, defined** (as 'Nudge theory') and **popularized** in the 2008 book, '*Nudge: Improving Decisions About Health, Wealth, and Happiness*', written by American academics Richard H Thaler and Cass R Sunstein.

The **development** of 'Nudge' theory - notably its **principles** - are attributed to the book's authors properly with Daniel Kahneman, a significant collaborator of Thaler, a globally revered Nobel prizewinning psychologist with a specialism in 'heuristics' and thinking, and Kahneman's own long-time collaborator, Israeli-American psychologist Amos Tversky. Tversky died in 1996, sadly before the Nobel economics prize was awarded in 2002 for his work with Kahneman, and this seems to have has reduced popular recognition of Tversky's contribution to Nudge theory.

- Richard H Thaler - born 1945 - US academic economist, author, Professor of Behavioral Science and Economics at the University of Chicago Booth School of Business.
- Cass Robert Sunstein - born 1954 - US economic law academic with additional interest in behavioural economics, taught for 27 years at the University of Chicago Law School, served in the White House Office of Information and Regulatory Affairs in the Obama administration, latterly Robert Walmsley University Professor and Felix Frankfurter Professor of Law at Harvard Law School.
- Daniel Kahneman - born 1934 - Israeli-American psychologist; winner of the 2002 Nobel Memorial Prize in Economic Sciences. Specialist in the psychology of judgment and decision-making, behavioural economics and hedonic psychology (concerned with human/societal happiness and wellbeing). Co-developer with Amos Tversky of 'Prospect theory'. At 2014 Daniel Kahneman is the Eugene Higgins Professor of Psychology Emeritus at Princeton University, and Professor of Psychology Public Affairs Emeritus at Princeton's Woodrow Wilson School of Public and International Affairs.
- Amos Nathan Tversky - (1937-1996) - Israeli psychologist and long-time collaborator of Daniel Kahneman in the study of behavioural economics, heuristics, decision-making. Co-developer with Daniel Kahneman of 'Prospect theory'. Amusingly, as evidence of Tversky's extraordinary

brilliance, it is said that academic colleagues suggested a 'Tversky Intelligence Test' whereby "The faster you realized Tversky was smarter than you, the smarter you were."

In the Nudge' book, Thaler and Sunstein draw heavily on the earlier heuristic work of Kahneman and Tversky, which first emerged in the 1970s in university papers and psychological journals.

Kahneman's 2012 book, also a best-seller, '*Thinking, Fast and Slow*', contains much of this fundamental theory which underpins the Thaler-Sunstein 'Nudge' concept. Significantly Kahneman dedicated this book to the memory of Amos Tversky.

In 1979 Daniel Kahneman produced a significant paper with his long-time collaborator, the Israeli Amos Nathan Tversky (1937-96): 'Prospect Theory: An Analysis of Decision under Risk' (Daniel Kahneman and Amos Tversky; Econometrica, 47[2], pp. 263-291, March 1979.)

Kahneman and Tversky's 'Prospect theory', and the paper which described it, became regarded as fundamentally important contributions to the understanding of human thinking and decision-making, notably in behavioural economics. Accordingly, 'Prospect Theory', along with other heuristics work of Kahneman and Tversky, formed a substantial part of the development of the Thaler-Sunstein 'Nudge' theory.

About Prospect theory..

'Prospect theory' is defined (Wikipedia 2014) as follows: "Prospect theory is a behavioral economic theory that describes the way people choose between probabilistic alternatives that involve risk, where the probabilities of outcomes are known. The theory states that people make decisions based on the potential value of losses and gains rather than the final outcome, and that people evaluate these losses and gains using certain heuristics. The model is descriptive: it tries to model real-life choices, rather than optimal decisions. The theory was developed by Daniel Kahneman and Amos Tversky in 1979 as a psychologically more accurate description of decision making, comparing to the 'expected utility theory'. In the original formulation the term 'prospect' referred to a lottery. ('Expected utility theory' refers to 'Expected utility hypothesis' [earlier called 'moral expectation'], which is an early explanation of 'instinctive' decision-making [contrasted with 'mathematical expectation or logical decision-making], in economics, gambling, strategy/game theory, which can be traced to origins in the 1730s.)

Thaler and Sunstein's original 'Nudge theory' is chiefly concerned with 'behavioural economics' and 'behavioural finance' (UK-English: behavioural), being the primary interests of the book's authors.

Kahneman and Tversky's expertise, by contrast, is psychology with a broader approach to decision-making, so it is interesting (and a lesson in 'nudging') that Thaler and Sunstein's more narrow economics angle succeeded in bringing the ideas of 'Nudge' - and heuristics especially - into the mainstream. This is perhaps due to the highly accessible 'Nudge' branding and packaging, together with a good marketing approach. People respond well to strongly promoted, accessibly-packaged

concepts with catchy names, which equates to a series of 'nudges' (arguably one of 'framing', and then 'following the herd' when the book became a best-seller - during which promotional 'accessibility' is a major factor too).

Thaler and Sunstein's focus ('behavioural economics' and 'behavioural finance') more specifically entailed the interaction between **American citizens** and **US financial systems involving savings, pensions, debt/credit, and healthcare provision**. Examples and references in other areas of behaviour and decision-making were offered in the book, but not to a great extent, and certainly not to the depth that the potential application of Nudge was explored and proposed in the financial and healthcare fields mentioned.

The book 'Nudge' is effectively in two quite different halves (although not indexed as such):

1. The first half offers very clear and entertaining explanation, supported by research and survey statistics, etc., of human decision-making, which the authors contend to be generally illogical, weak, harmful, and often self-destructive. Most of this explanation is underpinned by previous studies and scientific theory concerning **'heuristics'**, which in the authors' context of human decision-making refers to the tendency for humans to think instinctively, emotionally, and subjectively, rather than logically, rationally and objectively. The authors list several types of heuristic tendencies in people, which equate to 'Nudges', on the basis that 'heuristics' are fundamental drivers of decisions.

2. The second half of the book analyses various theorized and potential effects of heuristics in the US sectors of:

- consumer/societal finance (pensions, savings/investing, credit/borrowing, and social security);
- healthcare (prescription drugs, organ donations);
- the environment (carbon tax); and
- marriage (the notion that it should be separated from the state)

As such basically the book's **first part offers the Nudge principles** (rather like a toolkit), whereas the **second part describes and offers 'Nudge' solutions to challenges in the US economy/society**.

The 'Nudge' book is immensely appealing to non-technical audiences who are interested in the technical aspects of individual/group thinking and decision-making. Seen from another angle this is central to change management, motivation, and managing people, potentially on a vast scale.

The book is particularly interesting (from a general decision-making perspective) in its first half, in which 'heuristics', and the ways that people think and decide, are explained in an entertaining and accessible way. (The second half of the book focuses on American socio-economics, which by implication is more specialized and narrowly appealing.)

The authors did not devise or discover all of the various heuristic tendencies they present, but they have very cleverly brought them together into a cohesive, comprehensible and useable set of principles, and this is arguably the most valuable aspect of the book (aside from bringing a helpful concept to a very big audience).

We could conceive/develop the main heuristic 'Nudge' principles as a sort of 'toolkit' of ideas/methods, by which people's thinking and decision-making can be altered.

Such a 'toolkit', together with Thaler and Sunstein's explanatory theory and philosophy, reminds all policy-makers, managers and communicators that people rarely think very rationally, and this is the essence of what is now called 'Nudge theory'.

Nudge theory began to evolve from the moment the book was released.

The flexibility and adaptability of Nudge theory is a big part of its appeal to leaders everywhere.

During the 2010s Nudge theory was still evolving and expanding in terms of its techniques, definition, and (significantly) its applications.

Main Elements, Principles and Terminology

Sub-index:

- Nudge philosophy - 'libertarian paternalism'
- The Choice Architect
- How People Think and Decide
- Heuristics overview
- 'Humans' and 'Econs'
- Automatic vs Reflective Thinking Systems
- Heuristics In Detail

Here are the original main technical and structural aspects of Nudge theory, defined by Thaler and Sunstein, in their 2008 book, 'Nudge: Improving Decisions About Health, Wealth, and Happiness'. Nudge theory has evolved significantly since these founding principles were established, and it will continue to grow considerably in future years.

Here are Thaler and Sunstein's founding Nudge theory principles and terminology.

Please note again that much of the 'heuristics' theory described here is based on the work of Daniel Kahneman and Amos Tversky.

Philosophy

Nudge theory is a clever and potent concept, but like any clever concept it can be abused.

Having an ethical philosophy helps to encourage a responsible approach to using Nudge theory.

A guiding philosophy is certainly required for corporations and governmental authorities, which in modern times routinely exploit people's heuristic weaknesses.

Thaler and Sunstein use the term **'libertarian paternalism'** as a name for the underpinning philosophy that they advocate when considering and applying Nudge theory, and particularly the guiding ethos of leaders and managers who employ Nudge theory methods.

As such, 'libertarian paternalism' is the authors' preferred term for the guiding ethos and values of Nudge theory; the ethical and philosophical basis governing its use, and by implication its development.

Thaler and Sunstein advocate the use of Nudge for the good of human society and the world we live in.

They acknowledge that Nudge theory unavoidably entails a degree paternalism, as arguably all leadership does.

But Thaler and Sunstein also emphasize the need for Nudge methods to be guided by a need to protect people's freedom of choice; to have compassion for people and society, and to care for the environment and future of the planet.

Thaler and Sunstein reinforced their emphasis on free choice as follows:

"...when we use the term 'libertarian' to modify the word 'paternalism', we simply mean 'liberty-preserving'..."

This is important, because 'Nudge' is a powerful concept. It was not designed to be used for unethical purposes or to pursue aims which exploit people, or which do harm.

Nudge theory was designed to help society, not to enrich the already powerful and wealthy.

Paternalism refers to any leadership's responsibility for people and planet.

Libertarian refers to the freedom that people should have in making their own choices, and the need to protect free will.

Thaler and Sunstein said of Nudge theory's underpinning philosophy, in emphasizing the need to preserve free choice: "...Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not..."

Here is an additional philosophical note about **respectful relationships, cooperation, amenability**.. specifically **how followers feel about the leadership/authority** that is applying the change 'nudge'.

This is a further important additional philosophical aspect of Nudge theory. It is implied by and within Nudge theory but not featured in Thaler and Sunstein's book. It concerns the relationship between leader and group (or other authority and audience), and is the vital consideration that:

In very many relationships between a leader/manager/authority and the people/groups/followers etc., whose change is sought, people are influenced (consciously or unconsciously) by their feelings towards the leader/authority ('choice architect') or whatever/whoever is perceived to be the 'nudger'.

Basically people are more amenable (open and cooperative) to being 'nudged' if they have positive feelings towards (whomever/whatever is perceived to be) the 'nudger', than if these feelings are negative (fearful, distrustful, distasteful, etc).

Later in this article (see the Likeability/Credibility/Trust influence below) you will see that this 'unofficial and unspoken' philosophical aspect of Nudge theory can be a major reason for difficulties in applying Nudge theory successfully - and if we consider how people usually regard politicians, governments, corporations then it is easy to imagine that this factor can be hugely influential on people's reactions to 'nudges'.

Given that Nudge theory logically operates better where people have generally positive rather than negative feelings towards the 'nudging' authority, it follows that we must consider the factors that generate these feelings and define the relationships between authority and people.

Nudge theory philosophy can, therefore, be extended beyond 'libertarian paternalism', to acknowledge and include anything which determines **how people feel about the 'nudging' authority**. This varies according to situations, and to different degrees entails issues of ethics and integrity, empathy and trust, corporate governance, the psychological contract, and other major factors which form opinions and feelings in people (many of which are inter-connected and explained on this website).

The Choice Architect

'Choice architect' is Thaler-Sunstein terminology for someone (or a body) who leads or manages the application of 'Nudge' theory.

Thaler and Sunstein used the term **'choice architect'** in referring to a leader or manager (or another person with such responsibility, and by extension a governing organization or leadership) who uses Nudge techniques in seeking to change a group's behaviour.

The terminology 'choice architect' emphasizes that change is enabled by **designing choices for people**, which encourage them to **make decisions**, ideally towards **positive helpful outcomes**.

Also, the judgment of 'positive outcomes' must be made by the people undergoing the change. That is to say, the leadership is not the final judge of whether a change in people is helpful and good - the people themselves must judge this.

The notion of a 'choice architect' connects strongly to the philosophy of Nudge theory. The 'choice architect' must act with great responsibility and integrity.

Thaler and Sunstein do not specifically refer to the need for dedicated governance of the role, activities, and designs of the 'choice architect', but the need for this function to operate ethically and with proper accountability is strongly implied.

On this point, the style and reputation of 'choice architect', as perceived by the people being 'nudged', can be a major factor influencing the success of applying Nudge theory. In many situations where Nudge theory is used, or can be used, the people being 'nudged' will have feelings of one sort or another towards the 'choice architect' (or whatever/whoever is perceived as this authority). These feelings influence people's openness to cooperation and having a positive reaction to being 'nudged'. (See the Likeability/Credibility/Trust influence below.)

Accordingly, these perceptions are an important aspect of the 'choice architect' role and responsibility, and (as with the philosophical considerations above), so an effective 'choice architect' must be defined more broadly than simply 'the application of a Nudge process'; we must extend this to anything which determines **how people feel towards the 'nudging' authority**.

Again, (as with the philosophical considerations above) this perception of the style and reputation of the 'choice architect' potentially includes issues of ethics and integrity, and empathy and trust, etc., and other concepts which form opinions and feelings in people (many inter-connected and explained on this website).

These feelings also extend to prominent personalities/bodies perceived to be associated with the 'nudging' authority. (This is why corporations use famous 'popular' and relevant endorsees to support their brands.)

People naturally to focus on 'famous' (or infamous) people and personalities if they are seen to represent or be associated with the 'nudging' authority (for example political and corporate leaders). In such situations the style and reputation of these 'figurehead' characters in 'choice architecture' can be immensely significant in affecting how people feel towards the 'nudging' authority. For example a 'nudge' concerning well-being which is endorsed by the Dalai Lama is more likely to be received positively than if the same 'nudge' were endorsed by a poorly regarded politician or corporate leader. **To an extent however this is dependent on the purpose of the nudge** - a 'nudge' aimed at encouraging people to increase their physical fitness and exercise would be more positively and credibly received if endorsed by a popular sportsperson than the Dalai Lama. **Relevance** is, therefore, an important factor in considering this whole complex somewhat 'unofficial' area of Nudge theory (given that Thaler and Sunstein did not specifically cover it).

Thaler and Sunstein imply strongly that part of the 'choice architect' role is to consider **existing** 'nudges', as well as to design new nudges. It's useful to note however that the 'choice architect' role could and should extend to a more active responsibility for identifying and

modifying or removing unhelpful **existing** 'nudges'. Of course, where this equates to changing how the global advertising industry operates, or how the internet is designed and regulated, or how the free market is moderated, this is not a small task, but the process must begin with awareness and intent, and then there is at least a target and aim to improve things, until sufficient will at suitable levels of authority exists.

How People Think and Decide

Thaler and Sunstein's book 'Nudge' is about 250 pages long. The first 100 or so pages explain convincingly how people think about choices and make decisions. These c.100 pages are the most significant section of the book in explaining **why and how Nudge theory works in a general sense**. The second half of the book explores the application of Nudge theory in relation to major challenges of USA behavioural economics (notably savings and investments, credit markets, and social security) and to USA society (notably prescription drugs, organ donation, the environment and carbon tax, and to marriage).

When reading this article please consider that **the principles and techniques of Nudge theory can be applied far more widely** than the original focus of Thaler and Sunstein's book.

This review of Thaler and Sunstein's Nudge theory is essentially concerned with the 'how and why nudge theory works'. At the root of this is understanding **how people assess choices and make decisions**.

Thaler and Sunstein crucially assert (and offer research/evidence) that people's decision-making thinking is generally not very clever or logical, and is commonly unhelpful or even harmful (to the people facing choices and making the decisions).

This is a fundamentally important assertion, supported by explanations of very many different irrational human tendencies, or 'fallibilities' as Thaler and Sunstein say; i.e., the reasons for human fallibilities in assessing situations and making decisions.

These human fallibilities are generally associated with natural human behaviour (hence the 'human' designation explained below) and are highly significant in either acting as 'nudges' or contributing to 'nudge' effects.

Thaler and Sunstein refer technically to this area of human fallibility as 'heuristics', which in the context of Nudge theory basically means the various **internal references and responses** which people use in assessing things, developing views, and making decisions.

Here is a brief summary of the fallibilities, or heuristic tendencies, identified by Thaler and Sunstein. Each one is expanded in more detail in the 'heuristics' section below this listing. The numbering Thaler and Sunstein did not number these points. They are numbered here to help understanding.

Heuristics Overview

Each of these summarized heuristic elements is linked to a more detailed explanation. Note that much of this theory and terminology was first established by Kahneman and Tversky.

Thaler and Sunstein say that essentially these 'heuristics' equate to 'nudges'.

Consider that to varying degrees these heuristics are already exploited (accidentally, carelessly, or very deliberately) by corporations, governments, other institutions, mass media, religions, leaders, bosses, parents, etc. Most of the people in authority using these devices will not know the term 'heuristics', but they nevertheless will be using these methods in different ways to influence people.

Heuristics Overview in Thaler-Sunstein 'Nudge' Theory

1. Anchoring and adjustment	Using a known/comparable fact and adjusting it to estimate or decide about something which is unknown.
2. Availability	How common or visible or familiar something is perceived to be. The greater the commonness/visibility/familiarity, then the greater the perceived frequency or incidence (which is often quite different to reality), and also the greater sense of trust in the validity of the thing or communication. This heuristic is greatly influenced by mass media. The tendency strongly influences perceived credibility. When we see/hear something lots, we question it less.
3. Representativeness	How similar something is thought to be in relation to a perceived stereotype or assumption. People use this heuristic frequently in making assumptions.
4. Optimism/over-confidence	The tendency to under-estimate costs, timescales, challenges, and to over-estimate rewards and the ease of unknown things.
5. Loss aversion	The tendency for people to value possessions far more than if the things were not yet possessed - creating resistance to giving any sort of concession or making a change. People do not like to lose possession of things, irrespective of their actual value/importance.
6. Status quo bias and inertia	The tendency for people to stay committed to current situations, for fear of changing to the unknown. Status quo bias is also caused by laziness, aversion to complexity, unnatural learning style demands, reading small print, etc.
7. Framing	Presentation or orientation of information that alters its perceived nature. This includes positive/negative accentuation, juxtaposition, association, or many other ways of distorting the attractiveness/unattractiveness of something.
8. Temptation	Greed, inability to delay gratification; urge to satisfy aspiration, ego, etc. People are naturally biased towards short-term reward, and against long-term reward, or perceived low reward. Equates to the WIIFM factor ('What's in it for me?').

9. Mindlessness	The tendency for people to form views and decisions without concentrating, or even negligently - and the perceived 'free' or discount effect, which can encourage people to ignore real issues. See TANSTAAFL ('There ain't no such thing as a free lunch').
10. Self-control strategies	Tactics used by people to counter their own heuristic weaknesses, which then also become heuristics.
11. Conforming - following the herd	The mob effect, need for affirmation, avoiding risk/embarrassment, strength in numbers, following the crowd, fear of isolation, etc. There are many cultural factors which add to these effects, notably enabled and magnified by the internet and related technologies.
12. Spotlight effect	People tend to over-estimate the visibility/significance of their own decisions and actions. This produces unhelpful pressures on thinking and can easily influence decision-making.
13. Priming	The manner in which people are 'primed' or softened/hardened before a situation or option is introduced - extends to enabling visualization of a viewpoint or feeling - relates to facilitative theory.
14. Language and signage design - 'stimulus response compatibility' - or 'choice architecture'	This is a major area overlapping several individual heuristics, and refers to the degree to which something is designed in a way that helps us understand and make the best response to it. For example, 'go' is usually green, not red. Potentially includes feedback, which is shown separately because of its independent significance. (Not presented as a heuristic like the above by Thaler and Sunstein, but easier to appreciate in this grouping.)
15. Feedback	This is an aspect of 'choice architecture' but warrants separate explanation due to its importance. People are open to influence from feedback or reflection while thinking and deciding, or having decided, prior to further decisions. It's a crucial element of Nudge theory and its extension/application. (Not presented as a heuristic like the above by Thaler and Sunstein, but easier to appreciate in this grouping.)

The above heuristics are fundamental to the understanding and application of Nudge theory. They are explained in more detail below in the main Heuristics section.

Additional heuristics, some of which overlap or are inferred by Thaler and Sunstein's 'nudges', and/or which have been proposed by various theorists, are shown in the supplementary heuristics section.

'Humans' and 'Econs'

These are two different characterizations of people, used by Thaler and Sunstein to illustrate two different types of thinking and decision-making.

Thaler and Sunstein illustrated the contrast between (irrational 'dumb', very common) human behaviour, and (rational 'smart', far less common) logical behaviour, by presenting two (notionally) different types of people, which they called **'human'** and **'econ'**.

Humans are (what we might consider) 'real' people, who make 'real' human decisions (or fail to make a decision), driven by a wide range of human considerations and factors such as inertia, optimism, denial, lethargy, the inability to delay gratification, false assumptions, and more (covered in the heuristics listing above and below in the detailed heuristics descriptions). This is a view of people/society from a 'reality' perspective.

Econs are an imaginary type of people - imagined to exist (instead of real people) by economists, politicians, academics, etc. Econs (are imagined) always to think logically and rationally, and are not influenced by the various heuristic factors such as inertia, optimism, denial, lethargy, the inability to delay gratification, false assumptions, and more (covered below), which generally cause 'humans' to behave in ways that are irrationally unhelpful, destructive, neglectful, etc. 'Econs' are a view of people and society from an unrealistic perspective.

A crucial aspect of Nudge theory is recognizing that 'econs' do not really exist in terms of broad societal behaviour; whereas 'humans' definitely do.

When we accept this we begin to see why and how Nudge is a viable and necessary methodology, and why enforcement, as a strategy for shifting behaviour, tends to fail.

Thaler and Sunstein do not actually say that most politicians and corporate bosses believe that the world is populated by 'econs', but this is certainly implied.

There is a 'flip-side' to all this, namely that certain people in many corporations and governments understand extremely well that people often think and decide very instinctively and irrationally, and they exploit these weaknesses by using 'nudge' methods for cynical and unhelpful purposes.

A great benefit of Nudge theory is being able to see more clearly where and how this cynicism is at work, and potentially to confront and modify it.

Thaler and Sunstein explained that at the root of these two different 'types of people' are two different thinking/decision-making systems, which follows in the section dealing with automatic and reflective systems of thinking.

Automatic vs Reflective Systems Of Thinking

According to Thaler-Sunstein Nudge theory (and previously developed equivalent Kahneman/Tversky theory):

- **'Humans'** are characterized as **thinking 'automatically'.**
- **'Econs'** are characterized as **thinking 'reflectively'.**

This equates broadly to Daniel Kahneman's earlier presentation of this concept, which dates from the 1970s, and which refers instead to:

- **'System One' thinking** - automatic, instinctive, quick, biased, inaccurate, irrational, etc.
- **'System Two' thinking** - thoughtful, reflective, calculated, slow, rational, logical, critical, etc.

The Thaler-Sunstein table contained the automatic/reflective headers and the first six pairs of characteristics beneath. It is extended here to add clarity and context.

'Human'	'Econ'
Automatic system	**Reflective system**
Uncontrolled	Controlled
Effortless	Effortful
Associative	Deductive
Fast	Slow
Unconscious	Self-aware
Skilled	Rule-following
Other Describers	
Instinctive	Thinking
Primitive brain	Modern brain
Gut reaction	Conscious thought
In practice	In theory
Emotional	Clinical
Subjective	Objective
The 'automatic' tendency in people is under-estimated by policy-makers	The 'reflective' tendency in people is over-estimated by policy-makers

Thaler and Sunstein suggest that people use **reflective** decision-making very commonly, even for very important situations, such as in electoral voting, investing, major purchases, life decisions, etc.

Note that 'Automatic/System One' thinking is not bad or stupid. On the contrary...

This is a significant point and easy to overlook or misunderstand.

'Automatic/System One' thinking is very useful in certain situations, but in other situations may be unhelpful, where a more careful rational ('Reflective') thinking is required.

The tendency for humans to behave and think like 'Humans' and not like robotic 'Econs' - i.e., to prefer and more often use Automatic/System One thinking rather than Reflective/System Two thinking - is a major factor in the success of humans as a species.

Early humans and tribal groups who were able to think quickly and instinctively had a big advantage compared to humans who could not. And so this capability/tendency became dominant in people via natural selection, (i.e., people possessing successful genetics/strategies - such as quick thinking - survived and competed more successfully than people/groups/tribes with weaker traits).

Daniel Kahneman emphasizes that 'System One' thinking ('Automatic' thinking of Humans') is actually a higher form of human intelligence than 'System Two' thinking ('Reflective' thinking of 'Econs'). This is because 'System One' thinking enables people to make very quick assessments, based on highly sophisticated (usually entirely unconscious and instinctive) mental analysis and reference to experience and knowledge. For many decision-making situations - particularly in pre-historic times when life was much simpler, and not full of cynical distractions such as advertising, mass media, and governments - the ability to make quick instinctive assessments and decisions was/is a valuable capability.

These two different methods of thinking and deciding are not bad or good in themselves. The point is that situations often demand one or the other, and people in modern times are not generally very good at using the right one, or balancing the use of both methods.

This difficulty is compounded in modern times because of the pressure and scale of populations, misinformation, and distraction:

- People are often encouraged to think 'Automatically' (System One), when they should instead be thinking 'Reflectively' (System Two).
- Decisions that people face in modern times can be very far-reaching, with very big implications, compared with past times.
- Societies are bigger than ever and still growing fast.
- Societies are organized and managed by corporations and governments on a much bigger scale than ever before.
- So decisions by people nowadays can affect societies and the planet to a vast and unprecedented degree.

Heuristics

Human Thinking and Deciding Tendencies ('heuristics' = 'nudges')

Note: This section on heuristics, like the remainder of this article, **is not a reproduction or extraction of Thaler and Sunstein's work** (nor of the **Kahneman-Tversky theory** which largely underpins it) - it is a summary and interpretation of the concept and terminology, expanded

by explanations and extensions to related ideas and examples.

Accordingly if you seek to understand the Thaler-Sunstein/Kahneman-Tversky work first-hand, or to research and extract from the original source materials, then you should obtain the relevant original books/papers. If you extract/quote from this article please reference it appropriately, which in terms of Nudge theory, is a review and a secondary source.

'Heuristics' feature strongly in Nudge theory - in fact heuristics equate to 'nudges'. Thaler and Sunstein use the phrase 'rules of thumb' to introduce and explain heuristics in the context of Nudge theory. (For quite separate interest see the 'rule of thumb' in cliché origins)

Note that the general dictionary meaning of 'heuristics' is broader and less specific to human thinking and deciding, compared with the more technical meaning of heuristics in psychology and Nudge theory, which refers more to the faulty thinking/deciding commonly arising from human weaknesses, habits, conditioning, etc.

The word heuristics basically means **self-discovery** (from Greek heuriskein, 'find'), although in the context of Nudge theory, heuristics (which acts as a plural or singular term) more broadly refers to the various **internal references and responses** which people use in assessing things, developing views, and making decisions. By its internal nature, heuristic thinking tends to be personal, emotional, subjective, and instinctive.

The famous old Monty Hall 'closed door' probability problem is a fascinating example of faulty human heuristic thinking.

Heuristic thinking also tends to lead to assumptions, 'knee-jerk' reactions, habits, etc.

Thaler and Sunstein particularly refer to the heuristics research of Israeli psychologists Daniel Kahneman and Amos Tversky (mentioned above as key figures alongside Thaler and Sunstein in the development of Nudge theory itself) - specifically to their identification in 1974 of (initially three) 'rules of thumb', which people tend to use when considering and deciding about unknowns (covered in more detail next, along with several other heuristic tendencies):

- 'Anchoring and Adjustment' - comparing, then guessing from that subjective reference point
- 'Availability' - actually meaning perceived frequency, commonness, and familiarity of something
- 'Representativeness' - comparison based on (often unreliable subjective) stereotypes

The above are three of the heuristic tendencies (or types of 'nudges') identified and named by Thaler and Sunstein, and earlier by Kahneman-Tversky, who identified several more which feature in Thaler-Sunstein's Nudge theory. All of the main heuristics presented by Thaler and Sunstein are explained in detail below. Besides these, other heuristics (or 'nudge' effects) exist and are detailed separately as supplementary heuristics below.

'Nudge' Heuristics In Detail

Sub-index:

- Anchoring and Adjusting (comparing then guessing)
- Availability (perceived popularity/rarity)
- Representativeness (stereotyping and comparison)
- Optimism/over-confidence (under/over-estimation or complacency)
- Loss aversion (holding on to things/resistance) 'status quo bias' (inertia)
- Status quo bias (inertia, default to no action)
- Framing (orientation, accentuation, presentation, styling)
- Temptation (greed, ego, short-term reward)
- Mindlessness (negligence, avoidance, not concentrating)
- Self-control strategies (habits and routines to counter weaknesses)
- Following the herd (conforming, mob instinct, safety in numbers)
- Spotlight effect (anxiety, pressure, "...everyone's watching my decision", fear of making errors)
- Priming - (the ways people can be made ready or prepared before thinking and deciding, e.g., visualization, role-modeling, building belief, offering methods not just directions)
- Stimulus response compatibility - overlays other heuristics and 'nudges' - (the design of signage, language, so that it looks and seems appropriate for the message it conveys)
- Feedback - overlays other heuristics and 'nudges' - (given to respondent during and after thinking/decisions, enabling adjustment and useful experience)

The thinking/decision-making heuristics explained here have existed under varying terminology for many years in the study and theory of psychology and decision-making, outside of Thaler and Sunstein's 'Nudge' theory work, notably pioneered by Kahneman and Tversky, as discussed already.

Thaler and Sunstein very cleverly assembled these sub-theories and named them, to create a cohesive series of elements by which Nudge theory can be understood and applied, rather like a series of techniques, which can (I suggest) be used as a 'toolkit'.

The names of the first three heuristics, Anchoring and Adjustment, Availability, and Representativeness, are specifically attributed by Thaler and Sunstein to psychologists Daniel Kahneman and Amos Tversky. The additional Thaler-Sunstein 'nudges' are to varying degrees similarly derived. Here they are:

Anchoring and Adjustment (comparison and guessing)

Key points:

- Using a known/comparable 'fact' or belief and adjusting it to guess/decide something which is unknown.
- The 'comparable' reference is commonly not a good similarity.
- Estimates are commonly very inaccurate, resulting in unreliable guesses on which to base a decision.
- This thinking may be affected (unhelpfully 'primed') by mass media, misreporting, popular misconception, and myths.

In Thaler and Sunstein's terminology, an 'anchor' refers to a person's perceived **reference point** in relation to a question for which the answer is not known and is to be deduced. In simple terms an anchor is a clue, or cue, or a pointer, or a starting point, (whose scale/quality we think we know reasonably reliably) which can be adjusted to help us to estimate an answer.

The authors call this 'anchoring and adjustment'. (The term is borrowed from Amos Tversky and Daniel Kahneman's work on heuristics.)

Most people would naturally do this when asked a question such as the cost of something that's completely new to them. Or the time it takes to complete a task in which they have no knowledge. Similarly when people are required to answer a quantitive question, such as the height of the Empire State Building, or the population of a city, they tend first to establish internally an 'anchor' reference (another building or city whose scale they know), and then they adjust this amount until they feel comfortable with their guess for the unknown answer.

In the context of Nudge theory, anchors act as nudges.

However anchors are not a very reliable way to arrive at an accurate assessment of something.

The authors offer evidence that different people arbitrarily select quite different 'anchors' for the same unknown questions, which even after adjustment commonly produce quite different estimated answers. Anchoring is inherently unreliable, but it is also dependent on differing individual standpoints.

Availability (perceived popularity/frequency/rarity, visibility, commonness)

Key points:

- Perceived commonness/familiarity of something produces a perceived popularity or incidence of something, and a basis for trust/credibility.
- This is often quite different to real popularity, and is rarely a basis for trust.
- Perceptions are greatly influenced by mass media, which equates to unhelpful 'priming'.
- The tendency operates in reverse; i.e., perceived uncommonness or rarity tends to produce perceptions of low popularity, low credibility and distrust, which may be very unreliable.

Thaler and Sunstein use the term 'availability' in referring to **visibility**, or how **commonly** something is perceived to arise in a general sense, which significantly influences people's assessment of how likely it is to arise in a personal sense. (The term 'availability' is borrowed from Amos Tversky and Daniel Kahneman's work on heuristics.)

Thaler and Sunstein give the example of the visibility ('availability') of homicides (in the media notably) compared to that of suicides. This leads to the incorrect belief among most people that homicides are more common than suicides, when the opposite is true, by a considerable margin.

For the same heuristic reason, most people are far more cautious when taking a plane journey than when crossing the road or driving their car, when in fact it's far more dangerous statistically to cross the road or drive a car than take a plane journey.

And also for the same heuristic reason, billions of people continue to drink too much alcohol, when they would not dare to touch an ecstasy tablet. Thousands die every day from alcohol-related disease. Deaths from ecstasy tablets are perhaps a few hundred in the history of mankind.

The perception of frequency or visibility ('availability') - how common something is - is an important heuristic within Nudge theory.

People often assess likely outcomes based on a false perception of actual facts and statistics.

It follows therefore, assert Thaler and Sunstein, that by shifting false perceptions, so in turn people's assessments of outcomes can be shifted too, along with related decision-making.

Here is a practical example of the use of the 'availability' (visibility) effect, offered by Thaler and Sunstein in the 2008 book, Nudge, "...A good way to increase people's fear of a bad outcome is to remind them of a related incident in which things went wrong; a good way to increase people's confidence is to remind them of a similar situation in which everything worked out for the best..."

The 'Availability' heuristic equates in some situations to 'familiarity' (that something seems familiar to us), and this is strongly linked to trust (in the validity or credibility of something, or information about something). The concept of branding and brand awareness is an example of the 'availability' heuristic in use. Corporations spend millions building and maintaining the 'familiarity' of their brands and logos, etc., because this increases our sense of trust, and a perceived sense of reliability, in the products/services under the brands in question. Incidentally this effect offers an example of two or more heuristics ('nudges') working together, because brand familiarity acts potently with the 'following the herd' (conforming) heuristic.

Representativeness (stereotyping, comparison)

Key points:

- People refer to personal stereotypes or assumptions in seeking references for unknowns.
- This is highly subjective, susceptible to misinformation, and a very unreliable basis for forming opinions and making decisions.
- This thinking is affected (unhelpfully 'primed') by mass media promotion of stereotypes and biases.

Thaler and Sunstein suggest the word 'similarity' to clarify 'representativeness' (which is borrowed from Amos Tversky and Daniel Kahneman's work on heuristics).

They also relate this heuristic mechanism to 'stereotyping'.

We see 'representativeness' bias occurring widely in people's thinking when stereotyping and discriminating on the basis of race, religion, gender, sexuality, age, and social class, etc.

Assessments and decisions based on 'similarity' assumptions and extensions are extremely common and happen daily on a vast scale in every field imaginable.

The tendency is seen also in the extension or extrapolation of a small sample to produce a wrong conclusion about the bigger picture.

As with the other heuristic tendency 'availability' (visibility or commonness), the mass media contributes greatly to the building and maintaining of stereotypes in all aspects of life.

The 'representativeness' heuristic is sometimes a confusion between, or reversal of, cause and effect. Or it may be a faulty correlation - for example, the common mistaken view that people can 'catch' a cold from being out in cold weather, whereas a cold is a virus that is passed from person to person.

'Representativeness' misjudgments may alternatively stem from the misinterpretation of a chance or random pattern as being a normal or standard effect, which can be extended or projected, much like the extension of a stereotype.

Optimism/over-confidence (over/under-estimation, complacency, ignoring or taking risks)

Key points:

- People tend to under-estimate expenses/costs, timescales, complexity, and difficulty of unfamiliar challenges.
- People tend to over-estimate rewards and the ease of unfamiliar tasks.
- This can cause denial, complacency, and insufficient planning, attention, resourcing, time, etc.
- The 'Optimism' heuristic generally ignores, denies, under-estimates or justifies risk.

This is the tendency to under-estimate costs, timescales, challenges, and to over-estimate rewards and the ease of unknown things. This tendency leads to complacency, inertia, extravagance, wastage, delays, failures to make budgets and control spending, setting unreasonable goals and expectations.

The 'Optimism' heuristic is closely linked with risk - either as an effect of low perceived risk, or a cause of ignoring or under-estimating risk, or of justifying taking risk.

When people mismanage their household budgets by spending too much of their monthly salary in the first couple of weeks of the month, this is typically due to the optimism heuristic. They hope their money will last, and fail to check account balances, rather than budgeting and controlling expenditure. This for many people becomes a lifelong repeating cycle of failing to balance their outgoings and incomes. Optimism then influences many people's decisions to seek and commit to punitively expensive loans.

Woven into these feelings is the unconscious or deliberate denial of risks arising from the thinking and decision.

The same tendencies cause many people to:

- take a hopeful approach to retirement rather than planning and saving,
- avoid medical diagnosis and treatment when they get sick,
- delay getting repairs done until the roof is actually leaking bucketfuls,
- and defer and procrastinate in considering the urgency of all sorts of necessary jobs.

The optimism heuristic is also commonly responsible for people being late, when they imagine they can complete jobs and travel much faster than proves to be so.

The 'Optimism' tendency is also responsible for people finding themselves in awkward embarrassing positions when misjudgments have been made, compounded by reluctance or denial in accepting that corrective action is necessary, causing situations to go from bad to worse. As with other heuristic failings, blame can soon emerge. "Someone should have told me..." is a common reaction to problems arising from this heuristic. A useful approach for preventing or countering the risks of the 'optimism/over-confidence' heuristic is designing 'feedback' (covered below) into processes and choices offered to people.

The 'Optimism' heuristic is an opposing instinct to the 'loss aversion' heuristic shown below. Depending on the person and situation one of these may be a dominant factor in someone's thinking.

Loss aversion (holding on, resistance)

Key points:

- People tend to value something more when they possess it, than if they do not (Thaler and Sunstein suggest that this over-valuation equates to 100% or double)
- People (therefore) tend to resist (to a disproportionate degree) losing something they already possess, or exchanging it for something of equal or even greater value.
- This causes inertia and tendency to default to inaction (which potentially equates to Status quo bias, (below).
- The 'Loss aversion' heuristic is a major cause of risk avoidance, which also produces inertia.

Thaler and Sunstein suggest that most people are fundamentally 'loss averse', so that assessments and decisions tend to be made so as to avoid a perceived loss, even if the 'loss' is more than compensated by a different gain.

Thaler and Sunstein assert that: "...Roughly speaking, losing something makes you twice as miserable as gaining the same thing makes you happy..."

It seems that when people believe they must "...give something up, they are hurt more than they are pleased to acquire the very same thing..."

The authors extend this point to assert that "...Loss aversion helps produce inertia, meaning a strong desire to stick with your current holdings..."

The 'Loss aversion' heuristic produces a heightened sense of risk. Most people tend to avoid risk. Thinking becomes driven by a feeling that change will be disadvantageous, and so decisions are made either to preserve, conserve or consolidate the current position (often seen a holding something) and this relates strongly to the 'Status quo' heuristic, explained below.

The 'Loss aversion' heuristic is an opposing instinct to the 'Optimism' heuristic explained above.

'Loss aversion' avoids risk, whereas 'Optimism' ignores, minimizes or justifies risk.

Status quo bias (inertia, resistance to change, default to inaction)

Key points:

- People generally fear change, especially of uncertain nature.
- Fear of error, embarrassment, rejection, etc., may also contribute to inertia depending on personality and life-stage and situation.
- Status quo bias may be compounded by laziness, aversion to complexity and effort, etc.

Thaler and Sunstein refer to 'status quo bias', being a tendency for humans to want to maintain things in their present form and so to resist change.

Inertia (where people find it easier to do nothing rather than make a change) is a powerful effect, and has been used by leaders and communicators for generations.

Inertia relates to the use of **defaults** by authorities and corporations, which we see every day in checkboxes, on forms and websites, and embedded more deeply into how options are often presented. The use of inertia as a selling, marketing and governing mechanism is controversial, especially where the default (what happens in the event of no change or decision) produces advantages for a seller/governing authority, and disadvantages or unnecessary costs for customers.

Inertia and defaults feature strongly in 'choice architecture', explained below - the signage and structures that influence our attitudes prior to decision-making.

Logically, the authors say that inertia is produced by the human tendency to avoid change, effort, risk, etc., which in turn may be due to laziness, aversion to time-consuming complexity (for example in understanding complicated options), and/or simply a discomfort felt when considering changing something.

We see inertia especially affecting people's decisions when having to adopt new technologies, or decluttering a home, or working towards a new qualification or career change.

Thaler and Sunstein refer to the use of inertia and default in securing permissions for organ donation as a positive helpful application of the technique.

They offer evidence by which the permission default was switched to 'opt-out' from 'opt-in', so that people's natural inertia in checking boxes produced a massive increase in organ donation permissions.

It is not difficult to imagine how this simple but very potent heuristic - inertia, doing nothing - has been and will continue to be used widely for unethical purposes.

Framing (orientation, accentuation, presentation)

Key points:

- The presentation or orientation of information can alter its perceived meaning/nature.
- This includes positive/negative accentuation, juxtaposition, association, or many other ways of distorting the attractiveness/unattractiveness of something.
- The description of a choice can entirely alter the way people notice and perceive the meaning and implications of the choice.

'Framing' is proposed by the authors as a further significant heuristic in how people assess options and make decisions.

Language is immensely flexible. Something which is a good possibility/option may always be described or 'framed' as a poor one, and vice-versa.

Thaler and Sunstein offer the example of illness diagnosis and treatment/recovery prognosis between doctor and patient: that if a medical consultant focuses on death rates, people are put off treatment, whereas a focus on survival rates tends to increase agreement for treatment, without any alteration of the actual figures. It's a matter of orientation and presentation, or 'framing'.

The notion of accentuating the positive is an aspect of 'framing'. A child is more likely to spill a drink if told, "Don't spill that drink," than if told, "Be careful with that drink."

When a sports coach says to the team at half-time: "Now go win this game," rather than "Don't lose this game," the coach is 'framing' the same instruction in a way that is more likely to get a good result.

A classic example of framing is the 'glass half-full/half-empty' analogy.

Also see the famous 'beans up the nose story'.

'Framing' affects the way people feel and think about something primarily due to the way in which a choice or option is described. This heuristic may operate in parallel with more direct forms of mood-changing, which is described in the supplementary (non-Thaler-Sunstein) heuristics section later.

Framing relates to relevance and self-image.

Temptation (greed, ego, short-term reward, inability to delay gratification)

Key points:

- People tend to want short-term more than long-term reward, whether the values are real or perceived.
- People are attracted to choices which they perceive to be easy, and/or which they perceive will make like easier for themselves.
- People tend to behave according to the maxim that: 'A bird in the hand is worth two in the bush' - i.e., people are tempted by having something now, more than something bigger in the future.
- People are tempted by different things according to personality and situation.

People are generally and naturally attracted to options which offer quick appealing reward. What is regarded as 'reward' by people can take many different forms, for example:

- Material/financial,
- Optimizing 'return on effort/input' (big outcome from small investment),
- Recognition, praise, thanks
- Needs of ego and self-image,
- Avoidance of challenging/difficult effort,
- Responsibility,
- Control,
- Security and protection,
- Benefits for friends/children/etc,
- Power,
- Love and affection,
- Food, sex, shelter, etc.

The values people place on different types of rewards depend on a person's circumstances and feelings at the time.

See the theories of Maslow and Herzberg to understand motivation/needs and reward in more detail.

Temptation is a very powerful heuristic - people are naturally biased towards short-term reward, and against long-term reward, or perceived low reward.

See the WIIFM factor ('What's in it for me?').

We see the 'temptation' heuristic being exploited to extreme degrees in the operation of most gambling products/services. Many people are naturally are drawn to possibilities which offer large rewards for a small effort or investment - even if logic, facts, and experience, suggest otherwise.

Every day around the globe millions of intelligent mature people gamble collectively millions of dollars on lotteries, which these people **know** offer odds of several millions-to-one against winning a major prize. They do this mainly because for them the temptation heuristic is more powerful than facts and logic.

Mindlessness (negligence, not concentrating)

Key points:

- People sometimes form views and decisions without concentrating, or negligently.
- Distraction, illusion, or difficulty can be major factors in reducing concentration.
- Simple 'human error' or other common human weaknesses can cause oversights and mistakes.

Where Thaler and Sunstein use the term 'mindlessness' this refers to various sorts of human error in considering situations and options.

Mindlessness is the tendency for people to form views and decisions carelessly.

This may be due to difficulty and complexity, stress and pressure, laziness, anxiety, poor awareness or education, distraction or deception, false assumptions, illusions, declining mental powers, etc.

In the modern age, this human tendency to overlook important details is exploited by various authorities, especially cynical corporations.

For example a perceived 'free' or discount offer can be intentionally distracting, encouraging people to ignore more important issues. Where retailers exaggerate discounts by stating artificially high previous selling prices they are deliberately trying to produce and exploit a mindlessness in people.

Mindlessness is related to 'framing' (the way that a choice is described) and 'over-optimism' (hoping that things are okay).

See TANSTAAFL ('There ain't no such thing as a free lunch').

People are practising mindlessness when they fail to read terms and conditions, and other 'small print'. It's a very widespread behaviour and is very widely encouraged and exploited by corporations and authorities.

Mindlessness usually causes people to make unhelpful decisions, or to overlook the need for a decision. Authorities, leaders, corporations (and other 'choice architects') therefore have a responsibility to identify risks of mindlessness in designed choices, and to improve clarity and visibility as appropriate.

It is not ethical to defend the poor design of an important choice (in a communication process, etc) by saying that 'people should have read the small print'. 'Choice architects' should know that mindlessness is a real human tendency, and take measures to protect people from such vulnerability.

Self-control strategies (habits and routines to counter weaknesses)

Key points:

- People are often aware that they have some 'heuristic' weaknesses, which they might regard as 'bad habits', or simply 'weaknesses').
- People commonly devise routines and protections against their perceived weaknesses.
- Strategies which people use to protect themselves from their own weaknesses become new heuristic tendencies potential weaknesses.

Most people know that they have 'human heuristic weaknesses', although they'd be highly unlikely to use that terminology.

People instead tend to acknowledge their own vulnerability to heuristic weakness in expressions such as:

- 'I am my own worst enemy'
- 'I would lose my own head if it were not screwed on'
- 'I should have made a list'
- 'I should count to ten... (to give thinking-time before speaking/acting)'
- 'I can't resist a bargain'
- 'I wear my heart on my sleeve'
- 'I should have known it was too good to be true..'

Many people devise tactics to overcome their weaknesses.

Interestingly many of these strategies then act as additional heuristics.

Thaler and Sunstein give the example of people who put their alarm-clocks out of reach, as a strategy to counter the 'temptation' heuristic which encourages people to switch off the alarm and go back to sleep.

Here are some more examples of self-control heuristics that people use to counter other heuristic weaknesses:

- keeping a watch a few minutes fast, to counter a lateness tendency
- leaving a car parked on a steep hill in neutral gear, for fear of forgetting it's in gear when they return to it and start the engine, which would cause the car to leap forward (a car parked on a steep hill should be left in gear, as a safety measure in case of hand-brake failure)
- using the same PIN code for all secure devices and accounts, for fear of forgetting lots of different ones
- running more bank accounts than necessary (or saving money in different pots) for fear of being unable to control spending using fewer accounts/pots
- setting task deadlines in advance of actual due dates for fear of missing them
- keeping unnecessarily big stocks of consumable products for fear of running out/forgetting to re-order

Many self-control strategies like these (and there are hundreds more) actually become new weaknesses.

'Choice architects' should recognize when such tactics could be present in people's behaviour, and make allowances in how choices are offered accordingly.

Following the Herd (conforming, mob instinct)

Key points:

- 'Following the herd (crowd)' without question causes 'the mob effect', mob rule, daft 'committee' decisions, and underpins fashions, fads, crazes and myths.
- The tendency is caused by people's need for affirmation, avoiding risk/embarrassment, strength in numbers, fear of isolation, etc.
- Mass media, and authorities and institutions with vested interests in certain beliefs, commonly help build and maintain false group-beliefs.

Thaler and Sunstein explore this heuristic (they call it 'following the herd') at great length and depth, understandably, because it is a very substantial aspect of group and societal behaviour.

The tendency is known by many other terms, some very loosely, such as the mob effect, mob rule, majority rule, 'when in Rome...' ('...do as the Romans do'), the herding effect, behaving like sheep, strength in numbers, lowest common denominator, among other terms and metaphors.

There are many cultural factors which enhance these effects, especially when enabled and magnified by modern internet/computer/communications technologies.

The common human urge (conscious or unconscious) to conform to the behaviours of others, or to social norms, expectations and customs, has many different causes, for example:

- the need for affirmation (being like others, which produces feelings of affirmation)
- avoiding risk/embarrassment/being wrong (not 'raising one's head above the parapet')

- fear of isolation, ridicule, persecution, retribution, etc
- allegiance to a societal grouping, religion, cause, campaign, movement, etc.

Fear (of embarrassment, isolation, being wrong, loss of reputation, etc) is a big factor in this heuristic. So is the 'spotlight effect'.

Note that this sort of conforming is to a 'perceived' norm, which is not necessarily the reality.

The analogous fairy tale of 'The Emperor's New Clothes' illustrates the bizarre susceptibility of humans to conforming to a perceived majority belief, even if unproven or plainly daft.

(A pompous king is persuaded by mischievous tailors that a 'magnificent' expensive suit they have produced for him can only be seen by clever people, when in fact there is no suit at all, so the king is in fact naked. The king, his courtiers, and crowds, are all tricked into agreeing that the king's suit is wondrous, even though the king is naked, because each person does not dare to appear to be stupid - except eventually a small boy, unaware of the tailors' claims, who exposes the sham.)

This is similar to experience of sitting in a classroom situation not daring to ask for clarification of a complex issue, because we imagine everyone else understands, when in fact not everybody does, and people are conforming to the same false notion.

The fascinating Abilene Paradox is another example of unhelpful group thinking according to this (following the herd/conforming) heuristic, by which a group, especially a committee or supposedly cooperative united group, is prone to making idiotic decisions based on the individual members misreading and then following a wrongly perceived group view.

Confusingly when lots of people conform to a false but perceived norm, such group delusions can easily produce actual real norms, which are based on nothing but the imagination of lots of people.

Many experts would also say that conforming in one way or another has also been a necessary survival instinct throughout human history, so that the tendency may actually be to a degree 'hard-wired' or genetically inherited by each of us.

Whatever the causes of conformity it's immensely powerful and potentially lethal too. All wars are based on soldiers and populations conforming. (This is not the same as following orders; it's actually willingly doing as others do, following virtually without question, what a big crowd of fellow humans are doing). Sports and music fan-bases would not exist without the human heuristic of conforming. Nor would Facebook or Google or Twitter exist without human conformity. Nor would there be a fashion industry, or strongly branded merchandise, were it not for the human urge to conform.

In fact the human urge to confirm is so powerful that non-conformers are commonly ridiculed or persecuted, quite outside of wars, and this behaviour can be seen in tiny children as well as in supposedly intelligent mature adults.

Spotlight Effect (anxiety, pressure, 'all eyes on me', fear of making mistakes)

Key points:

- People tend to imagine their individual actions/decisions are very noticeable to a group.
- This can produce unhelpful pressures on thinking, and influence decision-making.
- Fear is a main factor - fear of embarrassment, criticism, making mistakes, isolation, etc.

This is the tendency for people to over-estimate the visibility/significance of their own decisions and actions, which Thaler and Sunstein call the 'spotlight effect'.

The metaphor alludes to the feeling of being centre-stage, with a spotlight and all eyes upon us, so that our every action is seen by everyone.

In reality groups of other people - as a group - do not notice what we do and care very little what we do and decide.

(This is different from the more realistic fear that our actions and decisions can be highly visible and significant to another individual person, or a small personally connected group, but this is a separate matter entirely.)

The effect of the 'spotlight effect' heuristic is to pressurize our thinking and decision-making, one way or another, as if everyone were judging us and/or dependent upon our decision.

The spotlight effect is strongly linked to, and adds to the potency of, the 'conforming' heuristic ('following the herd').

The 'spotlight effect' is a particularly significant 'false' factor in the early development stages of 'mob rule' situations, which can then develop to propose much bigger real threats to non-conforming individuals.

As with many other heuristics, the 'spotlight effect' human weakness is often exploited in cynical ways by corporations, thereby persuading individuals to conform to a false reality. Much of the corporate/commercial world embeds this tactic into its advertising in attempting, often very successfully, to convince audiences that the product/service/lifestyle being promoted is far more popular and 'normal' than it actually is. The tobacco industry did this for decades, and actually continues to do so via 'product placement' in movies, etc.

Ethical 'choice architecture' should obviously avoid presenting 'norms' that are unhelpful to people.

Priming (preparing people for thinking and decisions)

Key points:

- People can be helped to approach choices in a more prepared state.
- This happens before the choice is experienced.
- Many people need and benefit from this effect.
- The 'choice architect' responsibility is extended to people's attitude, as part of the choice design.

The manner in which people are 'primed' or softened/hardened before a situation or option is introduced - extends to enabling visualization of a viewpoint or feeling - relates to facilitative theory.

People's openness and preferences towards choices are influenced by what happens before and while an option is emerging. Thaler and Sunstein call this preparatory stage 'priming'. This relates to and overlaps with 'framing'.

The 'priming' heuristic potentially includes the imagining or visualization of a viewpoint or feeling (i.e., the person consciously or unconsciously imagines the feeling or consequences of a decision).

This potentially includes people's self-image, which is is significant in affecting personal response and responsiveness to all sorts of things, including 'nudges'. See 'relevance' in the supplementary heuristics section, which is greatly affected by self-image.

Priming relates to NLP (neuro-linguistic programming), clean language, transactional analysis, facilitative theory, and many other psychological concepts which are concerned with mental attitude. Body language can also feature in priming. A classic example of 'priming', although not called this at the time, is the 'Hawthorne Effect' experiments of Elton Mayo.

Sports coaches frequently use the 'priming' heuristic to influence the feelings and decisions of athletes and teams. The centuries-old leadership notion of fighting for a god or or 'Queen/King and country' is a form of 'priming'. Most advertising seeks to employ a form of 'priming', often by first showing attractive sexy/cuddly images of people, scenery, cars, puppies and kittens, etc. Many stories, jokes and analogies also use 'priming' in creating a certain attitude or expectation in the audience.

Separately, a very specific and simple aspect of 'priming' has been recognized (although not named as such) in psychology and concepts such as NLP for decades, in the use and avoidance of certain words when seeking to influences human responses, for example:

- The word 'how?' is more likely to produce a positive response than 'why?'
- Words like 'situation' and 'challenge' are more positively stimulating than words like 'problem' and 'difficulty',
- In communications designed to motivate, using the word 'but' usually prompts a negative feeling, compared to 'and' or 'also'.
- Single clear positive messages/instructions/requests work better than communications which carry more than one main message.
- A request to 'do' something generally produces better response levels than a request which instructs 'not to' or 'don't' do something.

These examples are also arguably forms of framing, although framing refers to a more general orientation of a communication, rather than the preparatory 'priming' aspect.

Stimulus Response Compatibility (language, signage, design - does the 'look and feel' of the choice match the meaning of the choice?)

Key points:

- Stimulus Response Compatibility refers to how reliably the 'look and feel' (signs and signals) of a choice reflect/represent its meaning.
- This heuristic concept overlaps many other heuristics (types of 'nudges').
- There are cultural differences - signals/signs can mean different things to different cultures.

Thaler and Sunstein refer to this area of heuristics as 'choice architecture', and also as 'stimulus response compatibility'.

Thaler and Sunstein's use of the term 'choice architecture' for this area of heuristics is a little confusing, and inconsistent with the term 'choice architect', which embraces all heuristics.

Stimulus Response Compatibility refers to whether the look and feel of the communication or signal (the 'stimulus') matches (is 'compatible' with) the message that we receive or infer (our 'response') from the communication.

In other words, is our brain being tricked?

This aspect of human thinking is not presented by Thaler and Sunstein as a stand-alone heuristic like the above listed items, but is easier to appreciate in this grouping, especially when heuristics are seen as 'nudges' in a 'toolkit'.

Stimulus Response Compatibility is an aspect of semiotics, which is the study/science of how meaning is conveyed in language, signage, symbols, stories, metaphors, etc., and generally any other visual carrier of meaning.

In 'honest' communications, the **appearance or feel** of something (a sign, words, or anything designed for us to engage with or respond to) should **help us understand how to respond or engage with it**, (rather than encourage us to respond in some other way).

A basic example of this effect is any optical illusion, by which something seems to be what it is not. The brain can easily be tricked, for example: What do the words in the triangle say?

Most people seeing this for the first time say, 'Paris in the Spring'.

But the word 'the' appears twice.

The brain has been tricked.

Here's another. Read all the words in the box and count how many times the letter f or F appears.

How many 'f's?

FINE POINT

It is easy to miss the finer points in life. Folk are frequently guilty of falling into this trap.

The letter f appears eight times in the box. People commonly count seven, by failing to see the last but one f.

(More examples in the puzzles and games section, and see the amazing shadow optical illusion.)

The 'stimulus response compatibility' effect on thinking - where the brain is 'tricked' by incompatibility - is a major area of heuristics. It overlaps with several other individual heuristics, and is hugely significant in how (usually visual) communications and signals are designed, in terms of human expectation and conditioning, so that commonly we decide about things prematurely, often not even bothering to examine and understand the detail.

Generally green means go or okay, and red means stop or danger, even if the words say something different. Capital-letter (upper-case) words generally emphasize importance, loudness, priority, etc., even if the words/meaning are unimportant. A tick means yes, an X means no, usually. A 'white-out box' invites us to write something in it. Many more examples exist in thousands of very recognizable patterns, customs and symbols that we see around us, and these signals are increasing still more in the digital age.

The extent to which the look and feel of something prepares us for a certain response is a very big factor in how we are 'nudged' towards one response or another.

Imagine how much slower the world would work if overnight the 'enter' key were renamed or moved elsewhere on computer keyboards.

Every year there is a major electoral dispute somewhere about the design of a voting slip, because the design confused people as to how many boxes should be marked.

More commonly, the very tiny extensive 'small-print' in most contracts discourages us from reading it. The stimulus (small, difficult to read) is not compatible with the response we should have ("...these terms and conditions are important, so I should read them"). We expect important information to be conveyed clearly, concisely, in large print. When we see lots of small print we are not inclined to read it because 'small-print' equates to unimportant, and it's difficult to read too because of the language, length of the text, and layout. This is often a cynical intention of the communicator because they know that if people actually read the small-print they would hesitate to agree to the contract. The communicator is deliberately creating and exploiting a stimulus that is incompatible with the response that the communication deserves.

Thaler and Sunstein offer a couple of simple amusing examples of 'stimulus response incompatibility', notably:

- a door which must be pushed to open, but which has big handles on it, so people wrongly think it must be pulled
- and the daft four-in-a-line control knobs on nearly every cooker, which are incompatible with the four-in-a-square layout of the hob burners.

And one example of helpful compatibility, which arises more than once in the 'Nudge' book, is that of the image of a fly inside men's urinals, so as to 'improve aim', and reduce cleaning and hygiene problems (it works).

You will encounter examples every day of communications/stimuli that are designed helpfully, and unhelpfully. Many unhelpful designs are merely accidental or careless, but plenty are designed deliberately to encourage you to respond in a way that is not in your best interests.

This area of heuristics overlaps strongly with conditioning, and is especially potent when combined with defaults (i.e., what specifically happens when you decide to do nothing), inertia, checkboxes, and other mechanisms which leave people wishing they'd taken more time thinking how to respond.

Bear in mind that aspects of this heuristic are subject to major cultural variation. For instance the 'thumbs-up' sign is insulting in certain parts of the world, and generally icons based on western body language are certainly not always transferable internationally with consistent meaning.

Feedback (during thinking and decision-making, enabling correction and useful experience)

Key points:

- Feedback equates to helping people understand their situations, thinking, and decisions, responsively during thinking and deciding processes.
- People are open to help/influence from feedback or reflection while thinking and deciding, or having decided, prior to further decisions.
- Feedback is a relatively skillful and sophisticated aspect designing choices.
- Feedback is a crucial element of optimizing the effectiveness of Nudge theory.

This is a major and sophisticated aspect of heuristics, and is part of 'choice architecture' as defined by Thaler and Sunstein.

Note that feedback here is mainly a part of a system design, for a process, or signage, as experienced by large groups of users, (rather than conventional one-to-one feedback).

(Feedback is not presented by Thaler and Sunstein as a stand-alone heuristic like the above listed items. It is is easier to appreciate in this grouping of heuristics, especially when heuristics are seen as 'nudges' in a 'toolkit'.)

As with other decision-making heuristics explained here, feedback has existed in the study and theory of decision-making for many years quite outside of Thaler and Sunstein's 'Nudge' theory work.

Humans are potentially able to respond very well to receiving feedback about their actions and decisions. We do not always do so however, because this depends how the feedback is given and how we are feeling at the time.

The feedback may be accurate, but if it is given in the wrong way, or the recipient is not feeling good about him/herself, then there's no certainty that the feedback will be absorbed or acted on. And sometimes poorly designed feedback can make things worse.

To imagine or explain how feedback operates while people are taken through a process, a useful example is the signage during road diversions, which provides good and bad examples, especially where people are liable to make wrong turnings (unhelpful decisions). Good feedback offers signs informing people of mistakes, and signs directing people back to the correct route. Poor feedback fails to anticipate that some people may find themselves on the wrong road, and allows people to continue unaware of their mistakes, often becoming completely lost.

Separately Transactional Analysis is very helpful in understanding - **at an emotional level** - why feedback may be received positively or negatively, and how to design feedback and reflective systems so that they are as helpful as possible. Transactional Analysis is typically concerned with personal one-to-one communications, however its principles transfer very readily to the design of systems and processes, and how organizations and systems should interact with users/customers/etc.

Facilitative decision-making is also very relevant and helpful in understanding and designing feedback that helps people through a discovery and decision process. This sort of facilitative 'nudging' methodology is a major and sophisticated area of heuristics in its own right, and is detailed separately in the supplementary heuristics section.

We see many examples on the web of processes which include feedback, and in other computerized applications. Some are very good, where the user is ' coached' through a thinking/deciding process; others are very unhelpful. Your own experiences will give you plenty of examples.

In appreciating what feedback is required for users in processes and systems - to confirm, give feedback, correct, and offer helpful options and information - it can be useful to step away from the actual project (because choice architects are often so close to a project that it's difficult to imagine what a user needs).

Feedback - in helping people think and decide - should:

- confirm to people when they are making good decisions
- check/ask/prompt/correct people wherever an error of judgment might have occurred
- suggest alternative/remedial action in the event of errors
- and should do all this at appropriate times/stages/ in an appropriate manner (again see Transactional Analysis)

Some sort of 'flowchart' diagram is useful in designing good feedback systems, by which every possible choice/option/decision point in the decision-making process is identified, analysed, and mapped (showing all the possible paths and outcomes available). This enables appropriate support to be designed to ensure that users/customers are helped at each stage depending on the choices they make.

This completes the summary and explanation of the heuristics identified by Thaler and Sunstein.

However many other additional 'heuristics' feature in human thinking/decision-making, and could be considered part of a 'Nudge' theory methodology or toolkit.

Several of these major 'supplementary heuristics' are explained in detail next, below.

Other Types of 'Nudges'

Supplementary Heuristics

There are many other aspects of human communicating/engaging which, while not specifically identified as 'heuristics' or 'nudges' by Thaler and Sunstein, might be regarded as such, and deserve explanation and inclusion here, and especially in the 'Nudge toolkit'.

Some of these heuristics are similar to, or overlap, Thaler-Sunstein 'nudges'. Others are quite different and do not feature in the Thaler-Sunstein published work.

None of the following are specifically named or categorized as 'nudges' by Thaler and Sunstein.So please don't suggest they are.

Some of these may be similar to heuristic theories of other academics and psychologists, including Kahneman and Tversky, however the collection is not intended to represent anyone's specific theories. The field of 'heuristics' is broad, changing, and open to wide interpretation. The collection which follows is an attempt to categorize and explain the main effects in an accessible and useable manner.

On which point, the word 'intervention' is used in this section in referring to actions, communications, choices, 'nudges', inputs, etc., that are devised and applied by leaders in attempting to alter people's behaviour/behavior.

Please note also that these are generalized aspects of human thinking. Not everyone behaves predictably according to these influences.

First, a summary table, followed by more detailed explanations and examples.

N.B. The following heuristics are not named or defined as 'nudges' by Thaler and Sunstein, although some arise in their examples and supporting narrative, and others are logical extensions of Thaler-Sunstein ideas, and/or have been proposed in various forms by other theorists. The table below attempts to offer a simple accessible summary of these ideas and their meanings, which in turn helps to identify where they exist, and how they might be modified or used.

Supplementary Heuristics ('Nudges')

Positioning	Positioning, moving things, prominence, proximity, etc. The physical or visual positioning of something that people engage with, or which influences the way people engage with something else.
Limiting	Expiry dates, limited stock, and 'forbidden fruit'. The impression that opportunity could be lost, or something is in limited supply.
Sympathy	Easy, rather than difficult (at a personal level). Ease of engagement, a perceived high return on on low effort, path of least resistance. When an intervention is sympathetic to someone, then engaging and responding to it is easier than something which is unsympathetic. Is the intervention 'in tune' with the target audience?
Accessibility	Visibility - the efficiency or reach of the communication or signal. This is a measure of how many people are exposed to an intervention, and how many times people are exposed to it. Increased accessibility tends to increase responsiveness.
Likeability	Trust, reputation, credibility. People are more likely to engage and feel positively towards interventions associated with trusted, credible, likeable authorities and the figurehead leaders/characters perceived to represent the authority in question.
Relevance	Meaningful fit with people's self-image. People consciously or unconsciously ask themselves, "Is this for me?" or "Is this relevant to my

	needs and situation?" This is similar to 'framing' but more personal and individually evaluated.
Mood-change	How the intervention makes people feel. Kahneman and Tversky theorized in detail about different types of mood influences. It's a form of 'priming' but more specifically entails stimulation and signals which affect people's feelings, which in turn affect our thinking and decision-making.
Fear	A big influence on people's thinking and a major thread running through lots of heuristics. Used widely throughout human history as perhaps the most immediately impactful 'nudge' of all, but 'fear' contains more complexity and a range of applications, for potentially helpful effect, aside from the usual unhelpful usage.
Facilitation	People are helped to understand and decide, free of bias. This is a very sophisticated, proactive and personally responsive heuristic which extends a combination of several heuristics, notably such as 'priming' and 'feedback'.
Sensory	Alteration of attitude via other sensory stimulation, aside from more obvious 'mood-changers'. Sensory stimulants include interventions such as sound and music, colour/color, brightness, touch and texture, heat and cold, wetness, humidity, air quality, and certain forms of body language.

The 'nudges' in the table above and explained below in more detail are not identified as specific 'nudges' by Thaler-Sunstein, although some overlap Thaler-Sunstein ideas. The above 'nudges' are additions, extensions or adaptations, perhaps omissions, of the Thaler-Sunstein ideas, and also serve to further explain and clarify the principles which underpin 'Nudge' theory, and how it might be taught and applied.

Additional 'Nudges' - Detail

Sub-index

- Positioning - moving things, prominence
- Limiting - expiry dates, limited stock
- Sympathy - ease of adoption, path of least resistance
- Accessibility - efficiency of communication, reach, penetration
- Likeability - trust, reputation, credibility, honesty, integrity (of 'nudger')
- Relevance - fit with audience needs, self-image, situation
- Mood-changers - inspiration, passion, flair, intrigue, humour/humor
- Fear - thinking driven by risk or threat
- Facilitation - helping people to think and decide
- Sensory - sounds/music, smells, touch, colour/color

Positioning - locating things, moving things, prominence

This refers to the visible/physical positioning of something.

This might be the positioning of something to be read or used, or the positioning of something else which affects, or is relative to, the access/visibility of the subject/issue concerned.

For example, the positioning of words and pictures in notices and adverts; the positioning of notices and adverts themselves; the positioning of things which affect people's movements, such as facilities, equipment, etc., that people engage with.

Thaler and Sunstein offer examples of this sort of intervention although do not categorize it as a 'heuristic' or 'nudge' as such. A notable Thaler-Sunstein example is the positioning of different types of foods in a self-service cafeteria. There are lots of other examples of this sort of 'choice architecture' being used in the world, especially in retailing and advertising. The advertising industry understands this positional strategy very well.

Positioning or moving things can be a very powerful way to influence all sorts of human behaviour where choice is affected by visibility/prominence, physical access or location. For example moving the position of a drinks machine in a public/work environment would affect the movement of people, conceivably to achieve an aim that might otherwise be completely unrelated to the drinks service.

There are many possibilities to alter people's choices by positioning or moving things (including adverts and information notices), so that people are exposed to different experiences and options.

Limiting - expiry dates, limited stock, and 'forbidden fruit'

Thaler and Sunstein do not specifically categorize this as a heuristic or nudge, yet the fear of losing an opportunity, or of limited offer, is a powerful influence on many people's thinking.

A psychology analogy to illustrate a major effect within this notion is that of chasing after a dog (it will run away), rather than running away from the dog (it will come after you). Or the dating maxim 'playing hard to get'.

For some reason human beings are generally conditioned to want something more if it is less easy to acquire, and this provides various ways to build new choices.

Human tendency is to be more attracted to something which is elusive, fleetingly available, limited, etc., than things that are plentiful, unlimited, always available, etc.

A further analogy is that of a child who will be more inclined to pursue things that are restricted or banned, and to refuse things which are offered enthusiastically.

This is called loosely 'reverse psychology' in many situations, for example the concept of withholding something from someone, which often has the effect of increasing the person's desire for it.

People naturally seem to infer a higher value on something if it is rare, about to be lost, or difficult to acquire, etc., than on things which are common and easy to acquire, or even difficult to avoid.

Sympathy - Ease of adoption, path of least resistance ('water flows downhill')

Human instinctively try to conserve their energy. This is not laziness, it's merely being efficient. We naturally prefer to make life as easy as possible for ourselves. Therefore people will tend to behave in quite predictable ways concerning the ease in which a task or process can be approached (or avoided). We take the path of least resistance, (or what we believe to be the path of least resistance).

Accordingly, choices which are designed to match this preference will tend to be preferred to choices which do not.

We might think of this as designing choices that are 'sympathetic' to people's inclinations and habits, etc. Or designing choices that 'go with the flow' of people's natural or habitual behaviours.

This is an over-arching 'heuristic' which can be seen operating in various specific nudges, but also in itself 'sympathetic' design of choices can be a powerful way to shape choices, and a reminder to check that choices fit with this human tendency.

Put another way, if people think that there is a very much easier option (than choices you design) - a path or very little resistance - then they will tend to take it.

If a designed choice (action or decision) isn't easy for people, then they are unlikely to take it.

We can also consider this influence in terms of return on effort. People respond well to options which offer a high reward or yield for relatively low effort or input.

Accessibility - efficiency of communication, reach, penetration

This human preference is certainly a feature of a few of the Thaler-Sunstein 'nudges', but it stands alone as a very important basis for designing options for people.

For example:

- Using larger font/type size in detailed printed communications improves people's ease in reading them, especially older people.
- Translating materials into different languages increases accessibility for foreign language speakers.
- Making materials available in different media increases the opportunities for people to see the materials concerned.
- Distributing information by post, door-to-door, will reach a wider audience than a few pages page on a website.

These are all statements of the obvious, and yet this basic sort of accessibility is often forgotten when choices are designed and offered to people.

In advertising theory this relates to 'reach' and 'penetration', which are basically measures of how many people see/receive the communication.

In a deeper sense, and in terms of 'Nudge' theory, this refers to how effectively a signal (or 'nudge') 'reaches' the audience - so that people:

- **see/experience** it
- **absorb** it
- **understand** it (or can assimilate it - take it in, even unconsciously)
- Are **affected** by it.

This potentially entails lots of things:

Accessibility refers to optimizing the extent to which an audience will see, receive, experience, understand (or otherwise assimilate and process internally) and be affected by the signal/communication/input ('nudge') from the sender or giver ('choice architect').

Accessibility is another powerful aspect of choice design. On a simple level of decision-making, people can only begin to think and decide about things if they are properly informed. Too often people are expected to act when the accessibility of information is so poor that facts and meanings remain effectively unknown.

Technology is a major factor in this regard, notably where people are expected to understand choices when the communication method requires an access to or command of technology that some people simply don't have.

For example, many older people are far less informed about their personal finances in modern times because statements and balance information is only generally accessible when a customer looks for it online. Virtually no information is offered from supplier to customer without an extra cost, and this reduces people's awareness, and therefore the quality of their thinking and decisions.

Worryingly this heuristic tendency is exploited to cynical effect by many large corporations, when poor information accessibility combines with other heuristics such as status quo bias, mindlessness, and optimism, to suppress customer complaints and terminations.

Properly approached however, accessibility should instead be a strong force for good.

Choice architects must ask themselves:

How can I maximize the chances of people seeing/experiencing the choices or communications that I am designing for them?

Consider the 'what, how, where, when' of choices:

- What: content, supporting facts and figures (consider comparisons and stereotypes), language, wording, typeface and design, size, format, layout, etc.
- How: delivered, packaged, available, linked, supported, justified, framed and primed, etc.
- Where: located, positioned, available, etc.
- When: available, frequency, repeated, reminded, etc.

If you don't know how to improve accessibility, don't guess or assume what will work better. Ask your audiences how to improve the accessibility of messages and choices designed to reach them.

Likeability - reputation, trust, credibility, honesty, integrity, ethics

This issue of reputation, trust, integrity, etc., is mentioned previously in the philosophy and 'choice architect' sections.

The 'likeability' of a 'nudging' organization is **highly significant**, although not given great attention by Thaler and Sunstein.

This heuristic factor influences people's openness or willingness to be nudged, and so it is related to 'priming'.

Simply, people are less inclined to respond positively (or at all) to a choice (or 'nudge') offered by a leader/organization if the people distrust or dislike the leader/organization concerned.

And certainly if people strongly dislike a leader/organization then their response is likely to be very negative to communications or choices offered by the leader/organization.

This tendency is commonly seen in people's thinking about politics, social policies, corporate scandals, etc. It relates to corporate governance.

Reputation and trust are 'heuristic' measures applied by people to **leaders** and also to **organizations**. The reputation of the leader (and other senior figures) reflects onto the organization. And vice-versa. The reputations and likeability of leaders and their organizations often become blurred into a single feeling.

Governments have been brought down by scandals of ethics and dishonesty. So have corporations.

These are not failings of service or product, they are failings of attitude and ethics.

Yet leaders commonly ignore or underestimate the significance of likeability and trust in how people judge those in authority, and the organizations they represent.

People tend to develop feelings of distrust and dislike for leaders/organizations which display or behave with:

- arrogance
- duplicity
- dishonesty
- evasiveness
- and other traits of leadership which undermine truthful connections between leader/authority and audiences/followers.

The potential for this sort of reputationally damage on leaders and their brands/organizations has multiplied many times since the emergence of the internet and especially social networking, so that:

- displays/examples of bad leadership behaviour very quickly become very visible to potentially millions of people (despite traditional attempts by leaders to suppress media),
- modern social connectivity/self-publishing systems then enable and encourage extremely potent analysis and critical comment by unofficial commentators and ordinary people about misdeeds and wrong words - there is no hiding place - and also, interestingly
- a major heuristic effect ('nudge' - namely conforming ('following the herd') - further increases

public awareness and reaction, ensuring that very large numbers of people form powerful groupings, like a 'swarm', to produce massive social outcries, which in the modern age can very easily then lead to serious protests, boycotts, civil disturbance or even more dramatic uprisings.

Serious negative social reactions can of course be prompted by other organizational failings aside from trust and attitudinal issues - such as product or service failures - but such failings usually result in proportionate audience reactions which build slowly and are easier to predict and remedy; whereas reactions to failures of trust (duplicity, dishonesty, greed, etc) tend to produce much deeper quicker uncontrollable audience indignation and outrage, and this is obviously not helpful at all for organizations seeking to maximize audience receptiveness to 'nudges'.

Relevance - meaningful fit with audience needs, situation, self-image

Audiences tend to respond better to situations, choices, communications, etc., that they feel are relevant to their own lives and situations, than to opportunities which are impersonal or seem designed for 'other people'.

There are overlaps between this notion and the Thaler-Sunstein 'framing' heuristic.

This 'relevance' heuristic is however more specifically concerned with how well an intervention matches the personal needs, situation and self image of the respondent.

Audiences consciously or unconsciously assess how meaningful an intervention (choice, nudge, option, etc) is to their own situation and self-image.

We must also consider the audience 'self-image' because this is to a degree flexible. The question of whether and how audience self-image can be changed is mainly addressed via the 'priming' heuristic.

The 'choice architect' must ask: Is the communication 'framed' to be personally relevant?

And more deeply, is the option (choice, nudge) itself personally relevant for the audience?

People instinctively judge whether a signal and related option 'fits' or feels comfortable.

If it does not seem personally relevant, in style and implications, then the person is less likely to act on it.

Neglecting this need in people is a common failure in the thinking of authorities, because leaders and policy-makers (who become 'choice architects') generally do not understand and empathise with their audiences.

Audiences commonly joke that irrelevant ill-fitting options are 'from another planet'.

The option is irrelevant and ill-fitting because the person who designed it doesn't understand the audience.

So there is a great need for choice architects to have empathy for and real knowledge of their audiences - to know what people will consider relevant and fitting - both in terms of the way a choice is presented, and the nature of the choice itself.

Leaders need to improve their awareness of the vast differences that usually exist between

themselves and the audiences they seek to influence or change, and to take appropriate action: either to develop genuine understanding and empathy for the audience, or to delegate the design of choices and interventions to people who have such understanding and empathy.

Mood-changers - inspiration, passion, flair, intrigue, humour/humor

This range of heuristics, applying to how people **feel**, is potentially an aspect of 'framing', but also stands alone as a heuristic which specifically **affects the mood of the audience or respondent**.

This is somewhat different to 'framing', which generally refers to the styling of the option itself.

We might say that:

- 'Framing' mainly **describes** the **choice or option**, whereas
- 'Mood-changers' (and related motivators) affect the **mood** of the audience.

And:

- 'Framing' mainly entails **facts, information, description,** affecting how people **think**, whereas
- 'Mood-changers' (and related motivators) connect with **people's emotions** and how they **feel**.

The style or character of an intervention (choice, nudge, communication) can increase the audience's mood of receptiveness and responsiveness.

For example, people's responsiveness is often increased when they are:

- Smiling
- Happy
- Curious
- Amused
- Entertained
- Surprised
- Inspired
- Enthused
- Uplifted
- And other positively motivating effects on feelings

We can all be influenced by the enthusiasm and belief of others.

Choice architects should ask themselves:

- Does the choice design enthuse people?
- Does the communication convey excitement, or some other appealing mood?
- How can the intervention be designed so that people will feel more inclined to engage with it?

There is a part of most people which responds to inspiration and enthusiasm of some sort and even the most mundane choice can be improved somehow to increase the attention of an audience.

Fear - thinking driven by risk or threat

Fear is an influential thread which to varying degrees runs through many heuristic tendencies in people, notably:

- Loss aversion
- Framing
- Status quo inertia
- Temptation
- Mindlessness
- Self-control strategies
- Conforming
- Spotlight effect
- Limiting
- Mood-change

Fear is certainly exploited widely for cynical purposes by authorities, governments, leaders, and corporations, and has been for thousands of years.

Sadly its use can be extremely effective in achieving the aims of the authority concerned.

Examples of authorities/institutions which routinely promote and exploit fear in people to achieve the aims of the authority include:

- Religious organizations - "You will go to hell/not go to heaven unless..."
- Political movements - "Immigrants (or some other minority grouping) are taking over your city/country..."
- Governments - "We have to wage a war overseas, and increase surveillance on our own society, or terrorists will kill you..."
- Corporations - "You will not be attractive to the opposite sex unless you buy..."

The abuse of fear is everywhere.

We learn from our parents that: "You will get a smack/be sent to bed/get no pudding unless you behave..." And we pass this on to our own children.

However fear is an important part of life. A lot of natural fear can be helpful, and has enabled the human species to survive, for example the fear of:

- Lions, tigers, snakes, bears, big spiders, scorpions, etc
- Things we might eat but which look and smell bad
- Explosives
- Sharp or pointed things
- Heights (falling from a height is life-threatening)
- The dark (risk to safety increases without light)
- Strangers (especially behaving inappropriately)

But when fear is exploited in a manipulative and cynical way it becomes an unhelpful heuristic or 'nudge'.

The message from this to leaders and other 'choice architects' is to avoid exploiting fear unethically.

In such judgments the Thaler-Sunstein notion of 'libertarian paternalism' is a useful reference point, and you should understand what is meant by this, or have your own equating ethical standard, before you begin designing choices for people.

Facilitation - helping people understand and decide, according to their personal needs and thinking processes and responses

This is a very sophisticated type of 'nudge'.

It's an extension of the Thaler-Sunstein nudges of 'priming' and 'feedback'. It is not described or acknowledged as a heuristic or nudge by Thaler and Sunstein, and is not offered as a part of 'choice architecture'.

The concept is however a growing and potentially very significant part of choice architecture.

This sort of 'nudging' support is likely to become increasingly popular with the continuing development of computer technology, and especially the 'artificial intelligence' of computer systems with which people engage.

A pioneer of this methodology is the American expert and writer on decision facilitation, Sharon Drew Morgen, whose extraordinary 'Buying Facilitation' theory effectively foresaw the Thaler-Sunstein ideas in the 1990s. See Sharon Drew Morgen's Buying Facilitation concept, which offers a specific process enabling the application of facilitative support for people's thinking and decision-making. Morgen's main focus in advocating facilitative methodology is towards more helpful and effective business and selling, but the principles and techniques are transferable to any situation where one person or body seeks to help others think and decide, importantly think and decide what is best for the person, not the facilitator, or seller or authority (or 'choice architect').

In a more general sense, these methodologies and principles and are increasingly featuring in the 'artificial intelligence' of human processing systems, so that users, customers, audiences, societies, etc., are offered truly helpful guidance in addressing personal choices.

As such the 'nudging' becomes an entire responsive process, which is reactive to individual situation and needs.

Much of the Thaler-Sunstein Nudge theory is by its nature universal; it offers the same carefully designed choices to very large numbers of people. Whereas the more personally-driven facilitative 'nudging' characterized by Morgen's work offers individually responsive choices and feedback, so that people are treated as individuals, rather than part of a large group all of whom are basically treated the same. Central to this level of sophistication is the need to **help people understand their own situations**, as a crucial requirement **before choices are explored and decisions are made**.

Sensory - sounds/music, smells, touch, colour/color, temperature, humidity, etc

These sensory stimulants can be very powerful influences on human thinking and decisions.

This sort of heuristic influence is not specifically identified or categorized as a type of 'nudge' or heuristic by Thaler and Sunstein.

The effects of sensory stimulation - such as smell, sounds (notably music) - on human thinking and decision-making can be very influential.

For example:

Smells

- The smell of freshly baked bread in a supermarket tends to increase people's thinking about bread, and people's decisions to buy bread.
- The smell of various foods, especially cooking, increases people's thinking about eating, and the likelihood that some people will decide to eat something.

Sounds

- The sound of certain rhythms and music increases people's conscious thinking and unconscious feelings about moving, dancing, tapping their feet, etc., and the likelihood that some people will decide to start moving, in time with the music (or not, depending on their sense of rhythm..).
- Certain songs increase people's thinking and decisions to start humming, singing or whistling.
- Certain music evokes different moods, such as sadness, fear, pride, etc., and correspondingly affects people's thoughts and decisions.
- Certain music is associated with organized groups or people, which can prompt reactions in thinking and decisions, especially members or enemies of the group - e.g., football clubs, nationalities, religions, armed forces, etc.
- Sounds and music in media such as film, adverts, documentaries, political broadcasts, can have a powerful effect on people's thinking, and consequently their decision-making.

Other

- Being suddenly soaked in water discourages people from being energetic and organized - hence the use of water cannons by riot police.
- The addition of salt, sugar, fats, and other strong tastes to foods tends to strongly influence people's reactions to them, which of course in most cases is not a helpful effect.
- The effect of sunlight and warmth, as opposed to darkness/dullness and cold, tends to produce increased positivity in people, and therefore potential amenability and receptiveness towards interventions. (A crowd in the outdoors is more likely to be supportive in fine weather.)
- Many studies have indicated that when people are exposed to natural green countryside, such as green fields and trees, etc., that this is a more positively conducive environment than being inside buildings and concrete/asphalt surroundings.
- Two tobacco smoking heuristics: 1. The appeal of cigarette smoking is increased by physiological synergy with alcohol consumption, in that alcohol and tobacco taken together increase the chemical pleasure-effect of each. 2. The UK ban on tobacco smoking in pubs strongly contributed to the downturn in pub customer numbers and widescale pub closures, shifting people away from drinking in pubs and into their homes.

There are many other sensory stimulants which alter our feelings and thoughts. You will think of plenty that affect you personally.

This completes the listing and explanations of (supplementary 'non-Thaler-Sunstein') heuristic tendencies in people which we might consider to be types of 'nudges' in the context of Thaler and Sunstein's theory and its natural extension.

The range of heuristics that are additional to the 'nudges' specifically identified and defined by Thaler and Sunstein is vast.

These ideas offered here are not exhaustive.

You will discover more.

Being more aware of the interventions and situations that affect your own thoughts and feelings will help you identify new heuristics, many of which can equate to 'nudges'.

Nudge Theory Is For Everyone

Just as anyone 'can be a leader', so anyone can be a 'choice architect', and use Nudge techniques to help people towards improving their thinking and decisions.

The opportunity to use Nudge theory, like the opportunity to be a leader or use leadership, is determined by **what you do**, and is not restricted or enabled by your job title or official role.

This is especially so if you are already responsible for others in any sense, and obviously more so if you are a manager or parent for example.

If you are a leader, manager, supervisor, a teacher, or trainer, or a parent, you are already a 'choice architect' and you can begin using Nudge principles and techniques in the way you engage with your people, and the way in which you help them consider their options and make their decisions.

The same applies if you are a businessman or businesswoman, or entrepreneur, or run a part-time business from your home, because your customers/clients are your people, and to varying degrees may be helped by your using 'Nudge' theory.

And the same applies if you do anything that entails engaging with or helping others, for example, social work, campaigning, research, charity and voluntary work, etc.

Even if the only engagement you have with another human being is with a spouse or partner, you can be a choice architect and use 'Nudge' principles and techniques to helpful effect.

Nudge theory is also a powerful instrument for identifying, understanding, and modifying **existing** 'nudges' which are affecting you, or other people you care about, potentially extending to quite large groups, communities or even societies. These 'nudge' influences may be accidental or deliberate, and are often unhelpful, especially if used cynically by corporations or other authorities.

Develop, Adapt, and Use Nudge Theory

Here are pointers, tips and examples of how to develop, adapt, extend, and use Nudge theory. This

includes ideas and examples of how to teach, train and coach the principles represented by Nudge theory. And how to relate Nudge theory ideas and optimise their use, alongside complementary models and concepts of motivation, communications, leadership, etc.

Nudge theory was originally devised and proposed in the context of 'behavioural/behavioral economics' (such as pensions and healthcare arrangements), however the Nudge concept can be used in virtually any area of human interaction, for example:

- Leadership and management
- Supervision and teambuilding
- Teaching and training, and education of all sorts
- Coaching and mentoring
- Counselling and mediating
- Government - local, national, international - policy, strategy, processes, materials
- Charitable, voluntary, community sector work
- Self-development
- Parenting
- Working with teenagers and job-seekers
- Working with minorities, disabilities, and people with difficulties
- Sports and fitness coaching
- Healthcare

Nudge theory is generally quite easy to use if you appreciate how it works.

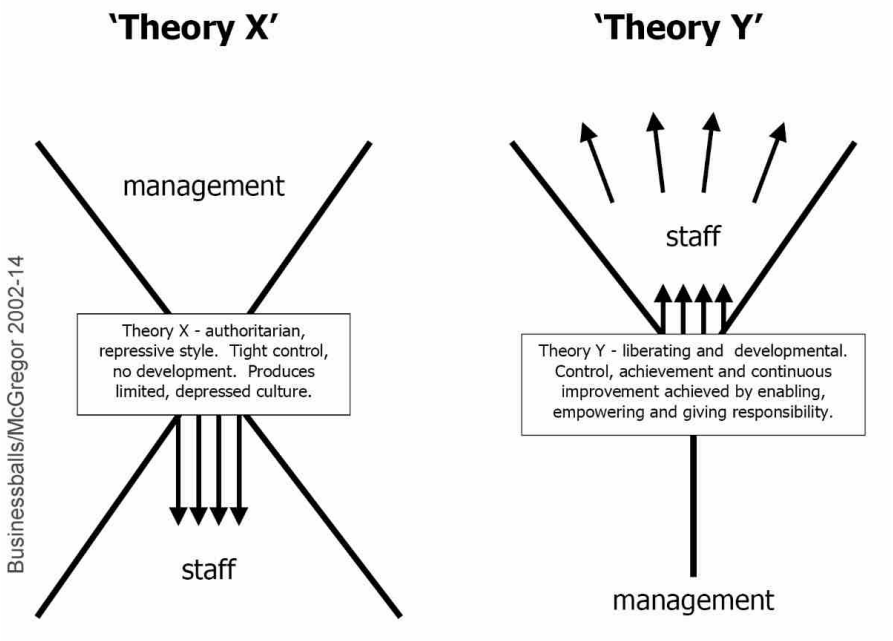
Central to this is the philosophy of Nudge theory.

Nudge theory is not a complex science, but it is quite different to conventional methods of trying to change people's thinking and behaviour/behavior (which is how mostly we see change-management being attempted by leaders, authorities, corporations, etc., and how we are taught and trained to do it).

- **Conventional methods of changing people** use **direction** and **enforcement**, often with the threat of **punishment**.
- Whereas **Nudge theory** entails **changing people's environment and choices** so they are more likely to make decisions that are helpful and positive (for themselves).

In terms of style and emphasis we can equate these two different approaches to Douglas McGregor's Theory X and Theory Y, where:

- **X-Theory** equates to **conventional enforcement**, and
- **Y-Theory equates to 'Nudge'**.



(Here is a pdf version of this X-Y Theory diagram)

The X-Y Theory model - while used mainly for managing people at work - is very transferable to relationships with people in all situations, and helps convey the **fundamental style of Nudge theory**, which is one of **enablement** rather than **enforcement**.

Many Nudge principles (essentially the heuristics, or 'nudges') will be familiar to you in one way or another, because they have existed for a very long time in a variety of forms, although not previously called 'Nudge'. For example, the concept of brand awareness is largely based on the Nudge principle called 'Availability' (in terms of 'familiarity'). That is to say, we tend to trust well-known brands because they are familiar to us. The corporations that develop such brand awareness are exploiting the 'availability' heuristic; specifically the tendency for people's thinking to be 'nudged' (and decisions influenced) by familiarity. Such brand owners combine this tactic with use of the 'following the herd' (conforming) heuristic, and probably a few other nudges too, such as the 'spotlight effect' (appealing to people's heightened sense of self and being judged by others) and 'framing' (by presenting their brands/products and services offerings according to people's desires, fears, sympathies, etc).

This illustrates that different types of nudges can be, and are often, used in support of each other.

So Nudge theory is a very flexible concept - like a 'toolkit'.

Nudge techniques can also be used in combination with other methodologies and theories, for example, with:

- Marketing, advertising and public relations (PR)
- Sales and selling
- Teambuilding
- Leadership
- Change management
- Motivation
- The psychological contract

Nudge theory can be used wholly as an overall entire approach, or elements within Nudge theory can be used individually or in small tactical sets for specific situations.

Nudge theory is not a fixed process, or a sequence, although certain elements by their nature are best used at certain times and for certain durations.

Nudge theory is not limited or self-contained - on the contrary - Nudge theory is extremely adaptable, extendable, and 'relatable', so that its methodology - or any part of it - can be developed and used cohesively and supportively alongside lots of other methodologies, theories and techniques.

Note again that Nudge theory can also be used to identify, assess and modify **existing** nudges, which may be accidental or intentional choices offered by authorities and corporations, and which produce unhelpful effects and decisions for people. This 'retrospective' use of Nudge theory - as an analytical and improvement methodology - can be useful in relatively small groups, and potentially for very wide-scale societal situations, for example political lobbying and campaigning; designing educational and social improvement programs; project management and trouble-shooting; mediation, diplomacy, peacemaking, etc.

For ease of use, the table below includes brief descriptions and links to bigger explanations of the Thaler-Sunstein 'nudge' types, together with concepts which support or assist the use of the 'nudges' concerned.

The Nudge theory 'toolkit' offered below is a simple guide to how different heuristic tendencies in people can be used to design helpful choices. The toolkit comprises:

- the main 'nudges' identified by Thaler and Sunstein, based largely on the Kahneman-Tversky work
- major supplementary heuristics which exist relative to Thaler-Sunstein Nudge theory,
- and guidance for usage and complementary theories, models, etc.

Nudge Toolkit

This table is a listing of the Thaler-Sunstein 'nudges', and of some significant supplementary 'nudges', which are not specifically identified and defined by Thaler and Sunstein.

The 'toolkit' offers:

- Names and brief descriptions of each 'nudge', with the fuller descriptions coming after the table
- Usage examples/guidance of how to use each 'nudge',
- Methods/theories to use with each 'nudge' for understanding, teaching, and applying the 'nudge'.

Nudge Theory Toolkit

	Nudge type	Brief description	Usage examples and guidance
1	Anchoring and adjustment	Using known things to	Give the audience **factual comparisons** and **references** that are **rele**

		estimate unknown things.	them. Publicize statistics and facts about thin distort people's thinking and which are misle influences.
2	Availability	Familiarity and perceived commonness or rarity.	Offer **statistics** which give **true scale** of pop frequency or rarity of issues. Correct commo assumptions.
3	Representativeness	Assumptions based on stereotypes.	Give the audience **clarification** of **facts** and **figures** t **false stereotypes** and **wrong assumption** replace them with accurate comparisons.
4	Optimism/ over-confidence	Hopefulness and denial. Complacency.	Allow **flexibility** for people. Protect people fr tendency to 'hope' rather than think. **Clarify** emphasize timings, costs, schedules, etc. Use 'feedback'. Do not assume that people cc understand things that you explain. Clarify understanding.
5	Loss aversion	False valuation based on possession.	Focus on **gains** and **improvements**. Avoid presenting situations as 'taking' things from people. **Clarify actual values** of possessed things. **Clarify actual risks.**
6	Status quo bias and inertia	Fear of change. Laziness, aversion to complexity, 'smallprint', etc.	Use status quo and defaults to helpful positiv effect. **Make it easy** for people to make help choices. Make it difficult for people to use fau thinking and make unhelpful decisions. Using and defaults to exploit people is unethical.
7	Framing	Presentation or orientation of information that alters its perceived nature.	**Design communications** so that choices ar positioned and explained positively - relevant clear to audience. Use words carefully. Under and focus on what your communications mea people, rather than what they mean to you. C communications according to **received mea**
8	Temptation	Greed, inability to delay gratification, fear of missing out.	Use **short-term easy gains** as incentives to inertia. **Clarify long-term risks of unwise term, quick gratification decisions.** Using temptation weaknesses to exploit people is u
9	Mindlessness	Poor concentration. Negligence. Complacency.	**Clarify, educate, design and prioritize communications** so that important issues a and cannot be overlooked. **Avoid accidenta misleading people or hiding major**

			considerations. Translate complexity into si Communicate in ways that people can unders Use 'feedback'.
10	Self-control strategies	Habits and routines to counter weaknesses.	**Discover and understand the self-contro strategies that your audiences use.** Cons offerings so that they fit with people's system habits, and their preferred ways of doing thin
11	Conforming - following the herd	The mob effect. Affirmation. Embarrassment. Fashion. Lack of confidence.	Consider the need for people to conform and isolation/embarrassment when you are 'fram offering reference facts. **Avoid positioning choices in ways that seem non-conform which expose or isolate people.** Build pec confidence and self-belief so they become les dependent on conforming. Facilitate real clari understanding between groups to avoid/disp assumptions and reduce risks of people follo wrongly perceived group view (e.g., the 'Abeli Paradox').
12	Spotlight effect	Self-consciousness, causing anxiety and stress.	**Build calmness and relaxation into communications** and the processes and ou of positive choices. Avoid pressurizing people
13	Priming	Preparing people for change.	**Help people visualize positive actions ar outcomes.** Encourage people to consider, ex and assess steps and strategies - how they ca things. **Help people think and decide.** Avc thinking and deciding for people. Educate anc people, especially as to relevant causes and e Give people tools and training, not answers. See Facilitation.
14	Stimulus response compatibility**(overlays all heuristics)**	Language and signage design - the signal matches the message.	**Design communications properly.Under the effects of design on thinking.** Use skil designers to produce anything that conveys important information.
15	Feedback**(overlays all heuristics)**	To people, during and after thinking and decisions.	**Build checking and feedback into choice processes wherever possible.** Reflect peo responses back to them. Design processes th feedback while people are engaging with ther
		above are 'Thaler-Sunstein heuristics' - below are 'supplem	
16	Positioning	Location of	**Understand how the positioning of thin**

		intervention.	**affects people's engagement with them.** example: a heading in a poster, a poster in a l a drinks-machine, signs, meeting places, thing shelves, anything that people engage with.
17	Limiting	Deadlines and availabilities.	**Helpful options can be more appealing i seem limited by time or availability.** Avoi pushing or pressurizing people, which is the c of limiting and therefore potentially unattract off-putting.
18	Sympathy	Ease of engaging and adopting.	Be empathic and 'in tune' with the audience. **Imagine you are the audience v you design and style communications ar interventions.** Test communications and interventions on an audience sample and refi accordingly.
19	Accessibility	Efficiency, reach, penetration of intervention.	Find ways to **increase the percentage of y audience who will see or experience the intervention**, and the **number of times th or experience it.**
20	Likeability	Integrity, trust and credibility of the 'choice architect' organization and its figureheads.	**Avoid undermining your organizational integrity**, and avoid associating the organiza intervention with figureheads of poor repute.
21	Relevance	Personally meaningful.	**Interventions and options must be as re as possible to the audience.** Refer to and with 'framing' and 'sympathy'. The nature of communications and options must be relevar Create, translate or interpret interventions so they are relevant to audiences.
22	Mood	Attitude and feeling.	**The intervention should prompt positive attitude and feelings**, so that people feel e inspired, happy, intrigued, helped, etc. Interve must try to avoid producing a bad mood.
23	Fear	Thinking driven by risk or threat.	This 'nudge' is **acceptable when used in genuinely helpful ways**, for example remir people that smoking and obesity is dangerou health.
24	Facilitation	People are	This is a deep and complex process,

		helped to understand and decide.	entailing **repeated feedback according to individual actions and responses**. A powe concept in which crucially 'facilitative questior encouraging people to ask themselves - for e: 'what's missing?' and 'how will you measure t results you are seeking?'
25	Sensory	Sound, smell, visual and other sensory influences.	These types of 'nudges' are **environmental** and **multi-sensory**, bey obvious language-based visual and audio communications, for example, music, smell, v etc. Discover indirect sensory interventions th influence given situations. Develop these interventions to 'nudge' people's feelings, act thinking to being more open to helpful optior simplest this might be playing music to relax

The above heuristics are fundamental to the understanding and application of Nudge theory. The Thaler-Sunstein 'nudges' (1-15) are explained in more detail in the main Thaler-Sunstein heuristics section. The additional 'nudges' (16-20) are explained in the supplementary heuristics section.

How to Use the Nudge Toolkit

You can use the Nudge toolkit (and the remainder of this article) in various ways in the teaching and application of Nudge theory:

- As an aid for teaching/training Nudge theory and its related concepts.
- To help creative exploration (for example in brainstorming) of alternative approaches and ideas in the ways that people are led, helped, supported, managed, governed, sold and marketed to, organized, etc.
- To analyse and address **existing** unhelpful heuristics or 'nudges' which need removing or revising, or which may be of such scale that revision must be pursued via organized education, campaign or protest, etc. (We could call this 'social change'.)
- To develop a 'nudge'-based approach to helping people make better decisions, individually or as a group (as an alternative to traditional autocratic management and leadership techniques, i.e., enforcement or instruction).

Here are some simple rules for working with Nudge theory. They are numbered, but are not necessarily a process or sequence.

1. **Understand and validate the required change** - Understand clearly the change you seek to encourage or enable, and confirm that this is ethical and in people's best interests. Consult as necessary. Be objective and fair. Use proper measures, not assumptions or guesswork. Quantify and define situations, changes, and outcomes. Clarify terminology. Avoid vague or technical terms which cannot be easily understood, or which could mean different things to different people. Avoid being influenced by your own heuristic tendencies,

and those of your organizational leadership.

2. **Check for obstacles** - Consider what might be preventing people from naturally shifting towards the identified/required change. If necessary consult a sample group. This often highlights obstacles which can be removed, and/or supporting arrangements that can be introduced which enable a natural change, without need of further intervention.
3. **Check for unhelpful existing nudges** - Nudges often exist already which are unhelpfully influencing or obstructing people's thinking. Use the nudge toolkit for clues as to possible heuristic effects which are already acting on people's thinking. These may have developed completely accidentally, or may have been established negligently or cynically by authorities, leaders, corporations, etc., in the past.
4. **Remove obstacles and establish support** - Even if further interventions are warranted, remove obstacles and introduce support as far as possible to make it easier for people to shift towards the desired change.
5. **Create a 'map' of the environmental/influential system around people** - If no obvious obstacles exist, or additional interventions are warranted, **create a 'map' or analysis of environmental/circumstantial factors**, of people's engagement (or non-engagement) with the issue for which change is desired. Look for hidden influential factors. Refer to the Nudge toolkit for clues.
6. **Explore which environmental/circumstantial factors can be altered/introduced** - Assess and test the effects of altering/introducing these factors ('nudges'). Refine your ideas so that you can offer people new choices that can help their shifting - through free choice - towards beneficial change. Refer to the Nudge toolkit for ideas as to the types of heuristic influences which might be altered/introduced.
7. **Teach/train leaders at all levels in the group/organization about Nudge theory** and its potential use and and advantages over conventional enforcement or direct instruction, threat, etc.

It is useful - especially if teaching others about Nudge theory - to revisit the philosophical aspect of 'Nudge' because this underpins the way that techniques should be used, and choices designed.

Nudge theory is a potent concept, but like any concept it can be abused. Having an ethical philosophy encourages a responsible approach to its adoption and use.

Using Nudge theory is different to using conventional management and leadership techniques.

Conventional management	Nudge theory
Conventional management and leadership typically involve **instruction or action** which **directs or induces people to change in the way that the authority requires**.	Nudge theory is typically an **indirect approach**, which **alters situations** for people, so that **choices are designed** which produce options for **helpful voluntary changes in people**.

Conventional change-management entails:

- Forceful interventions
- Directed at the person or group whose change is sought

Whereas Nudge theory typically entails:

- The design of voluntary choices
- Directed at the situations in which people exist

Nudge theory is focused on changing people's environment, and/or the choices people face, rather than the people directly, on the basis that people have the opportunity to change in response to the new choices/environmental situation that they experience.

Nudge theory must be based on:

- Free choice
- Beneficial outcomes for people

Summary

1. Nudge theory was originally developed for 'behavioral economics' in 21st century USA, being the main interest of American economists Richard Thaler and Cass Sunstein, authors of the 2008 book 'Nudge - Improving Decisions about Health, Wealth and Happiness', which named, defined and popularized the 'Nudge' concept.
2. 'Behavioral economics' refers to the interaction between society and economic systems, notably, pensions, investing, and healthcare.
3. Nudge theory is adaptable and applicable very widely beyond 'behavioral economics' to all aspects of engaging with people - for example parenting, teaching, managing, marketing, service provision, leading and governing.
4. The use and teaching of Nudge theory should be underpinned by a positive ethical philosophy, which its authors call 'Libertarian Paternalism', in which the priorities are:
   - designing free choices for people, to enable better thinking and decisions,
   - for the well-being of those people, society and the planetrather than (traditional corporate/government methods entailing):
   - enforced/imposed/manipulative influence of people
   - for the enrichment of corporations and wealthy/powerful folk who lead and own them, or
   - for the consolidation of authority, and then protection/reinforcement of governing bodies/people.
5. The 2008 'Nudge' book and theory are strongly based on 'heuristics' - which the authors equate to 'nudges' - and which are (in terms of Nudge theory) a **variety of factors which cause people to think and decide instinctively**, rather than logically.Much of the heuristics theory in the 'Nudge' book is based on pioneering work of Israeli-American psychologists Daniel Kahneman and Amos Tversky, dating back to the 1970s. Their work on human thinking and decision-making is highly significant in the study of human thinking, and has a broader perspective than behavioral economics. Kahneman won the Nobel prize for economics in 2002 for his work with Amos Tversky (who, having died in 1996 did not receive a posthumous award, and so is often unfairly neglected in attributions, etc).
6. For most of humankind's existence the ability to think 'heuristically' (Automatic/System One) has been very advantageous, and so has become a highly developed intelligence in modern humans. Used appropriately, heuristic thinking saves time, enables effective group cooperation and cohesion, and produces good decisions. **However** in certain situations (behavioral economics for example) these 'heuristics' often cause people to make irrational unhelpful decisions. Also, in the modern world, societies and the wider environment are

increasingly open to exploitation and abuse by corporations and governments, which increases humankind's vulnerability to mistaken actions/decisions borne of heuristic thinking.

7. Nudge theory proposes that these heuristic tendencies can be approached deliberately to encourage/enable helpful thinking and decisions (where existing thinking/decisions are unhelpful), and that this is a more effective way of shifting group behaviour/behavior than by traditional enforcement, instruction, threat, laws, policies, etc.
8. Where these natural human heuristic tendencies are not understood, or are manipulated cynically (by authorities or corporations), people/societies are prone to act and decide unhelpfully (for people and society), for example: wasting resources, failing to manage money, getting into debt, eating/drinking unhealthily, losing hope and self-esteem, resorting to mob behaviour, victimizing less fortunate people, buying daft products and services, resorting to crime, becoming dependent, creating pollution and mess, etc.
9. Governments traditionally seek to correct such behaviours/behaviors by direct instruction, enforcement, threat, punishment, etc., and this typically fails, or makes matters worse.
10. Nudge theory offers a way to more successfully shift group behaviour: via heuristics, which is how people really think and make decisions.

Glossary of Terms

Nudge Theory and Related Concepts

This glossary offers definitions of Nudge theory and related terms, and also offers a quick way to grasp the essential concepts of Nudge theory, and how it relates to and can be used alongside other models and broader disciplines.

Many of these terms have wider or slightly different meanings outside of Nudge theory. Clarifications of these wider meanings are in the business dictionary.

Accessibility - 'Accessibility' is a supplementary heuristic/nudge which refers to the efficiency of the communication/intervention, i.e., the extent to which the audience sees/experiences it, and the number of times the audience sees/experiences it. We can equate this to reach, which is a marketing term. The principle is simply that regardless of how clever the communication/intervention itself is, if only 10% of the audience actually see/experience it, then it will not work well, and certainly not nearly as well as the same intervention which achieves a reach of 100% to the audience, multiple times. This is similar to the Thaler-Sunstein 'availability' heuristic/nudge, but definitely not the same thing.

Anchoring and Adjusting - 'Anchoring and Adjusting' is a primary heuristic or 'nudge' identified by Kahneman and Tversky, and is featured in Nudge theory by Thaler and Sunstein. 'Anchoring and Adjusting' might instead be called 'comparing then guessing'. It's a common quick method of approximating or estimating an unknown quantity, extent, or character/description, of something unknown, by using a perceived similar known reference as a basis for the guess.

Audience - A group of people. This is a general marketing term. Usually it means a group which receives a communication or experiences an intervention of some sort. Nudge theory aims to design and offer new choices to a group of people. These people are sometimes called the 'audience'.

Automatic system/Automatic thinking - Thaler and Sunstein's term for natural 'human' thinking, which is often irrational, instinctive and unhelpful for the people thinking in such a way, as opposed to Reflective or 'System Two' (Kahneman-Tversky) thinking:

- Automatic (System One) thinking = 'Human', instinctive, emotional, subjective, irrational, heuristic
- Reflective (System Two) thinking = 'Econ', logical, rational, objective, unemotional

Availability - 'Availability' is one of the primary heuristics or 'nudges' identified by Kahneman and Tversky, and is featured in Nudge theory by Thaler and Sunstein. 'Availability' refers (rather misleadingly) to the **perceived popularity or rarity of something**, which is significant in people's (heuristic, unreliable) assessment of its credibility, level of threat/opportunity, social acceptance, etc. An alternative broad name for this heuristic or nudge is 'visibility' or 'commonness'.

Bias - This term features often in Nudge theory, for example in 'Status quo bias'. Bias means weighting or leaning to a particular view or behaviour. Other words which equate to bias are spin, inclination, and preference. When thinking has a bias or is biased towards something then it is not balanced or truly objective or neutral. The common existence of bias in people's thinking is a central aspect of Nudge theory.

Choice - A situation or intervention which people face, and which may lead to helpful or unhelpful decisions, or no decision.

Choice Architect - a person or organization who/which uses Nudge theory to design choices for people. Conventionally this function is often called 'change management'.

Choice Architecture - Thaler and Sunstein use this term to refer to the (large but not all-embracing) heuristic area of Stimulus Response Compatibility, and this usage is not fully consistent with their term 'choice architect', which refers to role of a person/leader/authority who uses the (all-embracing) entire range of heuristics in designing choices for people. So this term has two meanings: namely Stimulus Response Compatibility, or more broadly a system/structure of choices designed for people, in the course of applying Nudge theory.

Choice design - A central idea and expression of Nudge theory, referring to the principle and methodology of developing and offering situations or interventions for people, from which people are free to select whichever option they prefer, including the option to make no decision at all. Choice design is typically done by a 'choice architect', but may also refer to choices which exist through accident or circumstance, or from cynical purpose, like lots of marketing and advertising, and processes (increasingly online) or contractual 'smallprint' designed to fool consumers.

Clean Language - Not a Thaler-Sunstein term, but a methodology that is very relevant to Thaler-Sunstein and Nudge ideas - specifically that the way communications are worded can dramatically affect the way that meanings and moods are perceived. See Clean Language.

Conforming - An alternative term for the 'following the herd' heuristic, and separately a general tendency for people to prefer to adhere to norms rather then stand alone. Conforming is a survival instinct because it aligns oneself with a group, avoiding confrontation and risk. Conforming also produces mutual feelings of affirmation, and a feeling of safety through strength in numbers. It's an enormously significant aspect of human/group behaviour/behavior, without which there could be no wars, no religion, fashion industry, football fans, etc.

Delayed gratification - Not a Thaler-Sunstein term, but a crucial aspect of temptation, or more precisely the resistance of temptation. The inability to delay gratification produces the human weakness in succumbing to many types of temptation. Even laziness/inertia is a sort of inability to delay gratification, where gratification equates to rest and relaxation.

Default - This refers to the effective option/outcome where no action or decision is taken. The concept of 'default' is a crucial aspect of Nudge theory, specifically equating to opting for the status quo or inaction, or no decision at all. Any of these things can, according to 'choice design', be helpful or unhelpful options. Default is what happens when the box is not checked. Since people very commonly 'default' to inaction, or make no decision or change, the option that the leadership/authority or corporation assigns to 'no decision' or 'default' is seriously crucial. This is why 'opt-in' and 'opt-out' are such important aspects of policy and law in matters of audience response. A real example of this heuristic being used to powerfully good effect is seen in the several nations who in the 21st century altered the default option from 'No' to 'Yes' on individual health forms requesting permission for organ donation in event of death. When the default (checkbox left blank) was changed to mean 'Yes' instead of 'No' those nations saw dramatic increases in organ donations, resulting in thousands more saved lives.

Design of choice - See 'choice design' - it means the same. 'Design' here refers to writing communications, creating other types of signals and interventions based on the heuristics explained, and the formulation of bigger strategic engagements between a 'choice architect' organization and its audience, all of which equate to using Nudge theory to offer helpful options to people that are easy for people to understand and adopt.

Econs - Thaler and Sunstein's term for the 'imaginary' people whom most leaders and politicians believe typify society; i.e., people whom leaders and governments imagine think like economists, whereas most people in society think like 'humans' - i.e., with very natural heuristic weaknesses. (Largely non-existent) 'Econs' think logically, rationally, unemotionally, always correctly and rationally, whereas (in reality the highly prevalent) 'humans' think emotionally, instinctively, irrationally, and often wrongly.

Empathy - Empathy is a big subject within communications, relationships and leadership which features strongly in Nudge theory and certain heuristics where the mood, personality and needs of the audience are significant. Empathy is significant in the supplementary heuristic 'sympathy'.

Facilitation - Facilitation is a supplementary 'nudge' or heuristic which extends the Thaler-Sunstein notions of feedback and priming. It's a sophisticated and deep concept, by which people are helped to think and decide, based in personalised feedback at suitable stages before and during a **process** of engagement.

Fear - 'Fear' is a supplementary heuristic/nudge that is frequently referenced by Thaler and Sunstein, but never actually defined or categorized as a heuristic or 'nudge', aside from being a factor within other named heuristics, notably loss aversion. Obviously fear can be a substantial influence on thinking and decision-making, and it is often exploited cynically and unethically by people and organizations seeking to control others. Fear is however a helpful heuristic in many situations, for example in guiding people's thinking and decisions in relation to fast-moving traffic, stormy seas, bad-smelling food, guns, knives, etc. So fear is also used in shifting group behaviours for example persuading people that tobacco smoke and obesity can be dangerous to health, etc. If not abused, the fear heuristic/nudge can certainly be potentially very helpful.

Feedback - 'Feedback' refers to the responses/reactions given by the 'choice architect' organization or system to the audience during and after thinking/decisions, enabling adjustment and useful experience. Feedback is shown in this article as a 'nudge' and individual heuristic, although Thaler and Sunstein categorize 'feedback' more vaguely, as part of 'choice architecture'. In fact 'feedback' overlays potentially many other heuristics and 'nudges'. A more sophisticated type of 'feedback' is the additional (non-Thaler-Sunstein) nudge in this article called 'Facilitation'.

Following the herd - 'Following the herd' is a Thaler and Sunstein 'nudge' which basically means conforming to a group view or behaviour/behavior. This may be due to the need to be affirmed/validated; to feel powerful (strength in numbers), or the attraction of being part of mob rule. There are other causes, and this is a very significant heuristic in group and societal behaviour. It relates to the spotlight effect.

Framing - 'Framing' is a Thaler-Sunstein 'nudge' which refers to the way that a communication or intervention is styled and orientated, particularly in relation to the respondent/audience needs and interests, etc. This entails styling aspects such as accentuation of positive/negative, presentation of advantage/disadvantage, recommendation/dissuasion, endorsement, aspiration, etc. Traditionally, sales people who were said to have 'the gift of the gab' or a 'silky tongue' would have been good at 'framing' an option, so as to increase its attractiveness to the potential client.

Heuristics/heuristic - In the context of Nudge theory, heuristics broadly refers to the various **internal references and responses** which people use in assessing things, developing views, and making decisions. Thaler and Sunstein equate a 'heuristic' to a 'nudge'. The word heuristics basically means **self-discovery** (from Greek heuriskein, 'find'). By its internal nature, heuristic thinking tends to be personal, emotional, subjective, and instinctive. Thaler and Sunstein's approach to heuristic thinking is that it is generally responsible for faulty judgment and unhelpful decision-making. Grammatically, the word heuristic may refer to a single thinking tendency, or may act as an adjective. The word heuristics may be plural in referring to more than one heuristic thinking tendency, or may be singular in referring to the study/theory/science of heuristics. Heuristics/heuristic outside of 'Nudge' theory refer to a more general sense of learning through self-discovery.

Humans - Thaler and Sunstein's term for the 'real' people who largely represent societies, and who think heuristically (irrationally, emotionally, often wrongly), about whom most leaders and politicians are basically ignorant or oblivious, believing instead that societies are populated by logical rational 'Econs', who supposedly think rationally and logically.

Inertia - Inertia means 'unchanging'. This is a very significant aspect of human decision-making, and of group behaviour/behavior. Inertia relates to defaults and status quo. Inertia specifically refers to the tendency for people and groups do do nothing when faced with choices that are difficult to understand or which seem to offer threat or disadvantage. Inertia is a

Input - An alternative word for an intervention. Not a specific Nudge theory term, but a useful word in describing any sort of intervention.

Intervention - A very useful term, referring to any sort of input or communication or alteration of situation by a choice architect. Intervention is not specifically a Nudge theory word; it's used in most fields concerning relationships, education, management, training, communications, counselling, etc.

Likeability - 'Likeability' is a supplementary heuristic/nudge which refers to the reputation and credibility of the 'choice architect' (or the choice architect organization, or figureheads and leaders which are associated with the intervention or 'nudge'). This heuristic acts on the simple principle that an audience is less likely to engage with and respond to an intervention if they do not respect or like the source of the intervention. This obviously applies to interventions where the audience is aware of the source of the intervention or 'choice architect' (sometimes interventions are perceived to be quite anonymous). Within this heuristic, **likeability is subjective** (i.e., different audiences like different leaders and organizations), and **reputation is relative**, i.e., the source must be seen as relevantly credible for the type of intervention; (e.g., we might be more influenced by a book about ethics written by the Dalai Lama than Tony Blair, but conversely we might be more influenced by a book about becoming a Roman Catholic or accumulating a multi-million dollar fortune by Tony Blair than the Dalai Lama). This heuristic relates to several others, notably framing, priming, and sympathy.

Limiting - 'Limiting' is a supplementary heuristic/nudge referring to human tendencies to desire something more if it is perceived to be in short supply, or its availability is subject to time limit or expiry.

Loss aversion - 'Loss aversion' is a Thaler-Sunstein 'nudge', originally identified by Kahneman and Tversky. 'Loss aversion' refers to the heuristic tendency that people value something more when they possess it than when they do not. This produces a resistance to change (inertia/status quo bias) if a change is proposed or faced that threatens to deprive the person of a possession, or a current position. **The driving force in this heuristic is a heightened sensitivity to, or exaggeration of risk**. The Loss aversion 'nudge' is an opposite effect to optimism/over-confidence.

Maslow/Abraham Maslow - The work of motivational theorist Abraham Maslow (1908-70), helped to lay the foundations of Nudge theory in the mid 1900s; its mechanisms/heuristics and ethos/philosophy. Maslow's famous Hierarchy of Needs model is effectively a presentation of the most fundamental human heuristics, which provide many of the ultimate driving forces behind the heuristics identified by Thaler and Sunstein, and Kahneman and Tversky. Maslow was also a strong 'libertarian' who argued that corporate and managerial power was a damaging feature of society in suppressing people's free choice and natural potential.

Mindlessness - 'Mindlessness' is a Thaler-Sunstein nudge which equates to negligence, avoidance, not concentrating, etc. When people make mistakes called 'human weakness' this is often 'mindlessness'. The effect may be prompted or increased when the brain is 'tricked' by some sort of illusion or technique of semiotics. Where communications/interventions are poorly designed, mindlessness can be a major factor in large group-wide poor 'thinking' (not actually thinking properly) and poor decision-making (especially deciding to do nothing, or not realising that a decision should be made).

Mood/mood-changers - Mood is a significant aspect of heuristics, because it governs how people feel, and this influences how people respond to interventions. People's moods are subject to change, and so it's useful for choice architects to to appreciate this and to allow for people's moods and emotions as far as possible. Transactional Analysis and NLP are helpful supporting methodologies. 'Mood-changers' are a supplementary heuristic/nudge which refer to interventions which alter how people feel and ideally inspire, amuse, enthuse, and intrigue them, because these feelings tend to increase engagement and receptiveness, as well as reducing feelings of fear, stress, pressure, isolation, low-self-esteem, etc., which tend to hinder people's engagement and clear thinking.

Neuro-linguistic Programming/NLP - NLP is a commonly used abbreviation for Neuro-linguistic programming. NLP is a powerful psychological concept alongside Nudge theory, like Transactional Analysis. Like TA, NLP explains and offers ways to interpret and manage the (often hidden and counter-intuitive) effects of communications/signals to and between people. NLP is not specific Nudge theory terminology or methodology, but the NLP concept relates to Nudge theory and supports it very well.

Nudge - Thaler and Sunstein's 'brand' name for a heuristic effect which influences a person or group's thinking/decision-making. Thaler and Sunstein actually equate the notion of a 'nudge' to a 'heuristic' tendency, so that the words mean virtually the same. Technically such a direct equivalence is a little tenuous given that conceptually 'heuristics' are rather a passive and a constant tendency, compared to a 'nudge', which is may be an intentional intervention, but the basic understanding of nudge theory is probably made easier by seeing these two words as essentially meaning the same thing.

Optimism/Over-confidence - 'Optimism/over-confidence' is a Thaler-Sunstein 'nudge' and refers to people's heuristic tendency to under-or over-estimate the ease or difficulty of situations leading to **complacency**, which inevitably influences thinking and decisions. This heuristic was originally identified by Kahneman and Tversky. Optimism/over-confidence has an opposing effect to the 'Loss aversion' heuristic, which tends to restrict thinking and decision-making.

Opt-in/Opt-out - Opt-in means check the box to agree to sign-up or join, etc. Opt-out means the 'default' is you are in unless you check the box to say you are not.

Positioning - 'Positioning' - is a supplementary heuristic or 'nudge' which refers to the location or relocation of anything which influences people's thinking or behaviour, for example the site of a notice-board, or a litter-bin, or the layout of headings on a poster or document or webpage. Thaler and Sunstein refer to the effects of positioning but do not categorize it as a specific heuristic or 'nudge'. In this article a 'supplementary' or 'additional' nudge/heuristic is one which Thaler and Sunstein do not specifically categorize and name as such, although they may refer to its effects and existence to or degree or another.

Priming - 'Priming' is a Thaler-Sunstein 'nudge' referring to ways in which people can be made ready or prepared before thinking and deciding, for example, visualization, role-modelling, building belief, educating, giving information before options, and offering methods rather than directions. Like 'feedback' it extends to the more sophisticated notion of Facilitation.

Reach - This is a marketing term that's useful in understanding certain aspects of Nudge theory. Reach refers to the extent of a 'target' audience which sees/experiences a communication or intervention (which may be used to apply a nudge). Reach is significant in all communications designed to impact on a group, because if the reach is only 50% (i.e., only half the audience sees the message), then generally this is the actual maximum response rate. It's very difficult to achieve 100% reach of course, but it's not difficult to achieve a 75% reach compared to say a 25% reach, in which case the potential success rate is multiplied by three times. Such an example illustrates that reach is hugely significant in determining success of group interventions. In other words, the intervention may be fabulous, but if the reach is only 10% then the results will be relatively poor.

Recipient - A general term, not specific to Nudge theory, which refers to a single member of an audience or target group or society, that is subject to a communication or intervention. When we talk to another person, the other person is the recipient. An alternative term is respondent.

Reflective system - Thaler and Sunstein's term for rational logical thinking, equating to Kahneman and Tversky's 'System Two' thinking, as opposed to Automatic (Thaler-Sunstein) and System One (Kahneman/Tversky):

- System One (Automatic) thinking = 'Human', instinctive, emotional, subjective, irrational, heuristic
- System Two (Reflective) thinking = 'Econ', logical, rational, objective, unemotional

Relevance - 'Relevance' - is a supplementary heuristic/nudge which refers to how well the intervention fits the needs of the audience. This is different to sympathy which mainly concerns fitting the mood and personality of the audience. Relevance requires that the option for the audience is seen as meaningful by the audience.

Representativeness - Representativeness is a Thaler-Sunstein 'nudge' originated by Kahneman and Tversky. It refers to **similarity** and relies largely on **stereotyping**, so that when people seek to assess or characterize an unknown thing or option they tend to refer to perceived stereotypical examples, on which they base assumptions about the unknown thing/option, and which may be very inaccurate. This heuristic is greatly influenced by mass media, which is responsible in the modern age for proliferating millions of stereotype references, on which people form faulty assumptions and decisions.

Respondent - An alternative term for recipient. Basically a respondent is the person who receives a communication or intervention. The term is a general one and not specific to Nudge theory.

Rule of thumb/rules of thumb - This term is used by Kahneman and Tversky, and also by Thaler and Sunstein, in referring to a heuristic or several heuristics. The term is used quite vaguely. Thaler and Sunstein initially use the term in referring to the Kahneman-Tversky heuristics ('first identified') Anchoring, Availability and Representativeness, but imply it has a wider meaning. Kahneman and Tversky use the term to refer to heuristics more broadly. It's probably more accurate to suggest that 'rule/rules of thumb' is a general substitute term for the heuristics which entail some sort of instinctive comparison, calculation, or assumption based on a preconception.

Self-control strategies - 'Self-control strategies' is a Thaler-Sunstein 'nudge' which refers to the many routines and habits that people develop to counter their known or perceived weaknesses. Common examples are seen in the ways that people manage money, and devise quirky methods to save, budget, and transfer money (from various accounts, jars and pots, savings funds, etc). A different example is the tendency for many people to put alarm clocks out of reach (because they know they have a temptation to switch them off and go back to sleep). These unnatural routines become part of the reality that influence thinking and decisions in response to communications and interventions.

Self-image - Self-image is a general term in psychology and relationships, empathy, etc., not specific to Nudge theory, but is especially significant in heuristics concerning relevance and framing. It's a crucial aspect of communications and interventions which is often overlooked, as follows: Authorities/leaders design interventions and communications based on the personalities and moods that they believe people have, whereas usually people's personalities and moods are quite different. Therefore interventions/communications are inappropriate or irrelevant, quite aside from the content/purpose of the intervention. People don't recognize the intervention to be relevant or meaningful in terms of their self-image. Principles of empathy offer ways to understand self-image.

Semiotics/semiology - Semiotics refers to making and analysing meaning through signs, language, symbols, stories, and anything else that conveys a meaning that can be understood by people. This is not specific Nudge terminology; it's an entirely separate and major area of communications. Semiotics is however hugely significant in Nudge theory, and especially the heuristic called Stimulus Response Compatibility. Semiotics is relates to linguistics, which refers to language structure and meaning. Semiotics more broadly encompasses language and all other signage, metaphor and symbolism. The processing aspect of semiotics is called semiosis. Semiotics comprise of **logical** elements, and **anthropological** [humankind] elements, which is to say that the effects are partly based on unchanging logic (for example big is generally more impactful than small), and partly based on human factors such as genetics, evolution, culture, and conditioning.

Sensory - Sensory nudges are supplementary heuristics in terms of Thaler-Sunstein's listing, which basically ignores these effects. Sensory influences besides traditional semiotics (language, symbols, signs, etc) can be immensely influential on people's thinking and decision-making. Consider for example: the effect of music in films and other media, and on people's moods and decision-making when partying; the effect of smells such as freshly baked bread and coffee; or antiseptic, or bleach, or petrol, or tobacco smoke. Or the effects of heat and cold on people's bodies and moods, or of dampness, humidity etc. There are hundreds of other sensory stimulants which can be regarded and potentially used as sensory nudges.

Signage - A general non-Nudge term which is useful in Nudge theory in referring to visual signals which convey a meaning of some sort to an audience, for example colours/colors, symbols, graphic design, headings, visual media, layouts, signposts, notices, etc.

Signal - Signal means a communication or other sort of non-verbal sign or conveyance of meaning or mood to a person or group. Signal is not specific Nudge theory terminology, but it is very useful in explaining Nudge theory, because 'signal' has such a wide meaning of different types of messages/influences that humans are receptive to. Changing the colour/color or size or typestyle of text is a signal. So is direct eye contact, or repositioning a litter-bin. Signal broadly equates to the word 'intervention'.

Spotlight effect - 'Spotlight effect' is a Thaler and Sunstein 'nudge' which refers to people's anxiety when they feel isolated, as if being watched and judged by others. This produces pressure and a heightened fear of making errors, typically producing inertia or conforming (following the herd). Thaler and Sunstein assert that people have a false sense of self-significance when making these judgments, so that they can greatly exaggerate the significance and visibility of their actions and decisions.

Status quo/Status quo bias - 'Status quo bias' is a Thaler-Sunstein 'nudge' which equates to inertia, and the default option (i.e., what happens when the respondent takes no action, like not checking the box). Status quo bias is a hugely powerful effect, and much exploited by corporations and much under-regulated by protective authorities. It's basically why we receive so much junk mail, email/text spam, and unwanted marketing phone calls - because authorities/governments traditionally permitted corporations to assign an 'opt-in' agreement, which committed consumers to receive follow-up mailings, and have their details sold to other corporations, when people divulged personal contact details on forms when buying things. Status quo refers to the 'existing situation'. A Latin term, 'status quo' means literally 'situation in which'. Almost always 'status quo' means preserving the existing situation, and this is its meaning in Nudge theory. This is similar to inertia, and is related to defaults.

Stimulus Response Compatibility - 'Stimulus response compatibility' refers to the design of signage and language, so that it looks and seems appropriate for the message it conveys. For example, a red X symbol generally conveys a meaning of 'no' or 'stop' or 'negative', and a green check or tick generally conveys a meaning of yes or positive, so to use a red X with the word 'yes' or 'go' would be heuristically misleading and unhelpful (i.e., the stimulus of the red X does not match, [is not compatible], with the audience response, which would tend to be negative rather than positive). Stimulus Response Compatibility is a technical term and concept within heuristics that Thaler and Sunstein feature strongly within Nudge theory. Stimulus Response Compatibility is shown in this article as a nudge and heuristic, but Thaler and Sunstein refer to it more vaguely as part of or equating to 'choice architecture', which is a little misleading given that a choice architect may use all available heuristics, some of which do not entail stimulus response compatibility. It is perhaps easier, as this article suggests to consider that stimulus response compatibility is a heuristic in its own right, and also that it overlays many other heuristics and 'nudges'.

Supplementary/additional nudges and heuristics - In this article a 'supplementary' or 'additional' nudge/heuristic is one which Thaler and Sunstein do not specifically categorize and name as such, although they may refer to its effects and existence to a degree. Some are not mentioned or alluded to by Thaler and Sunstein, but have been discussed/proposed/implied by other theorists with interests in what might be terms Nudge theory heuristics.

Sympathy - 'Sympathy' is a supplementary heuristic/nudge which refers to the ease of engagement that an audience feels for an intervention - in other words is the intervention 'sympathetic' to the mood and personality of the audience? Is the communication 'in-tune' and resonant with the audience. Self-image is often a factor. So is empathy.

Syntactics/syntax - the study/science of the arrangement of words within language (i.e., syntax) and especially within sentences which seek to convey clear meaning. Derived from from Greek, suntaksis, from sun, together, taksis, arrangement, from tasso, I arrange.

System One/System Two (thinking) - These terms were originated by Kahneman and Tversky in referring respectively to the two main types of human thinking in heuristics, which Thaler and Sunstein call Automatic (System One) and Reactive (System Two).

- System One (Automatic) thinking = 'Human', instinctive, emotional, subjective, irrational, heuristic
- System Two (Reflective) thinking = 'Econ', logical, rational, objective, unemotional

Temptation - 'Temptation' is a Thaler-Sunstein 'nudge, referring to human tendencies to seek maximum reward for minimum effort. Other drivers of temptation include greed, ego, insecurity, desperation, etc., although Thaler and Sunstein argue reasonably that this heuristic is a natural urge in humans, which has evolved due to it being mostly a successful tendency, although is a vulnerability in the modern age, or at any time where it can be used as a trap. Temptation - and the tendency for people to succumb to temptation - relates to delayed gratification, and the dilemma that this offers to many people.

Transactional Analysis/TA - Commonly abbreviated to TA, Transactional Analysis is a potent and (despite its complex confusing name) highly accessible and useful communications theory. TA is not referenced specifically within Thaler and Sunstein's Nudge theory, but TA potentially enables very good appreciation and application of aspects of Nudge theory, as well as being a powerful

model in its own right for personal growth, organizational development, interpersonal change/improvement, and all human relationships too. TA explains much of why humans so often react to communications and interventions on an emotional level.

See Also

- The Psychological Contract
- Erikson's Psychosocial Theory of Human Development
- John Adair's Action-Centred Leadership
- Herzberg's Motivational Theory
- McGregor's X-Y Theory
- Adams' Equity Theory
- McClelland's Motivational Theory
- Maslow's Hierarchy of Needs
- Teambuilding and motivational activities

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