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Nudges in the Wild:
Adding Humanity to the Equation

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Introduction

“The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds.”

- John Maynard Keynes

One era after another, humans are confronted with new and more intricate challenges. And it is through the pursuit of answers for these questions that humanity has evolved over time. However, as we have surmounted numerous obstacles and celebrated many achievements, we have come to the conclusion that knowledge and progress do not see an end: they are rather an ongoing, dynamic process. Each answer inevitably leads to new questions, and each solution births a new dilemma. Humanity's journey of knowledge and progress is akin to writing a manuscript, generation after generation, line after line. As our horizons expand, the number of unfinished lines we can see grows, reminding us of our perpetual quest for understanding. From the advent of agriculture, to the development of the scientific method, and the industrial revolutions, our history has been signed by an incessant search for solutions to pressing contemporary problems. And as we have seen, every solution often harbours the seeds of new challenges. The two Industrial Revolutions, for instance, signed the beginning of an unprecedented era of mass production and global markets, designed to feed the needs of a booming population. This drive towards maximisation and economies of scale, while initially solving issues of scarcity and demand, eventually saw the rise of a new set of problems: environmental degradation, pollution, and climate change.

This thesis was written with the aim of delving into the interplay between economics, human behaviour, and societal outcomes, with a focus on the concept of nudges as a potential tool for change. It seeks to explore the limitations of classical economics, its assumption relying on rationality, and to investigate how behavioural economics, with its nuanced understanding of human behaviour, could provide us with a novel approach to contemporary problems.

In particular, the author will suggest a comprehensive strategy designed to subtly influence decision-making into fostering societal well-being. It will also grapple with the ethical considerations surrounding the use of nudges and the importance of respecting individual autonomy and cultural context. To address these topics, this thesis will feature a combination of theoretical analysis, case study examination, and critical evaluation. The ultimate aim is that of contributing to the immense and everlasting manuscript of knowledge, by providing a hopefully innovative and useful approach to the challenges presented by the 21st century. And with a good dose of curiosity, resourcefulness, and fantasy, we could be one line closer to the next paragraph for humanity.

Part 1

1. Classical Economics

Classical economics has its roots in the works of Adam Smith, David Ricardo and John Stuart Mill. According to the *Handbook of Economics* (Collison, 1986), the classical approach is based on the role of markets in allocating resources, the importance of private property rights, and the ability of markets to self-regulate. In addition to this, the classical framework of economics puts great emphasis on the role played by individuals in exercising their free will. In fact, the perfectly rational agents provided by this model, by freely choosing how to maximise their utilities, allow the system to reach the renowned equilibrium. This idyllic dynamic of the self-regulating market is conceptualised as *the invisible hand* (Smith, 2008). It is no surprise how the underlying philosophical framework of the classical approach to economics is liberalism, both in economic and more general terms, since it emphasises the importance of individual freedom (Liberalism (Stanford Encyclopedia of Philosophy), 2022). This strand of thought flows out of the Enlightenment movement, its firm belief in reason and progress, and the capacity of individuals to regulate and understand themselves. In fact, liberalism stressed the importance of minimising government intervention and instead opting for a *laissez-faire* approach, which later as translated in the previously mentioned self-regulating market. And since the classical model posed its focus on the basic element of the markets, ignoring development and technological change, the neoclassical model arose to address these issues. The neoclassical model of economics, on the other hand, accounts for long-term growth of economies. The implications of this model suggest a pattern leading to capital accumulation, in which technological progress plays a key role as a driving force for economic growth.

1.1 Critiques of the classical approaches to economics

However, despite their idealistic, positivist and naturally appealing features, these models do not represent the final solution. In fact, it is quite the opposite. Both the classical and neoclassical models of economics are perhaps a little too optimistic. According to Acemoglu et al. (2005), there are several critiques that can be advanced to these theories:

1. They rely on unrealistic assumptions, namely perfectly rational individuals having perfect information;
2. Both theories only take into consideration aggregate variables, ignoring important factors such as income distributions, environmental externalities and social status;
3. Human capital is not considered as a necessity for technological advancement;
4. Institutions and policies are assumed to be constant variables, rather than something social, which as such, is subject to changes and time;

5. Both theories neglect the role of institutions in fostering development and thus, economic growth.

To sum up, the classical and neoclassical models depict economies as perfectly rational environments, with perfectly rational agents, where individualism rules and maximisation is the main goal. Unfortunately, we live in an era characterised by complex systems, with what we acknowledged to be irrational agents, faced with collective issues caused by the focus on maximisation only. Naturally, the classical and neoclassical approaches were not the final answers, but as previously stated, there is no such thing, nor is the author trying to suggest one. Our capability lies in looking for the most effective solution to address the challenges that are presented to us in a specific time and space. It was according to this mechanism that the neoclassical model was developed to supplement the classical one. And it is according to the very same logic that there is now the need to introduce a fresh approach to address current challenges.

1.2 The Climate Crisis

According to Daly (2009), the neoclassical model erroneously assumes unlimited resources leading to unlimited economic growth. However, this view overlooks the finite nature of natural resources, as well as the limited capacity of the environment to absorb pollution. Nowadays we are more than aware of how such model is not feasible without considering external factors. Different times require different approaches, and we are now living in an era in which economic variables are not anymore the only parameters to look at. Reality cannot be reduced to purely economic aspects. The focus on maximisation alone led us to overlook the adverse effects of human activities on the environment, and we made our acquaintance with climate change, resource depletion, pollution and biodiversity loss. Due to human activities, our Planet's climate is undergoing an unparalleled change, leading to an increase in the frequency and severity of natural disasters, elevated sea levels and water pollution (IPCC, 2018); and above all, to avoid a potentially deadly escalation of climate change, limiting the global warming to 1.5°C above pre-industrial levels is a fundamental condition (World Meteorological Organization, 2021). Furthermore, habitat destruction, overfishing and all forms of excessive exploitation of natural resources have resulted in a rapid decline on global biodiversity (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), 2019); according to IPBES, up to one million of species are at risk, and their extinction could have impacts on food security, water quality and disease transmission. The linear "take-make-dispose" economic model of production and consumption has caused the depletion of precious (yet finite) natural resources such as metals, minerals and fossil fuels (Ellen MacArthur Foundation, 2015). And the processing of these rare materials is equally, if not more harmful. Air pollution caused by industrial activities, transportation and extensive agriculture are responsible for approximately 7 million premature deaths annually (World Health Organization: WHO, 2019); simultaneously, the same sectors are harming oceans and marine life with plastic pollution. While this list of threats to our Planet may look alarming, truth is it does not even capture the actual scale and complexity of the dangers we are facing. It is imperative that we take action to protect Earth, and all beings who inhabit it, including us.

1.3 The Need for Change

Complexity cannot be represented on the traditional, two dimensional Cartesian plane we are used to. Our horizons have expanded, and the same expansion needs to be reflected where we are sketching our functions. To our two dimension, we need to add at least other two, one for external factors (including the environment) and one representing social distributions (such as income and cultural differences). And perhaps, we need to give up linearity in favour of circularity. In order to do so, a transition – to be more specific, a twin one – is what appears to be the best solution towards a more sustainable, digital, and just World.

2. The Twin Transition

With the term twin transition we are referring to the idea of a "coordinated transformation of our economy and society to make them more sustainable, climate-neutral and digital" (A European Green Deal, 2021). In other words, the twin transition represents a hybrid response to two major global challenges: the transition to a more sustainable, low-carbon economy, and the shift towards digitalisation. In fact, these transitions are closely linked, with technological innovation and digital technologies playing a critical role in driving sustainability and reducing carbon emissions. This approach embraces the two major fronts of our era, and connects them through the establishment of a mixed agenda: the achievement of a sustainable economic growth and, at the same time, a mitigation of the environmental crisis. The following sections are aimed at breaking down the twin transformation in its two primary components: sustainability and digitalisation.

2.1 Becoming more Green

The first half of the Twin Transition is represented by the shift towards a a sustainable, low-carbon and conscious economy. The main goal is that of transforming what until now are the most polluting and consuming sectors, reducing greenhouse gas emissions, and ultimately increasing the system's resilience to climate change. There are several strategies aimed at such goals, including:

- The abandonment of fossil fuels like coal, oil and natural gas, which represent the largest contributors to climate change (Ting and Stagner, 2021);

Consequently, this leads to

- The transition to renewable energy sources, such as solar power, wind power, hydropower, and geothermal energy, as well as other and more innovative ones like bioenergy (Local Renewable Energy: Biomass/Biogas | US EPA, 2023);
- Implementation of energy efficiency, which is not only a more sustainable solution in environmental terms, but also in economic and social ones; this strategy could significantly reduce energy bills, making energy more accessible for everyone, and thus, fostering development and welfare even for

those that at nowadays prices, cannot afford it (Promoting Energy Efficiency in Buildings | United Nations Development Programme, 2019);

- The investment in research and development of new technologies: lately, several innovations such as Carbon Capture and Storage, also know as “CCS” (Carbon Dioxide Capture and Sequestration: Overview | Climate Change | US EPA, 2017) and Green Cement (Hwang et al., 2011) were designed specifically with this objective in mind.

However, these are all top-down strategies, who rely on a governmental, if not intergovernmental implementation. Concurrently, there are many bottom-up strategies that individuals can adopt to reduce their carbon footprint and contribute to the fight against climate change, such as:

- Reducing waste by recycling, composting and favouring sustainable products;
- Using public transportation, carpooling, cycling or simply walking, instead of driving;
- Reducing water usage;
- Limiting meat consumption: its production through extensive farming is responsible for 14.5% of all human-caused greenhouse gas emissions (European Parliament’s Research Service, 2017);
- Using fuel-efficient or alternatively-fuelled cars;
- Installing devices to reduce energy consumption.

These are just some of the many strategies both collectives and individual agents could adopt to reduce our carbon footprint. As it is easily noticeable from the above mentioned list, it appears very clearly how many of these actions that require some degree (if not more) of digital support. And that is exactly where technology comes in.

2.2 Becoming more Digital

From a technological standpoint, the Twin Transition requires a salient use of digital mechanics to promote energy efficiency and optimisation of resources. This includes technologies such as:

- Machine learning (Alpaydin, 2014);
- Artificial intelligence (Russell and Norvig, 2016);
- The Internet of Things (IoT);
- Blockchain (Swan, 2015).

Which are widely used to develop new sustainable business solutions, improve supply chain efficiency and reduce waste. In addition to this, technology can also play a role in monitoring and reporting the amount of carbon emissions:

- Measuring technologies like sensors can be helpful in measuring environmental factors such as water quality, energy consumption and track emissions from industrial facilities, allowing organisations (or businesses) to monitor and reduce their carbon emissions. In addition to this, if applied to renewable energy sources such as solar panels, sensors can track the amount of sunlight received and adjust their orientation accordingly, maximising the clean energy production (Akyildiz and Jornet, 2019);

- Big Data Analytics can be useful in analysing large amounts of data and evaluation the impact of entities like organisations or even governments.

To conclude, this multi-faced transformation evidently requires many efforts to foster the desired change at the multiple levels it concerns. Achieving sustainability, fostering digitalisation, creating the jobs for the future, promoting social and economic development, improving health conditions are all complex, interrelated challenges that require coherent and coordinated efforts: the interplay between digitalisation, sustainability, social justice and horizontal policies is of vital importance.

2.3 Implementation issues in the Twin Transition

Despite the twin transition being crucial for combating climate change and driving innovation, it must be pursued in a just and equitable manner that ensures no one is left behind. The transition should in fact prioritise diversity and inclusion by providing opportunities for all individuals to participate (and benefit) from the transition to a more sustainable and digitalised society. In other words, the twin transition should create bridges, not walls. And like any other big step taken by mankind, the twin transition comes with a variety of issues related to its implementation. Despite the urgency of climate crisis we are faced with, it is important to deeply evaluate the impact of policies aimed at implementing the twin transition and trace them back to the various dimensions they affect. According to the European Parliamentary Research Service (EPRS, 2021), there are three main dimensions under which the twin transition might be problematic.

2.3.1 Social and economic dimension

Due to the unequal distribution of income, benefits and access to new technologies, a wide part of society might be unable to bear transitional costs, and inequalities could arise. Büchs, Bardsley, and Duwe (2011), believe many climate change mitigation policies to be widely perceived as regressive and invalidating respectively to certain social strata; in other words, these policies disproportionately affect marginalised groups, particularly those belonging to the lower-income brackets of society. A similar point is raised in the research conducted by Ravigné, Ghersi, and Nadaud (2022), who analysed the distributional impacts of the French low-carbon strategy. What the authors found is that - once again – measures to reduce carbon emissions have potential distributional effects, and need to be counteracted with a comprehensive and integrated approach accounting for social, economic and environmental dimensions. A further aspect to be taken into consideration is that of the geographic locations. On this topic, the article “Geographies of energy transition: Space, place and the low-carbon economy” (Bridge et al., 2013b) analyses the spatial implications of the twin transition, highlighting the importance of adopting place-based approaches to policies. In addition to direct implications of policy recipients’ social status and geographical position (which are often related to the income level), there are several other indirect consequences. To be more specific, disadvantaged social groups are often unable to access the Internet, which nowadays constitutes a source for information, education and employment prospects. According to several studies by Robinson et al. (2020),

despite major improvements in the contemporary digital era, a significant digital divide still exists. What these authors suggest is that there is a range of socio-economic factors, among which the income level is the most obvious one, that determine the emergence of inequalities digital availability. Furthermore, these dimensions can be of impact not only at local, or national level, but also on a global scale. In fact, many technologies are unavailable in developing areas due to the lack of infrastructure required to implement them; such is the case of renewable and clean energy sources (GlobalGiving, 2021). On the other hand, when it comes to Internet access, its costs are prohibitively expensive for most developing regions, impeding access to the benefits that are specifically necessary for development, and consequently the twin transition too (Hargittai and Hsieh, 2013). Lastly, due to the above mentioned socio-economic factors, individuals are shaped differently and accordingly to their context (at least in most of the cases) resulting often skill gaps. As a matter of fact, even when technologies are widely available, many individuals lack the necessary skills and knowledge to use them effectively; this leads to the insurrection of further inequalities, especially in the job market (World Economic Forum, 2019). What emerges from this analysis of the impact socio-economic factors have in the implementation of the twin transition (or in many cases, purely development) is an unsettling truth that cannot be neglected: those who are excluded from the transition, are specifically the ones in dire need for it.

2.3.2 Upfront costs and financing

Under this category fall all incompatibilities constituted by the very nature of the industries. Many sectors are in fact disproportionately affected by the twin transition (United Nations Department of Economics and Social Affairs, 2019). In order for the shift towards the new economy to be equitable, all sectors – including extremely polluting ones – need to be guided and aided in the process; and clearly, due to the nature of the industries, more or less incompatibilities arise. For instance, it is widely understood that industries relying on fossil fuels and non-renewable sources are not exactly the best match for the twin transition. Nonetheless, these companies cannot be left behind, since their incomes contribute significantly to their countries' GDPs: during 2022, the second and third most profitable companies worldwide were respectively Saudi Aramco and Shell, both belonging to the oil industry and thus, inherently rowing against the transition. Concerning this aspect, there is an additional issue related to these very same industries. It is almost framed as a paradox, and it is the following: due to the shift towards clean energy, companies working with fossil fuels and non-renewable sources may experience a decline in demand and thus in profits, making the conversion to transition-aligned energy sources even more inaccessible; at the same time though, the only alternative would be financing them, which however would support the outdated and irresponsible model that needs to be replaced (Grasso, 2022). Aside from that, the job loss caused by mechanisation and efficiency-saving business models could also have a significant impact on individuals and their families. The European Just Transition Mechanism (The Just Transition Mechanism, 14 September 2021), for instance, recognises the need for financial support to aid affected regions and workers thorough targeted investments and social policies aimed at facilitating the access to incentives and other solutions such as re-skilling programs.

Certain sectors - and with them, the workers and families who work in them - are stating to experience significant negative impacts. Such is the case of the coal mining industry in the United States, who is frequently citied in the literature as the industry that has been the most affected by the twin transition. In fact, data from the U.S. Energy Information Administration (EIA) show that employment in this sector has been declining for years; this trend is, among other factors, caused by the increase in automation and the diminishing demand for coal in favour of cleaner energy sources (U.S. coal production employment has fallen 42% since 2011, 11 December 2019).

2.3.3 Lack of policy coherence

In order to foster change and progress, effective policy frameworks are needed. However, in many cases there is a lack of coherence and coordination between the various policy areas which undermines and slows down the process. For instance, policies aimed at incentivising renewable energy use may enter in conflict with policies that prioritise digital growth, limiting the effectiveness of both. Furthermore, a lack of coordination in this field can lead to gaps in the implementation of policies, which often result in delays and inefficiencies. An example that underlines the importance of policy coordination on the above mentioned themes is that of Germany's Energiewende ("energy transition") policy of 2022. This policy, aimed at transforming the country's energy system from fossil-fuel-reliant to renewable, adopted a mixed approach to coordinate climate action, energy efficiency and economic growth. To quote the SMARTer 2030 report by GeSI (Global e-Sustainability Initiative), "the digital transformation and decarbonisation of the economy are two sides of the same coin. To fully unlock the potential of the digital revolution to contribute to sustainability, the two must be pursued in a holistic, integrated and coherent manner" (2019).
Now that all the challenges have been laid on the table, it is time to dig deeper into the various problematic dimensions. "The concepts of "ambiguity" and "opportunity" are strictly interconnected, and with a little optimism, and a good dose of fantasy, we might turn issues into prospects. "In the middle of every difficulty lies opportunity" – Albert Einstein

3. The Behavioural Approach

What the author sets out to do in this chapter is rewind the tape, going back to the individual themes addressed so far, and have them meet in a new framework. Our journey began with the classical and neoclassical economic approaches, their assumptions, their flaws and how they contributed to the radicalisation of the climate crisis. We then underlined the urgency of said environmental emergency, with emphasis on how only a joint effort can neutralise this threat. Subsequently, the twin transition strategy towards a low-carbon and digitalised system was introduced. However, no great endeavour was ever accomplished without obstacles, and this also applies to the changes brought by the twin transformation. The previous chapter was in fact dedicated to the categorisation and description of the major issues met by the

replacement of the old model with the new one aimed at minimising and mitigating human impact on our Planet. And it is precisely when human beings are faced with a challenge, that progress begins.

3.1 The Behavioural Approach

Each and every era came with its approach to the specific challenges it posed. Whenever a problem arose, humanity would develop a model to find a solution, until the current model brought a new problem to face, and novel solutions to be developed; and replacing one theory after the other, humans kept looking for the best solution, only to be met with further challenges. Such is the case of the Neoclassical Model, which was developed to account for economic growth and capital accumulation (Solow, 1956). And in those years, riding the wave of the boundless economic growth this model described, we identified the goal with maximisation. And not only the pursuit of maximisation heavily impacted our environment, an externality the model did not account for (as discussed in Chapter 1.2). We also thought perfect markets, characterised by perfect competition and perfectly rational consumers would be effective, emphasis on the repetition of the words “perfect” and “rational”. But, in fact, we were wrong. It is undeniable that these features work in determined conditions, namely those of rationality. However, economies are large, intricate networks whose links, if traced back to the first and primary units, lead to humans. And, the most rational thing humans can do, is being aware they are not rational. Throughout our lives, we are frequently presented with a range of choices. These choices may vary from something as simple as deciding which cookie to dunk in our milk, to more complex ones: selecting a college, determining if we should enroll or not in a life insurance program, choosing whether or not to buy a car, selecting an energy company instead of another and many more.
It comes naturally that, when making relatively insignificant choices, such as selecting a snack, we can afford to be less analytical and more spontaneous. On the other hand, when making important decisions that may have a long-term impact on our lives, as well as the ones of our entire community, we should carefully consider the potential long-term consequences of each option. Luckily enough, our brains have been proven by multiple studies to work according to two systems.

3.2 System 1 and System 2

The fist to advance this theory were Daniel Kahneman and Amos Tversky. According to their book, *Thinking, Fast and Slow* (2011), human reasoning works according to two distinct modes of thinking:

- System 1, which is described as fast, subconscious, automatic and spontaneous; it requires little if no effort at all to be activated, and provides quick and intuitive answers that are suitable for most of the everyday decisions (for instance, recognising a colour or a familiar face, dodging an obstacle or making snap superficial judgments)
- System 2, on the other hand, is described as slower, more effortful, analytical, and deliberate; it requires attention and focus to be activated, and provides logical answers that are more suitable for

complex and critical decisions (for example, performing mathematical calculus, learning a new skill or a new language, making a difficult decision that requires weighing up different options)

In other words, we have two systems to take more or less significant choices, and we simply use one instead of the other based on necessity. Right? Wrong. Despite our brains working in these two modalities, we often get them mixed: “the attentive System 2 is who we think we are. System 2 articulates judgments and makes choices, but most of the time it endorses or rationalises ideas and feelings that were generated by System 1" says Kahneman (2011, p. 21). In fact, people often rely too heavily on System 1 due to its accessibility: we are very lazy and would rather use the fast, yet imprecise judgments made by System 1, instead of making the efforts required by System 2. What the impulsive System 1 uses are some mental shortcuts allowing us to quickly process information and reach conclusions; these mechanisms are known as heuristics. If the reader has some basic sci-fi and pop knowledge, the following example should be more than exhaustive: to quote Thaler and Sunstein (2008), "think of System 1 as Homer Simpson and System 2 as Mr. Spock. System 1 runs on autopilot and is given to rash judgments. System 2, on the other hand, is capable of advanced calculations but has trouble jumping to conclusions". And the consequence of these clashes between System 1 and System 2 are a series of short-circuits such as overconfidence, biases, and ultimately, poor decision making.

3.3 Herustics and Biases

As it was introduced in the previous section, individuals often rely on heuristics; while these mechanisms can be useful in allowing us to make judgments quickly, they can also lead to cognitive traps and biases in decision making. In fact, heuristics and biases are two distinct concepts, that however are closely related. To be more specific, heuristics are defined as mental shortcuts (the so-called mental rules of thumb) that help people solving problems in a fast, effortless way, often at the expenses of rationality and accuracy. On the other hand, biases are systematic deviations from rational reasoning, and are often caused by unconscious factors (emotions, stereotypes, cognitive limitations). These two concepts are strictly correlated, for heuristics can sometimes lead to cognitive biases; however, biases may also arise from other factors that are capable of influencing judgments (such as the context). To sum up, one could say that heuristics are cognitive tools, while biases are cognitive errors (Gilovich, Griffin and Kahneman, 2004). Some of the most common heuristics include the following: availability bias, representativeness bias, anchoring bias, band wagoning effect, gambler’s fallacy, hindsight bias, status quo bias, negativity bias and loss aversion. Each of these biases is a *systematic deviation from rational reasoning*, and as far as the definition is concerned, biases are nothing more than flaws of human intellect. And yes, as Thaler and Sunstein (2008) underlined, nudges do constitute a risk, for they might result in poor decision making and sub-optimal allocations of resources. However, what these very same authors suggest, is that they can also represent an opportunity. If carefully used for good, nudges and choice architecture can help people make better choices. This is the premise of the book *Nudge*, whose title in fact refers to the concept of a gentle encouragement; not by

chance, the verb *to nudge* is used to describe the way elephant moms use their trunks to gently push their babies, encouraging them to do something.

3.4 Social Norms

When designing a behavioural policy intervention there is a further element we need to look at. Humans being social animals, many of our behaviours – especially those involving or affecting a community – are determined by an underlying pattern of social rules. Picture this: you are at a fancy dinner party, dressed to your best and chatting with a group of fascinating people. While lovingly conversing with your distinguished companions, you take a sip of your wine and notice that your glass is almost empty. You suddenly realise that you do not know the proper etiquette for wine glass refills - should you ask the waiter for a refill or wait for them to offer? As you ponder this dilemma, you realise that you are not just grappling with table manners; you are navigating the complex system of social norms. Despite being wrapped in this intricate network of rules, we rarely analyse its nature: we take it as given, as nothing more than a dogma. Yet, there is a world to uncover, and norms, despite being perceived as monolithic and immutable, were created and might change or elapse over time. On this topic, Cristina Bicchieri offers a comprehensive exploration of social norms and how they affect us. In her book *Norms In The Wild* (2016), she starts by defining independent and interdependent behaviours. The first are behaviours in which we enrage irrespectively of what others around us do or think: such is the case of habits, customs, and moral beliefs. For instance, we open an umbrella when it rains regardless of what others do, since it maximises our preference of not getting wet, and that is all that matters. On the other hand, interdependent behaviours are those in which we engage because those whose actions and opinions matter to us do; examples of interdependent behaviours include fashions, signalling systems and social norms. These two kinds of behaviours may look similar from the outside: the difference between them lies in the preferences that motivate them, which in turn are defined by individuals' social expectations. To quote Hlobil (2017), *social expectations come in two flavours: (1) empirical expectations, which are beliefs about what other people will do, and (2) normative expectations, which are beliefs about what other people believe ought to be done, i.e., about other people's normative beliefs.* A note needs to accompany the term "people", which refer to what in the book is defined as *our reference network*, or in more ironic terms, our "significant others". Having said that, it is clear how descriptive norms are interdependent behaviours; yet the expectations that motivate them are only empirical ones: imitation and coordination belong to this category, with the only difference that imitation is unilateral, while coordination is multilateral. With these premises in mind, one can finally appreciate the definition of a social norm.

> *A social norm is a rule of behaviour such that individuals prefer to conform to it on condition that they believe that (a) most people in their reference network conform to it (empirical expectation) and (b) that most people in their reference network believe they ought to conform to it (normative expectation)"*
>
> (Bicchieri, 2016).

What Bicchieri is trying to suggest is that to have a social change, collective behaviours need to be understood, reconducted to their nature, and possibly used as a tool to foster development. Furthermore, one must also consider that being community-established, social norms, customs and other collective behaviours often interact with each other: customs could turn into social norms, and vice versa. That being said, the author would like to present those that according to *Norms In The Wild* are the strategies to change the different behaviours. To change collective behaviours, one could:

A. Inform about the benefits of switching from behaviour *x* to behaviour *y*;
B. Affect the incentive structure fuelling people's preference in acting in a given *x* way, for instance, creating a social norm. To have people switch from behaviour *x* to behaviour *y*, we could create a social norm prohibiting *x* for it is "inappropriate" or linking it to a concept such as "bad manners" and "inelegance";
C. In the case of descriptive norms, one could simply inform people about behaviour *x* being less diffused that what they believe;
D. When it comes to social norms, whose radicalisation lies in both empirical and normative expectations, things become more complex. One must convince people that their reference network is not likely following the social norm, or thinks adherence is not necessary, and clearly this is more complex.

After diagnosing the collective behaviour we are dealing with, we can finally attempt to eliminate or create a social norm to obtain a change. The premise is that of ensuring people have collective reasons to change their behaviour. However, that alone might not suffice, and the creation of normative and empirical expectations is what could convince individuals more effectively. Finally, Bicchieri (2016) provides us with a five-step progress to create a social norm:

1. Change in factual and normative personal beliefs;
2. Collective decision to change;
3. Introduction of sanctions for non-compliance;
4. Creation of normative expectations;
5. Creation of empirical expectations.

On the other hand, to eliminate a social norm Step 1 would consist of the elimination of empirical and later normative expectations. The last elements to consider in changing social norms are *scripts* and *trendsetters.* Bicchieri defines *scripts* as *sequences of actions that are learned as a package and activated whenever the situation in which they are expected to occur arises*. These standardised behaviours that over time, often turn into general beliefs and normative beliefs over time. To change scripts, Bicchieri suggests three models:

A. The bookkeeping model, suggesting that scripts will change as the agent encounters a steady flow of counterexamples;
B. The conversion model, suggesting that few salient counterexamples change scripts;
C. The subtyping model, suggesting that scripts are overcome by the introduction of subcategories to accommodate counterexamples.

The bookkeeping model is generally perceived as the most successful, while subtyping often results in an obstacle for social change. This leads us to the last, and probably most relevant factor of Bicchieri's model, *trendsetters*, which she defines as *persons who adopt new behaviours (norms) and are followed by a considerable number of others.* They are described as individuals with *low-risk sensitivity, low-risk perception, low allegiance to the standing norm, high autonomy, and high perceived self-efficacy* (Bicchieri, 2016). In fact, they are often at the periphery of their reference network, thus they do not care as much as others about expectations and sanctions. What is more, the author underlines how trendsetters do not necessarily have to be part of the community. As a matter of fact, they do not even need to be real individuals; oftentimes, they are fictional characters who simply have access to the entire community: such is the case of popular TV programs, radio transmission, and icons.

3.5 Nudges: *adding humanity to the equation*

Thaler and Sunstein define a nudge as "*any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options, or significantly changing their economic consequences. To count as a nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates"* (2008). The logic behind this definition is that of paternalistic liberalism: nudges are advices, and people must be free not to take them. Nonetheless, nudges can be powerful tools for promoting positive behaviour. By designing the options or the context in a way that makes the positive behaviour more attractive, nudges can help people overcome cognitive and emotional barriers, and make more conscious choices. the Homer Simpson inside each one of us could be mitigated, finally allowing Mr. Spock to control. It comes natural that the power of nudges in public policy and behavioural change is immense. Through nudges, people could be encouraged to adopt more sustainable behaviours, overcome their short-term consumerist desires, and make decisions that are more aligned with their values. And what this thesis is aimed at, is suggesting an approach to twin transition through this new model that finally adds humanity to the equation.

Part 2

Introduction

As previously argued in Chapter 2, the current economic model characterised by the "take-make-dispose" mechanism, has significantly contributed to the climate crisis we are faced with today. This consumerist, and oftentimes, irresponsible approach to development is no longer adequate for the needs of our planet. As a matter of fact, not only classical and neoclassical economics have contributed to the uncontrolled extraction of natural resources and pollution, they also seem not to account for the necessary changes in our system. If the assumption of absolute rationality of agents held, there would be no need for a behavioural approach. Undeniably, the classical and neoclassical economic models are useful theoretical instruments, but they fail to consider the complexities and nuances that arise when they are transplanted from paper to reality. And assuming that something perfect on paper, works accordingly in reality is way too optimistic, especially when humans are concerned with it. To bridge the gap between theory and reality, one simply needs to add to the equation the human variable, which does not erase the concepts of utilities' maximisation at all: the behavioural approach simply stresses the fact that preferences are influenced by behavioural human factors (such as heuristics, biases, emotional states), and seeks to explain them in order to redirect people towards the choice that best maximises their benefits. In other words, agents are looking for a maximisation of their utilities, but sometimes they end up getting lost in the process! But if guided and aided with behaviourally designed framings, appealing language, and few other tricks, the path leading to their best interest will be the easiest one, and thus the one they are more likely to follow. Such is the inherent nature of nudges, artifices whose realm is that of the blind spots of the human brain, that in the end (despite sounding scary) are for good. And what the author is humbly trying to suggest is how many of the issues related to the implementation of development and change, can be solved through the use of these hideous yet powerful tricks. In the following chapters we are going to dig deeper in this challenge by dealing with the most widespread and cited issues, and hopefully suggest a series of feasible stratagems to solve them, or at least try.

4. *Nudges in the Wild*

The use of nudges in fostering sustainable behaviours is not an entirely new subject; while many people may be aware of the importance of sustainability, they often do not act accordingly due to a variety of reasons such as cognitive biases, time constraints or conflicting priorities. For instance, when it comes to the addressing of the climate change dimension, a deeply problematic human tendency called *temporal discounting* manifests itself (Anthroposphere, 2019). What this mental predisposition does, is tricking

individuals into allocating less value on rewards or benefits that they will receive in the future compared to those that are immediately available. This can even translates into people perceiving their future self as an entirely different person. Despite temporal discounting is usually cited in terms of marshmallows, recalling Walter Mischel's experiment proving children preference for less candy now than more in the future, it can have dramatic consequences in more serious fields (Mischel, Ebbesen and Zeiss, 1972). In reality, temporal discounting represents a critical obstacle for environmental sustainability, since people do not realise the emergency of the climate crisis only because its most severe consequences are yet to come. Nonetheless, the power of nudges can still be of help: default effects, choice architecture and framings are the most useful ones in this field. However, the green aspect of sustainability is just one of the many dimensions this extremely wide concepts covers: sustainability is also digital, ethical, cultural, and social. To better appreciate the multidimensional nature of sustainability, one could simply cite the 2030 Agenda and the 17 Sustainable Development Goals (SDGs) it has set out to notice how they range from issues like poverty, education, and hunger, to sustainable cities, gender gap and climate change. In fact, the rationale behind this call to action is that of an interconnected approach, where drawing a line between one goal and the other is not only hard, but would also result in a limitation of development policies. Such is the idea behind the 2030 Agenda, and as a matter of fact, behind the twin transition progress: once again, simple and unidimensional approaches seem to be inappropriate for the challenges of this era. For this reason, the author will not speak of green and digital as two distinct elements, and will instead suggest multi-faced stratagems to achieve sustainable development in more general terms. Additionally, due to the many intersections among goals – especially those regarding environmental and digital sustainability – a strict division would not allow the appreciation of spillover effects.

4.1 Framework

When advancing a new strategy in a field such as the one of the twin transition, the areas to investigate are numerous, and every one of them is extremely wide and complex. To proceed with order and criterion, the author will start by providing a structural framework of society to delineate the setting in which the nudges are going to be introduced. Given the importance of sociality and human variables for this thesis, the most appropriate framework to adopt seemed to be the Functionalist one. First proposed by Emile Durkheim (1935), the functionalist model argues that each institution plays a specific role in ensuring social order and stability. More specifically, he defines institutions as *social,* for they are interdependent and interconnected, and only through their coordinate efforts society can work properly. This view not only is coherent with the approach of the twin transition, which recalls for each part of society to be part of change, but it also underlines the duty of human factors such as family and culture in shaping individuals and their morality. For this reason, the following sections will suggest, when possible, a harmonic strategy capable of pervading all social institutions and the various actors who move in their dimensions. However, due to the inherent

nature of the twin transformation and the actors it most actively involves, more attention will be dedicated to the individual and enterprise (private sector).

4.2 Defaults

By this time, it has become more than clear how humans are not exactly the happiest when presented with a wide range of choices. Evaluating options requires effort and attention, and we are often not willing to spend such resources; we would rather allow Homer Simpson to guide us with rules of thumb, than summon Mr. Spock and his long pile of boring (yet probably useful) data. And what Homer often does is sticking to the easiest choice, usually corresponding to the one we were given in first place. Despite when asked in an interview everyone would stress the importance of freedom of choice and choosing for oneself, in realty, we are more than happy when someone chooses for us: it saves us time and effort! Going back to choice architecture, this cognitive laziness has a name, and is referred to as the *default effect*, defined as *the tendency of individuals to stick with the status quo or the default option presented to them when making a decision*. This mechanism can be harnessed by nudges, such as setting the default option to the most sustainable choice. Defaults have in fact been widely used to address sustainability-related issues, such as:

- Green energy plans, which if set as default options for customers, are extremely more likely to be chosen instead of fossil fuels (Momsen and Stoerk, 2014);
- Sustainable food options, which if given as default choice on the menu, appeared to be extremely more likely to be consumed (Hansen, Schilling and Malthesen, 2021);
- Recycling and waste reduction, for instance distributing recycling bins to residents and providing smaller garbage bins, which can nudge residents towards producing less waste (Johnson et al., 2015).

All of the above are subtle, minimal variations that however can have incredibly positive impacts on environmental protection. Now, what the author would like to do is taking the default effect and spice it up a little. Default effects not only concern the directioning of agents towards a choice by selecting it for them: they can also be expressed through the manipulation of the space, or more specifically the elimination of all possibilities except for the desired one. Such is the case of sustainable markets that only have reusable bags, or that sell food through dispensers, forcing customers to either bring their own jar from home, or purchase one in the shop – for a significantly higher price.

4.3 The example of Company A: *defaults 2.0*

A similar stratagem could be applied in an enterprise with the goal of minimising waste. Suppose that to be greener, Company A decides to cut on disposable goods that are not inherently necessary for the enterprise and its employees. With that goal in mind, Company A chooses to stop purchasing disposable plastic cups for coffee machines, saving not only money but also plastic, and thus decreasing the enterprise's carbon footprint (which is gradually becoming an evaluation asset); by doing so, Company A is *defaulting* its

employees into not using plastic cups for coffee. Having made this premise, the employees could react in a series of way:

A. They could buy a pack of disposable cups when needed, passing as heroes in the eyes of their fellow colleagues for a minor price (approximately $1,50 per 100 cups), who would praise them for finally allowing them to enjoy their coffee;
B. The more sustainable and aware ones could understand the message send by Company A and choose to bring their own coffee cup form home; however, this has minor impact if their colleagues keep using plastic: *to ensure that the effectiveness of a change is maximised, everyone needs to abandon the old customs* (Bicchieri, 2017).

The likeliness of options A and B varies based on a wide range of factors, which are also complex ones to analyse since they concern a measurement of people's sense of responsibility and morality. What is sure, is that the employees would grow a discrete amount of resentment for Company A, which from one day to the other, ceased to provide them with a service. And it is well known that happiness is proportional to productivity in companies, so grumpy employees could result in losses in terms value produced (Oswald, Proto and Sgroi, 2015). What should Company A do? Should it go back to the initial situation? Should it deal with the discontent of its employees, by explaining the inherent value of sustainability, educating them into being plastic-free? The author suggests a moderately small investment could make employees even happier than before, and without any plastic on their conscience. A strategy adopted by many innovative companies, is that of providing their employees with reusable cups (or bottles). Company A could produce a number *x* of A-branded cups, and place them near the coffee machine, finally allowing their employees to enjoy their usual coffee, but this time in a fancy, sponsored cup. Unfortunately, this solution comes with a variety of issues: since cups are a *common good*, they could become a mini version of a *tragedy of goods* (Banyan, 2023), with people handling them with little care (since they are not specifically theirs), leaving them dirty or even stealing them! For Company A this would be a loss. Now, imagine instead, how happy an employee could be if one day they walked in their office, and found a brand-new Company A-branded cup, but this time with their name on it. Who would not want a free, personalised cup? With this little serotonin boost, one could then notice a little note under the cup:

> "Dear Ludovica,
> As you know, we care deeply about sustainability and the health of our planet. For this reason, we decided to give you this cup so that you can enjoy your coffee while making a difference with us.
> Enjoy your coffee and take care,
> Your Company A"

This message was designed specifically to embody a series of values: the importance of sustainability, the efforts Company A is willing to make to stress it, and the care it has towards it employees. In fact, every word of this message was architected to make it as appealing and as convincing as possible. It has been widely proven that calling people by their name can increase the feeling of social presence and engagement; personalised referrals can in fact enhance the perceived closeness of the interactions and with it, the

likelihood of receiving a positive response (Sommer and Hartmann, 2018). The same mechanism is triggered with personal greetings such as “take care”, as well as adding “your” to Company A. Not only that: this simple action communicates the environmental efforts of Company A through a nice gesture that is certainly going to me bore appreciated and engaging compared to a lecture on sustainability. Furthermore, when receiving something (both in material and abstract terms), humans inevitably feel the need to repay the gesture: this effect is called *reciprocity principle* (Cialdini, 1984). In this case, Company A’s employees could repay this small gift by showing more gratitude, committing to environmental protection, or simply working harder. Not to mention how, since each employee has their own cup, it will be in their best interest to take care of it. And lastly, the pleasant feeling of receiving a personalised gift makes it much more unlikely that what is received will be used for ulterior motives; in this regard, personalisation plays a double role: not only people like things made specifically for them, it will also be harder to misconduct in ways such as stealing or trying to sell the cups. If this last argument seems inappropriate for this context, it is because the one above is just one of the many possible adoptions of this new, strengthened defaults the author will call *defaults 2.0*. Summing it up, and translating into more technical terms, Company A’s nudging strategy would look like this (Figure 1).

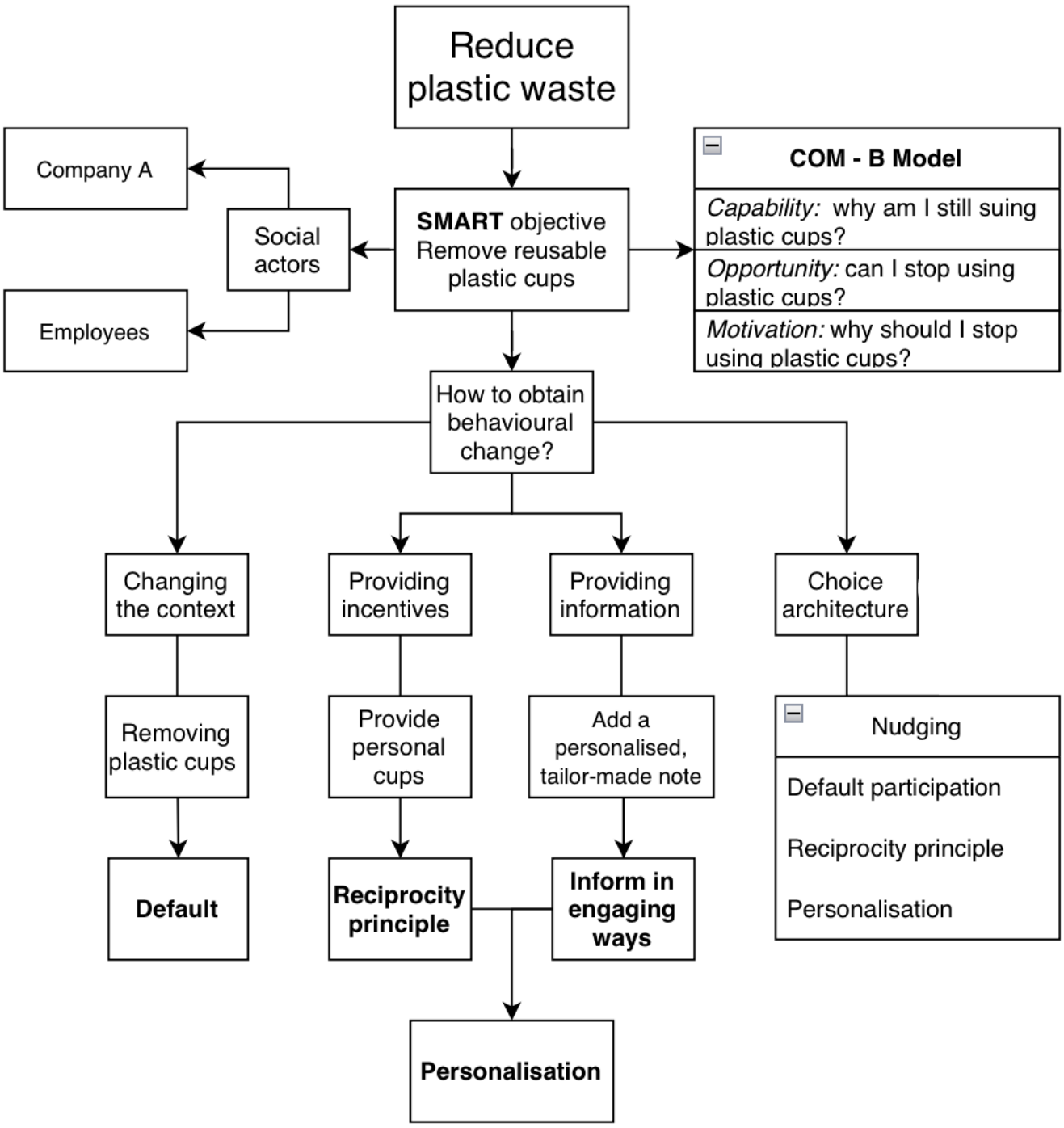


Figure 1

Sources: The COM-B Model for Behaviour Change - The Decision Lab, *personal elaboration*

Nonetheless, Company A is an overly simplified illustration the author used to introduce the concepts of defaults and the several tailor-made modifications one can apply to make them even more effective. This is the recipe of *defaults 2.0:* personalisation, reciprocity principle, and framing the context in a way such that the desired behaviour is the most convenient one to stick to. However, it is time for us to go back to the main focus of this thesis, namely the twin transition and how nudges can be of help in ensuring no one is left behind.

4.4 Defaults 2.0 at work

Recalling what emerged in Chapter 2.3, it is clear that transforming the system into a low-carbon and digitalised one comes with a series of costs, costs not everyone might be able to bear. For this reason, specific investment plans such as NextGenerationEU (Recovery and Resilience Facility) were created to support both individuals and enterprises by providing assistance for innovation and growth. In addition to this, several cash transfer programs foster change by providing non-reimbursable financial support to tackle poverty and promote sustainable development. Other initiatives, on the other hand, are more specifically tailored for low-income regions and they are mainly concerned with closing the development gap across the Globe. Mexico's Oportunidates Program is one of the many cash transfer plans providing conditional access to financial aid in exchange for regular school attendance, health check-ups and nutrition education (World Bank Group, 2014). Considering the ongoing process of digitalisation on a global scale, several initiatives choose to provide children in low-income families with laptops and similar devices to foster education and digital literacy. This is the aim of many non-profitable organisations such as The One Laptop Per Child Initiative (OLPC – More than a laptop) and Digital Promise (Digital Promise, 2023). Clearly, in the case of financial aid it is easier to apply a condition, and make sure that the recipients stick to it; nonetheless, conditional cash transfers are more resource and time consuming precisely because of the need to check upon the targeted households. For this, and other reasons, several studies among which Handa et al. (2015) and Baird et al. (2012), proved that the unconditionality condition is often more impactful. Nonetheless, providing aid without any condition might still be problematic, especially when the recipients are receiving goods like technological devices. Taking into consideration the clear correlation between low-income households, the criminal rate, and the lack of education, it would be no surprise if the families included in these programs tried to misuse what they received. This brings us back to the example of Company A, in which the risk of a branded cup being sold for a personal gain seemed unlikely and malicious. Unfortunately, that might not be the case in real-world low-income contexts, where all things considered, the money obtained from selling a laptop might be very appealing compared to something abstract such as education. By now, it should be more than clear how Company A was simply aimed at portraying the potential of *defaults 2.0* and other behavioural interventions in pushing for sustainable growth. Recalling said behavioural mapping and the nudges portrayed in Figure 1, one could imagine an application of said simplified model to the issue of aiding lower social strata into joining the twin transition, and consequently ensuring no one is left behind. With said goal in mind, the author would like to once again, call nudges in this cause and see what good they can make. The tools are the same as before, now let us have them translated them from the hypothetical – yet hopefully useful – situation of Company A into the real world. Ironically, replacing coffee cups with people's lives seems to be very easy according to this model. To set out things more precisely, we are now moving from the private sectors of enterprises, to the public one of communities and more specifically, the households belonging to the lowest social strata. As such, some assumptions are required in order for the following strategy to be coherent with real-world issues:

1. The model assumes the existence of some resource providing program or investment plan, and consequently someone behind it: either an NGO, an intergovernmental organisation or perhaps the nation state itself. For the sake of simplicity, these actors are going to be referred to as the *nudgers*, for they are those who implement the strategy and the nudges it features;
2. Consequently, the model assumes the existence of some program recipients: low-income households within a determined zone (such as a city, or a district). Once again, for the sake of simplification, these imaginary recipients are going to be referred to as the *nudged*, for they are the victims – or perhaps the beneficiaries – of the strategy and the nudges it features;
3. Lastly, concerning the nudged, the model will assume they have been selected by the nudgers along with the members of their community, possibly a relatively small one to make sure there is a reference network. Despite helping someone who did not even consider the option of receiving help might be problematic, it is very unlikely for these communities to ask for what they need. The most disadvantaged ones are probably not even aware about the possibility of receiving help. It follows that if the model was based on applications, only a portion of those in need would be able to reach the program; plus, they would be those who actually are the least disadvantaged ones among the community, since they have the knowledge and tools necessary to reach out to the program. Such a design choice would result in an enhancement of the conditions of those who needed it the least, and a further marginalisation of those who needed it the most.

Having made these premises, the model of this new behavioural intervention would be that displayed by Figure 2.

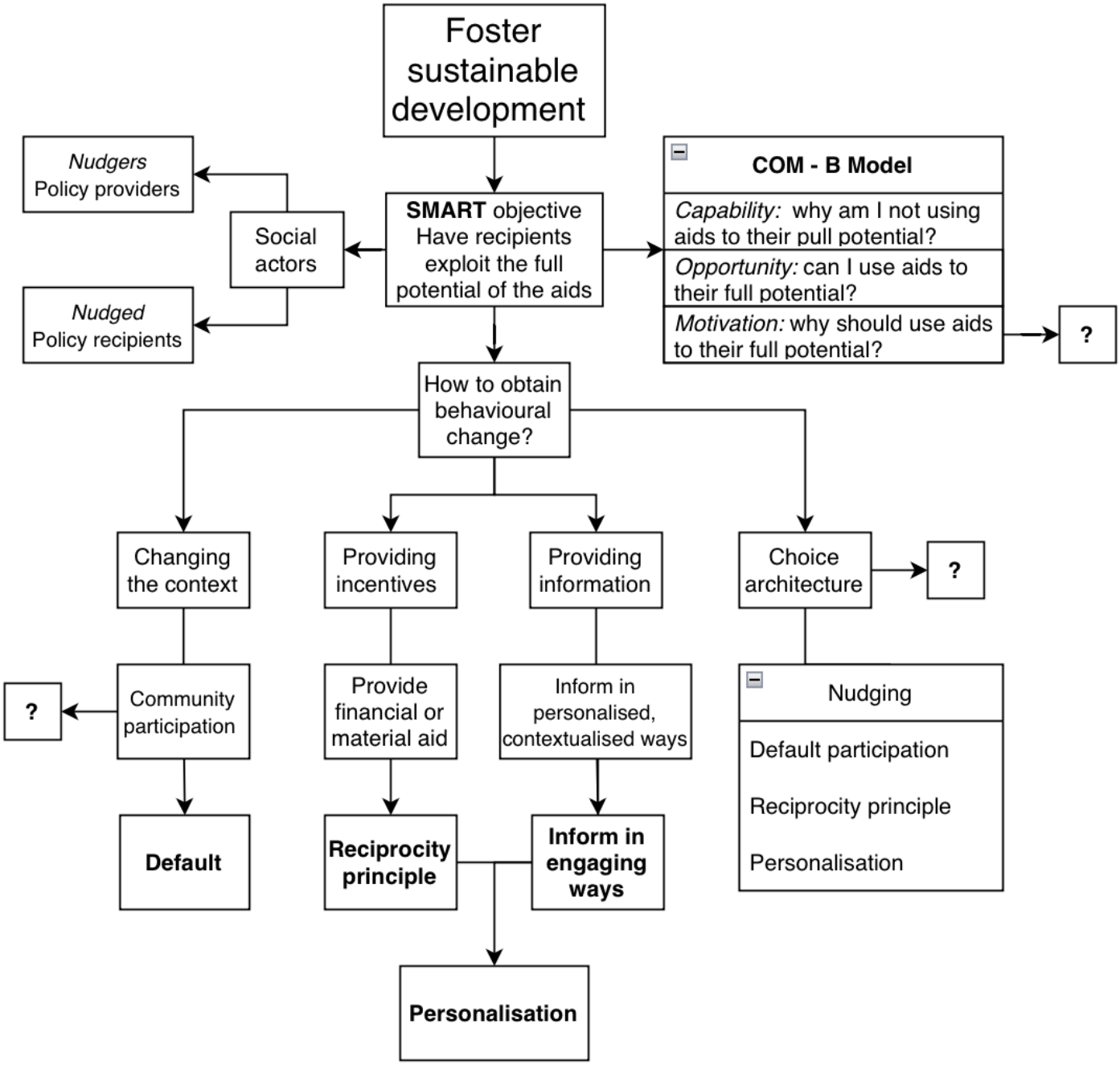


Figure 2

Sources: The COM-B Model for Behaviour Change - The Decision Lab, *personal elaboration*

As shown in Figure 2, the targeted behaviour coincides with the full exploitation of the aid provided, and the desired behavioural change could be obtained by:

1. Changing the external context where the nudged take decisions and evaluate possibilities. This could be done through a default-insertion of the selected families into the development program and having them join the community organised by the nudgers, in which the nudged bond with each other. Concerning the creation of a community rather than the use of the existing one, further clarifications will be provided subsequently. Despite the use of an opt-out option is more coherent with choice

architecture than context alteration, the author believes it to be more fit for said position in the scheme due to the functional nature of the default. In fact, it serves the greater purpose of increasing attendance and contact among the nudged. This apparently obvious move has more value than what it looks like at first glance: the creation of a group to call community, comes with a variety of factors that are often very useful in pushing for behavioural change. This point will be analysed more clearly in the following section, and for this reason a question mark was added to signal a gap yet to be filled;

2. Providing incentives, either in the form of financial aid (investment funds for development-related goods), or in the form of digital devices directly provided by the nudgers. This is the core of the strategy, for the provision of these services is what, excluding all behavioural details, fosters social change and transition-coherent development. These elements give value to the project, while the behavioural strategies to implement them can only increase their effectiveness and penetration through the social strata: they represent the first and foremost convincing factor in the strategy, for when used to their full potential, they will lead to a convenient outcome for the nudged in terms of increases in income and literacy;
3. Providing information on the benefits of development and the usefulness of digital tools in education, employment, information and social status, as previously argued. Once again, there is a question mark related to this strategy, to signal, as underlined in point 1, the need for further clarifications on the role played by the community in this step.

Summing up, Figure 2 advances a strategy aimed at ensuring sustainable development penetrates through all social layers, especially disadvantaged ones. The scheme targets the issues related to the nudged's preferences and perceptions of the resources they are given, but as already argued, it can be used to target any desired behaviour. Aside from the content, the form of this model is that of a specifically designed default effect with convenience, personalisation and social elements that are aimed at boosting its efficacy, especially in the most marginalised contexts. This is what the author defined as a *default 2.0*, in very simple terms, a *default who has been strengthened by other nudges and stratagems*. However, in the previously mentioned strategies there is a further, hidden yet fundamental condition: the social element. As described in Chapter 3.4, humans being social animals, sociality is an aspect we cherish: consciously or not, we act in ways that allow us to conform and thus, reflect the values or the customs of the group we perceive as "ours", in more technical terms, our *reference network* (Bicchieri, 2016b).

4.5 Nudges in the Wild

What has been advanced in the previous sections is, summing up, a comprehensive approach to development whose efficacy relies on the use of nudges and behavioural interventions and whose recipients are the members of a given community. The strength of the model suggested lies in its adaptability to any development goal and any community, thanks to the universally appreciable power of the behavioural

strategies used. However, and as promised, the key element of the model suggested lies in the role of the targeted community itself. Recalling the ideas of Cristina Bicchieri and her *Norms In The Wild* (2017), the author would like to finally disclose the meaning behind the question marks on Figure 2. The purpose of the question marks was that of signalling a further element, and probably the most important one of the whole strategy: the shared values of the community. As explained in Chapter 3.4, in everyday life we are submerged in the complex and intricate network of social norms, the expectations that fuel them, and the preference we develop as a consequence, later reflecting into the choices we make. We might not believe in the inherent value of etiquette, yet we conform because know other do and expect us to do the same. Many of the actions we make are determined by links between ourselves, what we believe is generally ought to be done, and what other do and believe ought to be done. And ultimately, what generates these collective behaviours is the existence of said links among individuals, which take shape and name in the community, or even better, in the *reference network* (Bicchieri, 2016). Having already introduced collective behaviours and their classification, what the author would like to suggest in the following lines is how the incorporation of the social element could add value to the model. Now that all stratagems have been revealed, the final version of the initially suggested model would be the following (Figure 3).

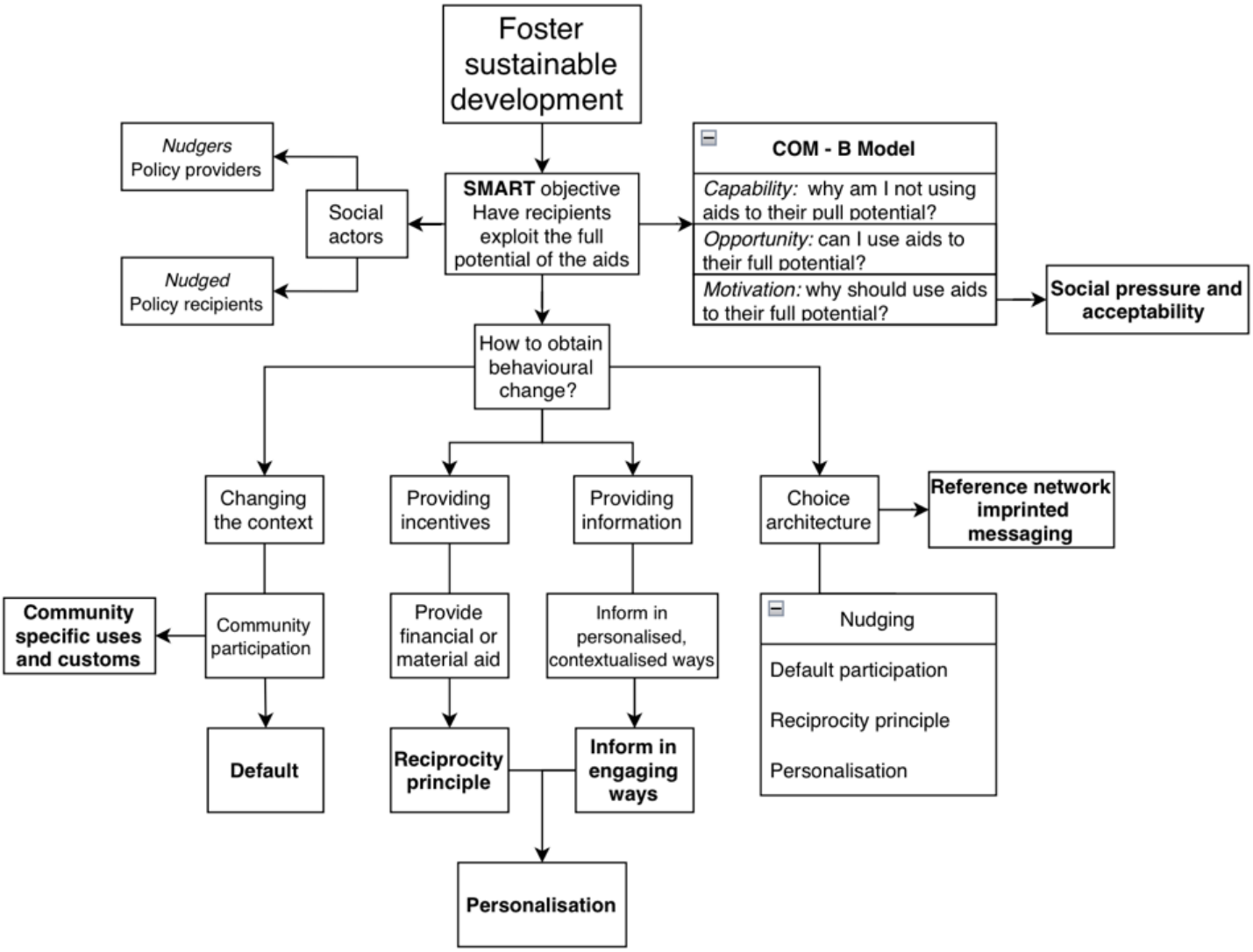


Figure 3

Sources: The COM-B Model for Behaviour Change - The Decision Lab, (Bicchieri, 2016), *personal elaboration*

Let us start by recalling the assumptions mentioned in Chapter 4.4, namely the existence of the nudgers (policy providers) and the nudged (policy recipients), and how the second are defaulted into participating in the development program. The path to follow is that displayed by the scheme, but in order for the model to be fully appreciable, the author will provide a further fictional, yet more realistic example. This time the target will be an imaginary marginalised and disadvantaged community among the ones previously mentioned in the Neapolitan area. These contexts are going to serve as practical e samples because it would be too ambitious of the author to target a significantly different culture from her own; plus, the author believes that the more the nudger knows about the uses and customs of the nudged, the better the outcome of the intervention. Having made this premise, let us call this fictional Neapolitan commune X.

X is a small, isolated community with a limited number of citizens, too far away from the capital for the government to notice the discomfort of those who live there; due to the lack of state intervention and proper employers, people organised criminal activities to earn what is necessary to live on. Suppose now, that the nudgers notice commune X and choose to target it with the intervention, which this time, will consist of the donation of digital devices aimed at fostering development through education, information, and all the other benefits technology can bring we already mentioned. The first phase of the strategy could look like this:

1. Selection of the nudged and arrival of the nudgers in the community, followed by the default insertion of the nudged in the development program. In this step, what is crucial is ensuring social contact among the nudged. They could meet regularly on a given occasion, however what matters in this regard, is for them to be in contact with each other and see how everyone is doing respectively to the program. The author believes that the maximum efficacy of the strategy is obtained when there is no need to create a community, for it already exists within the nudged. The latter is very likely to be the case of commune X, since these small realities are often very concentrated, and due to the exclusion by the rest of society, individuals tend to bond significantly among each other.

Once again, the author would like to put emphasis on the community, sufficiently small for everyone to be more or less in each other's reference network. The second phase would be the central one, for resources are going to be finally handed to the nudged.

2. In this case, let us focus solely on material goods like computers or tablets. What the nudgers need to do, more practically, is hand the aid and with personalised, targeted, tailor-made communications, motivating towards the usefulness of what was given in bringing education, employment, social advancement, information, and all the other benefits resulting from development. Using the same mechanisms Company A adopted in its note to an employee, the nudged could receive a series of messages imprinted in the following way:

"Dear Ludovica,

We are aware of the difficulties the schooling systems has in assisting every student the way he or she deserves, for this reason, we chose to donate you these tablets. With them, your boys will be able

to access books, newspapers, documentaries and worksheets anywhere and anytime. We believe education and information to be universal values everyone should be able to appreciate freely, and trying to achieve this we chose to gift you and your kids this opportunity. We want the best for you and your family, and really look forward to hearing which reading out of our recommendations you and the boys found the most interesting this week. This Wednesday at 12 we would love to hear it directly from you, during the first collective discussion of the suggested readings. Don't miss the chance to show everyone the worth of your ideas, in which we deeply believe.

Can't wait to see you there,

Take care,

Your Nudger"

This leads us to the third phase of the strategy, in which observation of the community is needed in order to understand the nature behind the misconduct (if present). In more general terms, studying the way the nudged respond to the initial stratagem is needed to a) understand how to improve outcomes in the future interventions and b) enter in the logic of the recipients' community dynamics.

3. Accordingly with Bicchieri's classification of collective behaviours, one now needs identify what usually leads people into misusing, not using at all, or using poorly the devices provided. Is it because the community perceives nudgers as outsiders, whose help is not welcomed, thus a collective belief resulting in the social norm of misbehaving? Is it simply out of necessity, in this case a mere custom led by the independent and diffused need of money? The only way to answer these questions would be that of observing the community from close enough to gather information. The ideal way of gathering necessary insights on the community would be that of joining their collectively spent time. This way one could not only gather information about the reference network, but also – in the ideal scenario – somehow melt in it. We now know that being part of the reference network translates into being influential in the community, and the nudger could use such influence to increase trust in the program, while creating emotional bonds with the nudged. Recalling the idea of personalisation, and the role played by empathy in evaluating options, the closets the link with the recipients, the more the likelihood of program compliance. Those who bound the most with the nudgers, thus trust them the most, are very likely to become trendsetters.

The third phase is mainly concerned with collecting insights from the community with the goal of introducing a collective change, leading to the following phase.

4. Once the collective behaviour has been diagnosed, it is time to apply the five-step process suggested by Biccheri (2017) to create or eliminate a social norm, based on what is preventing the nudged from using the resources to their full potential. Possible strategies include creating a normative expectation that, for instance, associates owning a computer and using it to gain information to concepts such as wealth, status and fashion;

Here the author would like to deeply analyse the role played by the community, which in reality, is almost independent from the presence of the nudger. Since individuals are in a reference network, we know that by

definition, they care about what others do and think ought to be done. For instance, not everyone might be convinced that selling the devices provided is right, still, they probably comply because others do: the belief behind such a behaviour is that of communicating the belonging to the community, by conforming in internal practices especially if they draw a line between those inside and the outsiders (the nudgers for instance). However, by creating a normative expectation in the community on the value (especially the social one) of being intellectuals and consuming information, this trend could change significantly. How often someone asks us "have you read about the las test news on the referendum?", and we reply by saying that, yes we read everything about it, even thought we did not? And after using all our skills to gather information on the event, be general, and ensure the other does not notice our lack of information, we are likely to open the web and search for that event. However, it is not like the other cared that much about our opinion! In fact, it is very likely that they were just trying to show how well informed they were! These dynamics occur everyday, and that is because we want others to see our worth. The same could happen in commune X, and is very likely to happen given the schedule of the program. Commune X being a closely linked community, where one is trying to create the normative expectation that being informed equals status, it is just a matter of time before people actually start gathering information and share it. And as soon as they do, empirical expectations will be fuelling the normative one, and if we are lucky enough, the typical bourgeoisie dynamic of cultural chitchatting could spread. Not by chance, the initial note stressed the importance of sharing what one learned during a weekly encounter in which everyone will do the same. This creates the empirical expectation that on Wednesday, my fellows whose opinion I care about since they are my reference network, will share what according to them is the most brilliant reading of the week: "I better come prepared too!" , this is the reaction the author would try to trigger. Now imagine a whole community, expecting the others to do their best and wanting to keep up and prove their worth in front of everybody. This dynamic is nothing more than what would happen in school, in which we would feel ashamed for not having studied because our class was witnessing. Whenever we are in public, we care about concepts such as reputation and social acceptability, and if properly architected, they can serve a greater good – just like nudges. Furthermore, this same stratagem has been proven to be effective by, once again, Bicchieri's studies on open defecation (2017): when associating owning a bathroom with wealth and status, a community who had been relying on the social custom of open defecation suddenly switched to the most civilised and hygienic option. The last element the author would like to underline, is the role of sharing ideas: not only it is good for the individual that "does the homework" to come prepared, it also allows others to listen to interesting concepts. The other side of the coin of "everyone reads and shares what they believe to be the most brilliant reading in front of everyone", corresponds to "everyone listens to what according to the others is the most brilliant reading". In other words, people learn individually trying to impress, and collectively as the others are trying to do the same. Clearly, that multiples the information by the number of community members who shared it: now, that is a spillover effect. Going back to the example of commune X, we have now reached the last and most banal step, namely

5. Evaluation of the outcomes and gathering of further information to make the program more precise and effective in the future attempts.

In fact, nudging stratagems can vary very quickly, especially when it comes to the phrasing for a message.

4.6 Applying *Nudges in the Wild* to waste management

The approach discussed in Chapter 4.5 is what the author theorised as the core of this thesis, and as something solely aimed at development in terms of assistance programs and support initiatives. It was only while drafting said chapters that the realisation about the versatility of the model came. Despite being born for addressing twin transition implementation issues, the approach appeared to be extremely versatile and adaptable to any collective behaviour. For this reason, this section will provide a further application example of defaults 2.0 and their potential in another problematic issue related to sustainability.

Waste disposal and recycling represent a critical challenge for many Italian communities. In particular, Naples and the surrounding communes are known for their poor trash management, whose impact in addition to the environmental and urban one, often translated in societal and even criminal threats. The practice of waste mismanagement in these areas, serves in fact as a basis for organised crime, turning a seemingly mundane issue like trash, into a complex and multi-faced problem. And unfortunately, this is not a new phenomenon. Trash management has always been an issue for the Italian South, however the problem gained significant media attention in 2008 when the term "Garbage Crisis" made its appearance on the press: Naples, one of Italy's most beloved tourist destinations, was besieged by an overwhelming influx of rubbish, with streets being flooded with trash. The *Camorra*, the notorious local mafia, saw this crisis as an opportunity, and infiltrated the waste management sector to illegally dispose waste, resulting in severe environmental and health hazards. The *Terra dei Fuochi* (*Land of Fir*e) became one of the most discussed topics in Italy: the moniker *Land of Fire* emerged from the hauntingly ubiquitous sight of open-air pits ablaze with refuse – a crude and harmful method to get rid of waste. The burnt waste often includes industrial remains, some of which contains hazardous and toxic chemicals that when burned, release into the air, the soil, and groundwater. Studies have proved how the increased rates of some types of cancers and other health issues among the residents of the area are likely linked to the contamination caused by these chemicals. As a result, the Italian government has tried to clean up the area and stop the illegal groups that engage in this illegal business, however, with poor results. Due to the influence of *Camorra*, weak enforcement of environmental regulation, and the lack of infrastructure, the issue remains a significant problem both to the residents and the land they inhabit.

In this landscape, solutions to waste disposal issues need to go beyond those related to traditional infrastructure approaches, tackling the heart of human behaviours and societal norms that enable such a problem to persist. This section seeks to explore the potential of *Nudges in the Wild* in this further dimension. Having come this far, the readers are now more than experts in the field and no preface, nor introduction to the following behavioural change strategy is needed. However, in order to design an effective

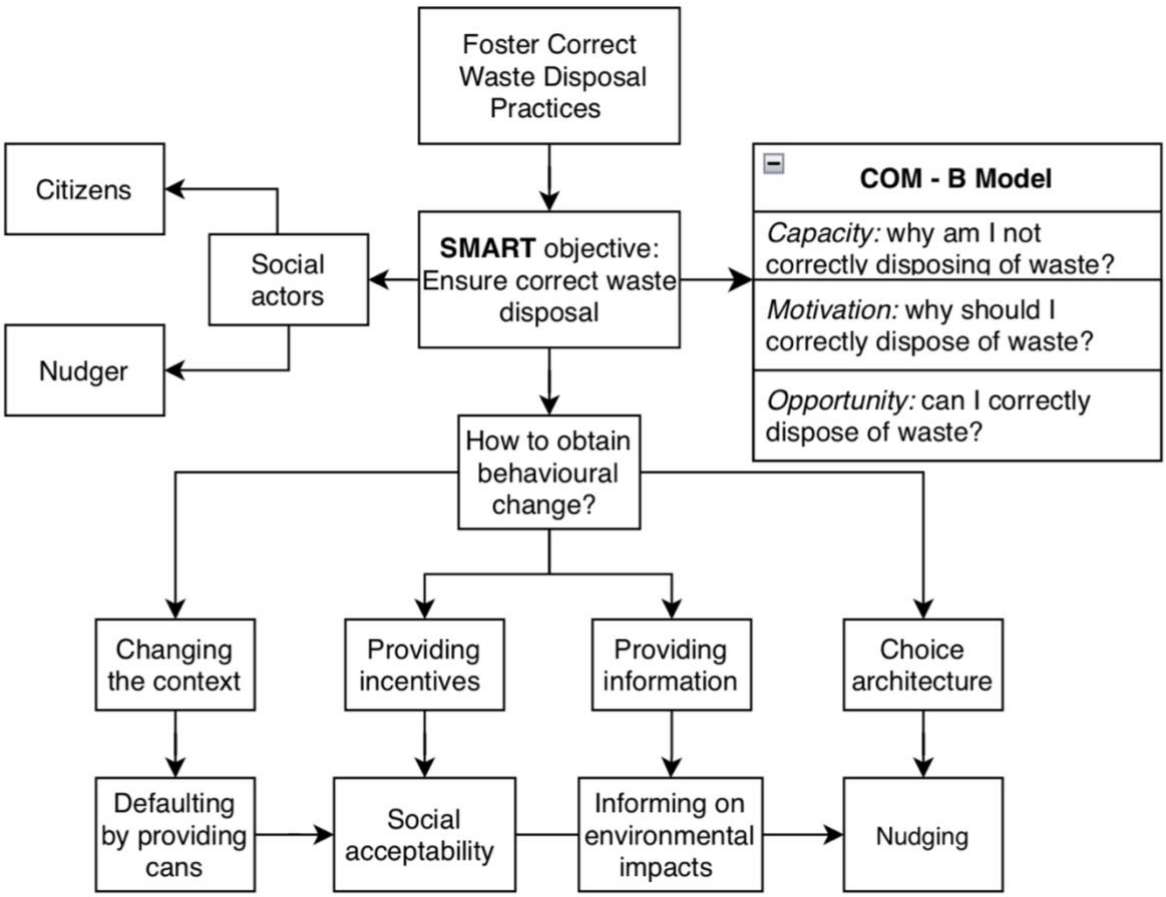
and targeted behavioural intervention, one needs to consider are the possible reasons that lead people into improperly disposing their waste.

The most probable ones are the following:

1. Lack of infrastructure: inadequate waste management infrastructure makes it difficult for people to comply with rules, since they are not practically enforced;
2. Limited awareness and education: many people may not be fully aware of the environmental and health consequences of improper waste disposal, especially in developing or disadvantaged context, where the information flow is limited;
3. Convenience and laziness: improper waste disposal can often be a result of convenience. If there are no convenient waste disposal options available, or if it requires extra effort to sort and dispose of waste correctly, people may opt for the easiest and quickest method, often corresponding with improper disposal;
4. Cultural and social norms: we know that cultural factors can influence behaviours, and in some communities, improper waste disposal practices may be considered acceptable or even the norm. Breaking away from established social norms can be challenging, particularly in disadvantaged contexts where resources and opportunities for change may be limited;
5. Financial constraints: limited financial resources can make it difficult for individuals to invest in waste management infrastructure. Assuming scarcity of resources – let us keep at least this from classical economics - individuals may prioritise basic needs over waste disposal, especially where poverty is prevalent;
6. Illegal waste networks: as mentioned, criminal organisations like the *Camorra* often engage in illegal activities such as illicit dumping or managing waste illegally for financial gain. The presence of such criminal networks can complicate waste management efforts and create challenges in fostering proper waste disposal practices, specifically when the community engages in these activities as well for personal gains.

Clearly, it appears that the reasons are many and diversified, thus it is unlikely for a policy to be able to cover all of them. Plus, issues like the lack of infrastructure necessarily require more substantial efforts in financial terms to be addresses, significantly impacting the feasibility of said, hypothetical interventions. Nonetheless, this thesis is focused on behavioural interventions, whose costs are extremely limited, if non-existent at all. With that being said, it follows that the issues our strategy is most fitted for are respectively number 2, 3 and 4; regarding 6, some improvements could be observed as spillover effects of the resolutions of the previously mentioned set of targetable behaviours (namely 2, 3 and 4). If individuals are aware of the impact their conduct has on the environment and their health, can easily access the most sustainable option and feel a social pressure to do so, it is extremely less likely for them to engage in criminal activities: it would be too inconvenient, and not worth the sacrifice. Furthermore, the intervention could target more generally organised criminality, and using the stratagems suggested by Bicchieri (2016), a social norm – in this case a stigma – could be introduced concerning these illegal actions. In fact, many policies and anti-

criminality programs feature elements of norm change, such as Positive Role Models and Mentoring, and Restorative Justice (Tilley, 2017). Not by chance, Bicchieri (2016) and many other scholars – as well as policy drafts – stress the importance of role models in shaping behaviour, and when needed, changing it. Concerning waste and littering, for instance, the state of Texas launched the “Don’t Mess with Texas” campaign in 1986 (*Home - Don't Mess With Texas*, 2022). This famous anti-littering program was launched by the Texas Department of Transportation (TxDOT) as a response to the growing littering practice along statal highways. The main objective of the "Don't Mess with Texas" was that of installing in Texans a sense of pride in the state's natural beauty, conveying the message that littering was not only detrimental to the environment, but also disrespectful to the state and its people. The assertive and humorous tone of the slogan resonated with Texans also through the featuring of famous celebrities like Matthew McConaughey and Willie Nelson. Despite having promised no further digressions, hopefully this paragraph provided more



context. Now, let us look at the behavioural mapping of the *Nudges in the Wild* – this time also in the trash – stratagem (Figure 4).

Figure 4

Sources: The COM-B Model for Behavior Change - The Decision Lab, (Bicchieri, 2016), *personal elaboration*

Summarising what is schematised above the main steps would be the following:

1. Introducing appropriate waste disposal infrastructure – a fancy word for trashcans – in a very accessible and central spot for the community. As mentioned already, proving cans like this equals a default. Concerning the location of said cans, we will come back on this on point 3 for more clarifications;
2. Along with the disposition of new waste disposal cans, everyone should receive a personalised message explaining the impact improper waste disposal can have on the environment and consequently, on those who inhabit the land, namely the targeted community. The message would be along the lines of the one cited in Chapter 4.5, thus it might look like this:

"Dear Ludovica,

We decided to donate to you and your community these containers to properly dispose of your waste. We know you might be aware already of the impact pollution has on the environment, but did you know that around 1.7 million deaths occur annually due to inadequate sanitation and poor waste management? If improperly disposed, your waste can contaminate water sources, leading to waterborne diseases such as cholera, typhoid, hepatitis, and gastrointestinal infections. Not to mention, open burning of waste releases toxic chemicals that pollute the air, leading to respiratory problems, lung diseases, and increased risk of cancer. For more information on the topic, scan the Qr code below!

Remember, your small actions, have big impacts! Share this information with your loved ones and take the lead in this collective change!

For further clarifications, you know how to contact us.

As always, take care and be the change!

Your Nudger"

Sources: (World Health Organization, 2018), (Air quality and health, 2018), *personal elaboration*

Again, personalisation, loss-aversion, and impactful data were used to strengthen the message communicated;

3. The ideal placement for disposal would be one such that everyone, or at least most individuals are able to see the way others are disposing of their waste. Are they correctly diving it into trash cans? Are they not? Even better, the nudger could make trash bins available only during a given time frame, to ensure maximum attendance in a small time span, making it impossible for one to take the trash out without running into someone else. Once again, social pressure and acceptability plays a big role in pushing people towards the most respectable behaviour;
4. As we already know, creating a social change requires social norms, thus people should believe that:
   a) correct waste disposal is importance and necessary;
   b) other people believe that correct waste disposal is important and necessary (normative expectations)
   c) given their belief, other people will correctly dispose of their waste (empirical expectation).

Thus, it is their best interest to correctly dispose of their waste since not only it impacts the environment, but also determines their role in their *reference network* (Bicchieri, 2017). To conclude on this, this behavioural

intervention aims to promote responsible waste disposal practices by leveraging strategies such as personalised messaging, strategic placement of waste disposal infrastructure, and the creation of social norms. Hopefully, by empowering targeted individuals and fostering collective responsibility, the intervention could make a tangible difference in these communities' approach to waste disposal and contribute to a cleaner, and healthier environment.

4.7 Conclusions

Those portrayed in Chapter 4.5 and 4.6 are the strategies the author would like to suggest: if individuals were rational, there pull be no need to convince them into full exploitation of resources, but by now we know how complex humans are in reality. Thus, to promote development the author believes irrationality, biases, and human emotions to be necessarily considered. Once again, what this thesis is aimed at is adding the human parameter to the equation, hoping it will lead to interesting results as it has done in the past. In order to do so, nudges were harnessed with other behavioural tailoring leading to what the author defined as a *default 2.0.* Later on, *defaults 2.0* were incorporated in the wider scope of social customs and collective behaviours, pushing for a change in people's perception of sustainable development and its importance. And by this hopefully reasonable fusion of nudges, sustainability, and social norms, *Nudges in the Wild* were born and applied to two sustainable development issues. With this term the author would like to pay a tribute to Bicchieri's work, which was of massive inspiration when designing the interventions and at the same time, to *Nudge* (2008), that holds a special place in the authors's heart. Nudges have in fact founded an entirely new branch of economics, and by doing so, suggested new approach to the issues of today, and the tomorrows yet to come. So far, we reasoned in rational, irrational, behavioural and social terms. Now all we are left with, is explore the ethical dimension of *Nudges in the Wild*, and see if other that doing good, they also inherently hold this concept.

5. Nudging for Good

In this last section the author will step aside from economics – both classical and behavioural – and dig in the realms of ethics. One would usually start by defining what ethics is, but definitions of this subject are often reductive and fail to grasp the inherent nature this term holds. Perhaps, one could start by saying what is ethical and what is not, and this could already do more justice to the topic. In the development of this chapter, as well an ethical formation in general, the author was massively – if not entirely – inspired by the words of the Italian philosopher Sebastiano Maffettone, of which she is an affectionate student. In our first classes, to have us introduced to ethics, Maffettone presented us with the Trolley Problem. This classical thought experiment presents a hypothetical situation in which a trolley car is heading down a track and is about to hit five people: a bystander observing the scene can either choose to do nothing and let the trolley

hit the five people or can divert it onto a different track where only one person is standing. When presented with this fatal scenario, us students tried suggesting what as bystanders we would have done, and we immediately were presented with the difference between "what we do" and "what should be done". At the end of the class, the Professor had guided us into realising that ethics is exactly that, the study of "what should be done", and how that may assume different shapes based on the strand of thought one believes in. Clearly, there was no answer to the Trolley Problem. Yet we all knew that for sure, whatever the outcome was, killing was not ethical. Ethics seemed to lie in what each one of us thought evaluating the situation. And the mere fact that we were so deeply questioning our beliefs trying to solve such an issue, was in reality the most ethical element of the whole situation. What the author sets out to do is question if, and to what extent, *Nudges in the Wild* are ethical.

5.1 Questioning *Nudges in the Wild*

Being the closely linked to the ETHOS Observatory of Public Ethics directed and founded by Maffettone, when in search for an ethical evaluation of *Nudges in the Wild*, there were no doubts on whom to ask. When questioning the ethicality of the strategy with Professor Maffettone, what emerged was that "if the nudges are aimed at good, then they are certainly ethical to some extent". In other words, since *Nudges in the Wild* seek to serve a greater good, they cannot help but be ethical. At the same time though, the idea of a greater good is deeply problematic. What do we mean with such a term? Is it greater for it serves a greater cause? Is it greater in material, maximising terms? Plus, the fact that there is an adjective next to the noun "good" implies the existence of a category of goods. What if the "greater good" is not the same as what other believe to be good? In more practical terms, and back to the example of commune X, imagine a highly educated and wealthy nudger (as the one able to put into practice the model could be), jumping in a community and imposing the performing of some actions with a top-down approach: that does not seem half as ethical. The difference between the ultimate objective of the nudger, led by their good intentions, and what they ultimately do, lies in the perception the nudged have of it. If the recipients of the strategy perceive a form of classism in almost violent terms is being forced onto them, clearly, there is little room for ethics. How many famous figures committed the most horrendous crimes, pursuing what according to them was good? For this reason, it appears that ethical issues arise when there is a discrepancy between what the nudgers believe and do, and what the nudged perceive of said beliefs and actions. One possible way to make sure the nudger and the nudged are aligned, is that of asking about the nudged's preferences. This ethical evaluation was proposed by none other than Cass Sunstein (2016). According to his research, preferences should be considered when evaluating a nudging strategy. To do that, he suggests submitting a pre-nudge survey to establish a *baseline preference*, later followed by a post-nudge survey to detect any changes among the two. This approach allows the nudger to evaluate whether a nudge respects and supports individual freedom, or if on the other hand, it mines or manipulates it. Clearly, if the preferences are independent from the nudge, then in that case, the nudge is ethical. However convincing this stratagem looks, at the same time, it misses a point: what people prefer, is often different from what they need, otherwise no intervention would be

needed! In fact, the pre and post preference approach works if the individual is fully willing and informed about the outcome they desire. If one wants to lose weight, there is little or nothing to know other than that: if one wants to get in shape, they are very likely to accept a nudging strategy aimed at helping them reach their goal, for they recognise the value it holds. On the other hand, if the recipients of a policy do not fully grasp the value it brings, clearly, their preferences might be affected. Such is the case of most development policies, which exist specifically to make people understand the value of knowledge and skills, and help them developing them. This leads us back to *Nudges in the Wild*, a strategy that if submitted to Sunstein's test, would probably fail being addresses as ethical. But what emerged, is that ethical problems arise when there are discrepancies between the nudger and the nudged: in other words, if the good of the nudger differs from the one of the nudged, the policy becomes ethically questionable. Despite this might initially sound unsettling, due to the certainty of a gap – which the policies are in fact trying to close – there are other methods to align the nudger and the nudged. Imagine a spaceship landed on Earth, and the alien species arriving on it tried to teach us humans how to do a series of things, which however, we fail to understand for they speak a completely different language. On the other hand, if the aliens spoke our language, and we could understand each other, we could realise that those apparently nonsense sounds and gestures were actually aimed at teaching us how to pollute less, produce more, and join the wider space-market with our newly and progressively produced goods. A similar dynamic could take place between the nudgers and the nudged, if the nudgers, instead of speaking in a difficult way, suggested the nudging strategy in terms the nudged could appreciate. For this reason, the author previously explained why the closer the nudgers is to the culture of the nudged, the higher it is the likelihood of success: the more the nudger knows the culture of the nudged, the more they will be able to communicate similarly. Certainly, the ultimate goals need to be development-related, yet one could find a *modus operandi* achieving them, and at the same time, making sure the recipients of the policy desire it. For instance, the inclusion of culturally typical elements of the recipients' community in development policies is often seen as an effectiveness-enhancing method. If people enjoy what they are doing, or at least perceive it as something theirs rather than imposed from above, clearly success rates increase. In this regard, several studies have been conducted in the healthcare sector to improve overall health of indigenous community. Such is the case the Indigenous Health Policy Framework in Australia, a comprehensive approach aimed at incorporating healthcare services with community involvement. The key component of this approach is the strong emphasis on cultural competence: by incorporating indigenous cultural factors (such as rituals) into the policy, the health services provided are more welcomed. To conclude on this example, it appears that overall, the recognition and respect of unique cultural uses and customs through specifically designed policies can increase their effectiveness, as well as the well-being of the individuals targeted. We thus reach the conclusion that, in addition to aligning the nudger's goals with those of the nudged, the incorporation of cultural rituals and practices can play a significant role in promoting successful nudging strategies. In the case of indigenous populations, rituals consisted in specific actions performed by a shaman believed to be benefitting for health. More generally,

rituals hold a central place in communities: they serve as symbolic expressions of the unique cultural identity and foster a sense of belonging.

5.2 *Nudges in the Music*

However, when speaking of these practices, one often finds looking at very exotic examples, neglecting how closer domestic dimensions can see the host the same dynamics. Gathering for coffee and conversation, visiting local markets, participating in communal events: these actions fall within the definition of rituals. And recognising and respecting these cultural practices, is extremely important when designing a collective change. By accounting for the specific rituals of the targeted community, nudging policies can tap into their power to enhance the effectiveness. For example, in disadvantaged communes near Naples, where cultural practices and rituals hold great significance, leveraging these traditions within waste management initiatives can encourage correct waste disposal behaviours. By incorporating local customs and values, such as community clean-up days integrated with traditional celebrations or rituals, nudging strategies can be better received and embraced by the residents. This approach not only makes the policies more relatable and engaging, but also instills a sense of ownership and pride among the nudged, making them more likely to adopt and sustain proper waste disposal practices. Such was the case of "Don't Mess with Texas", an intervention aimed at strengthening the anti-littering message by leveraging the Texan pride of citizens. Going back to commune X, located in Southern Italy,
the cultural practices and rituals deeply embedded in the community's identity offer a rich foundation for effective nudging strategies. Among the myriad of traditions, music stands out as a widely diffused, appreciated, and historically rooted practice as well as a unifying force, bringing people together and evoking a sense of shared identity. By recognising the cultural importance of music in commune X, nudging interventions can leverage this powerful medium to foster correct waste disposal behaviours and promote community engagement. For instance, accompanying messaging aimed at infusing more sustainable behaviours with traditional folk music elements could make individuals perceive sustainability as something more “theirs”. Recalling the iconic *Torna a Surrient*o:

“***Vide 'o mare quant'è bello.***
Allora chist’ mare salvaguardiamolo!
Limitiamo l’uso della plastica, che finisce per inquinare le nostre spiagge.
Insieme, renderemo il nostro ritorno a Surriento ancora più meraviglioso!"
Sources: "Torna a Surriento," 1894, *personal elaboration*

Translation: “**Look how beautiful the sea is.** Then, let us safeguard it! Let’s limit plastic usage, that ends up polluting our beaches. Together, we will make our return to Surriento (Sorrento) even more marvellous!”

Similar messages can be designed to address other sustainable aspects, like food waste, water usage and waste disposal. Moreover, engaging local musicians and artists into composing, performing or creating original

installations to convey sustainable messages about the importance of sustainability can further enhance the effectiveness of nudging strategies. In conclusion, by integrating music, a cherished cultural practice, into the fabric of the nudging interventions, the policies become more relatable, resonate deeply with the community, and have the potential to inspire lasting behavioural change. The next section will in fact cite an existing and ongoing example of social change conducted through music and, more specifically, the Neapolitan theatre tradition.

5.3 Community Music

In the previous discussion, we highlighted the significance of music in Neapolitan culture and its potential to permeate through the community horizontally, regardless of social class. Anyone in the city, from the bourgeois to the humble worker knows about famous Neapolitan composers. According to Maffettone, if there is an element that permeates Naples and its neighbouring communes across all social classes, that must be music. Not only that, oftentimes, something as traditionally associated with "the rich" as the opera, has its *connaisseurs* in the most disadvantaged contexts. As a matter of fact, Naples is worldly known for being a cultural hub, where everyone has a deep connection to classical music and the opera. For this reason, if one had to adopt a development program such as *Nudges in the Wild* in Neapolitan contexts, and needed to find a cultural aspect to associate it with to permeate through the community horizontally (rather than vertically), music would be the ideal choice. Building upon that, the author would like to introduce Community Music and Community Opera as innovative approaches aligned with the idea of using music as a tool for social change and development in disadvantaged communities. Dinko Fabris, a renowned Italian musicologist, has been at the forefront of the Community Music movement, which aims to bring about socio-cultural change through music in the most marginalised contexts.

Inspired by projects such as El Sistema in Venezuela, which uses music as a social resource for children in disadvantaged neighbourhoods, Fabris initiated a research project on Community Opera in collaboration with the University of Matera and L'Albero Cooperative. For the celebrations of Matera European Cultural Capital 2019, Fabris worked on a bottom-up opera project, which later saw the creation and performance of *Silent City*, known as the first European Community Opera. Since 2020, he has been working to a new Department of Research Publishing and Communication at the San Carlo Theater in Naples, where Community Opera is being gradually declined in the Neapolitan context. Fabris' endeavour seeks to explore the potential of the opera as a horizontal and inclusive form of performance that can create a positive impact on communities. By declining music, and in this case, theatre in more collective, social, and democratic terms, Community Opera seeks to overcome its historical critiques of being classist and limited in scope. Not only that: what Fabris aims to do is fostering development through this innovative initiative. The communitarian revolutionary approach in the musical field aligns with the evolving nature of cultural practices and the need for more democratic and progressive forms of artistic expression.

It demonstrates interests and efforts in shifting towards using music as a powerful tool for social justice, inclusivity, and community development.

Linking back to the concept of nudging, the inclusion of Community Music and Community Opera as cultural practices associated with nudging strategies in Neapolitan contexts can enhance the effectiveness and acceptance of these interventions. As explained, music, being deeply embedded in the cultural fabric of Naples, has the potential to resonate with the community at a profound level. Incorporating music-based initiatives can foster a sense of ownership, promote social cohesion, and inspire positive behavioural change within the community. Community Opera is trying to ride this wave of change, hoping to have a monolithic concept such as the opera, evolve in more just and progressive ways.

In conclusion, this chapter explored the ethical dimension of *Nudges in the Wild* and emphasized the importance of aligning the notion of "good" with the preferences of policy recipients, while at the same time, considering and leverage cultural factors. Laslty, the exploration of Community Music and Opera as vehicles for social change further emphasised the importance of cultural factors in designing ethical nudging interventions. By leveraging the power of music and embracing innovative approaches, nudging strategies can tap into the unique cultural identity of Naples and foster a more inclusive, progressive, and just society.

Conclusions

We began with classical economics with an emphasis on its rational, self-interested model, its flaws and limitations: we focused on the inability to account for the irrational behaviours characterizing humans, along with the negligence towards externalities such as the environment and pollution. Seeking for an alternative, more sustainable, and just approach, we introduced the twin transition, its premises, goals, and issues met in the implementation process. This led to a discussion of the behavioural model, which, on the other hand, provides a more human, and realistic approach to economics and decision-making. The concepts of heuristics, biases, nudges and social customs have been provided as a path to redirect humans towards the optimal choice, especially in sustainable terms. Later on, the concept of *Nudges in the Wild* was introduced as an innovative strategy to influence collective behaviours and societal outcomes. This strategy was demonstrated to be particularly effective when used in a culturally sensitive way that respects and acknowledges the unique characteristics and needs of the target group. However, the ethical implications of such strategies cannot be overlooked. Thus, we successively delved into an ethical evaluation: we understood that to be ethnical one cannot simply pursuit a "greater good". The inclusion of the nudged’s preferences in the evaluation process is vital, for it ensures the respect of individual freedom, avoiding any form of manipulation. The case study of Community Music and Opera in Naples, exemplified how a deep understanding of the cultural context, can lead to transformative social and economic advancement. This project reflected the power of culturally tailored nudges: hopefully, *Nudges in the Wild* have the potential to reshape societal norms and behaviours in a way that promotes social justice and progress. Considering these

discussions, this thesis posits that nudges, when used responsibly and ethically, can play a pivotal role in fostering sustainable development. However, the importance of cultural sensitivity, ethical considerations, and the inclusion of the target group's preferences cannot be overstated. Lastly, this document underscores the importance of an interdisciplinary approach to understand economic behaviour: by incorporating insights from psychology, sociology, ethics, and culture, we can develop more holistic and effective strategies for influencing collective behaviours and achieve more sustainable and just societal outcomes.

Recalling what was said in the introduction, if, in the vast tapestry of knowledge, this thesis has contributed to even a single word, or inspired the reader to contemplate another line, then the author's satisfaction shall be profound. And as we turn the page and continue writing the next chapter, let us embrace the spirit of inquiry and embark on new adventures of discovery toward a brighter and more enlightened future.

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Executive Summary

La tesi *Nudges in the Wild* esplora l'intricata interconnessione tra economia, comportamento umano e società attraverso, innanzitutto, un'indagine critica dell'economia classica e delle sue implicazioni nell'era attuale. Un'enfasi significativa è posta sul concetto di *nudge* e sul cambiamento delle norme sociali come potenziale strumento per promuovere il benessere sociale e ambientale, mantenendo il rispetto per l'autonomia individuale ed il contesto culturale.

La tesi inizia introducendo le radici dell'economia classica attraverso le opere di Adam Smith, David Ricardo e John Stuart Mill: viene sottolineata l'enfasi di queste teorie sul ruolo dei mercati nell'allocazione delle risorse, l'importanza dei diritti di proprietà privata e la capacità dei mercati di autoregolarsi. L'autore passa poi a una discussione sull'ascesa del modello neoclassico come spiegazione della crescita a lungo termine delle economie e il cambiamento tecnologico - alcune lacune lasciate senza risposta dall'economia classica. In seguito, viene condotta un'analisi critica di questi due modelli, con particolare attenzione ai loro limiti: nello specifico, il testo fa riferimento alla forte dipendenza di queste teorie da ipotesi irrealistiche, come individui perfettamente razionali e dotati di informazioni perfette, ed alla trascuratezza di variabili significative come la distribuzione del reddito, le esternalità ambientali, lo status sociale e il ruolo delle istituzioni. In altre parole, l'autore - attraverso una revisione della letteratura - suggerisce che i modelli classici e neoclassici si concentrano esclusivamente su variabili aggregate, quindi semplicistici e riduttivi. Successivamente, il Capitolo 1 offre una panoramica della crisi climatica e pone ulteriore attenzione alle teorie precedentemente citate, questa volta in termini ambientali. Infatti, tali modelli presuppongono - erroneamente - risorse infinite e una crescita economica illimitata. È evidente che questo assunto trascura gli effetti negativi delle attività umane sull'ambiente, che negli ultimi decenni hanno contribuito in modo significativo alla radicalizzazione del cambiamento climatico, all'esaurimento delle risorse naturali, all'inquinamento e alla perdita di biodiversità. Il primo capitolo si conclude sottolineando la necessità di passare dal modello economico tradizionale e lineare a uno più complesso e multidimensionale, in grado di tenere conto dei fattori esterni e delle distribuzioni sociali. Questo approccio circolare richiede una doppia transizione verso un mondo più sostenibile, digitale ed equo.
Il Capitolo 2 della tesi approfondisce il concetto della twin transition, un termine che si riferisce alla trasformazione coordinata dell'economia e della società nel suo complesso per rendere l'umanità più sostenibile e neutrale dal punto di vista climatico e digitale. Il documento procede con la scomposizione della twin transition nelle sue due componenti principali: sostenibilità e digitalizzazione. Diventare più verdi (capitolo 2.1) significa muoversi verso un'economia sostenibile, a basse emissioni di carbonio e consapevole: ciò include strategie come l'abbandono dei combustibili fossili, la transizione verso fonti di energia rinnovabili, l'implementazione dell'efficienza energetica e l'investimento nello sviluppo di nuove tecnologie. Inoltre, gli individui dovrebbero essere incoraggiati ad adottare pratiche ecosostenibili come la riduzione dei rifiuti, l'uso dei trasporti pubblici, la minimizzazione dell'uso dell'acqua e altro ancora. L'autore prosegue

sottolineando l'integrazione della trasformazione digitale in quella sostenibile (Capitolo 2.2): le tecnologie digitali, come l'apprendimento automatico, l'intelligenza artificiale, l'IoT e la Blockchain, sono infatti ampiamente coinvolte nella progettazione di nuove soluzioni aziendali sostenibili, nel miglioramento dell'efficienza della catena di fornitura e nella riduzione degli sprechi. Per non parlare del ruolo che queste tecnologie possono svolgere nel monitoraggio e nella rendicontazione delle emissioni di carbonio.
La sezione seguente, il capitolo 2.3, espone come, nonostante l'importanza di trasformare il nostro sistema per combattere il cambiamento climatico e guidare l'innovazione, vi siano ostacoli significativi alla doppia transizione. Un obiettivo così grande e collettivo deve essere perseguito garantendo che nessuno venga lasciato indietro, soprattutto i gruppi emarginati e svantaggiati. Queste sfide possono essere ridotte a tre macro-gruppi: Dimensione sociale ed economica (Capitolo 2.3.1), Costi iniziali e finanziamenti (Capitolo 2.3.2) e mancanza di coerenza delle politiche (Capitolo 2.3.3). Nelle sue osservazioni finali, il Capitolo 2 sottolinea l'importanza di superare questi problemi e come, in realtà, sia possibile trasformarli in ulteriori opportunità.
Il capitolo 3 inizia "riavvolgendo il nastro", sottolineando ancora una volta la necessità di un modello economico più innovativo: gli approcci neoclassici e classici sostenevano la massimizzazione, ignoravano le esternalità ambientali e si basavano pesantemente su mercati perfetti, concorrenza perfetta e consumatori perfettamente razionali. Tuttavia, l'autore ritiene che la razionalità e la perfezione siano fuori dal dominio umano, almeno per quanto riguarda il processo decisionale e l'economia. Di conseguenza, l'approccio comportamentale viene introdotto (Capitolo 3.1) come alternativa in grado di tenere conto dell'irrazionalità umana e come strategia per mitigarla. I lavori di Kahneman e Tversky (2011), Thaler e Sunstein (2008) e Cristina Bicchieri (2017) sono portati all'attenzione del lettore come pietre miliari nella ridefinizione del processo decisionale umano in termini più realistici (rispettivamente Capitolo 3.2, 3.3 e 3.4). Particolare attenzione viene data al Sistema 1 e al Sistema 2, alle euristiche e ai *bias*. Nella Sezione 3.4, l'autore fornisce una breve ma dettagliata sintesi di *Norms In The Wild di Bicchieri* (2017), introducendo le nozioni di comportamenti indipendenti e interdipendenti, aspettative empiriche e normative e *reference network*. Il capitolo 3 si conclude suggerendo come le politiche di *nudge* e di cambiamento delle norme sociali possano essere applicazioni particolarmente rilevanti dell'architettura della scelta nel guidare gli individui verso risultati più vantaggiosi e sostenibili.

La seconda parte della tesi si concentra sulla comprensione del ruolo dell'architettura delle scelte - in particolare dei *nudge* e delle norme sociali - nella promozione dello sviluppo sostenibile. Questa sezione è la più creativa in termini di stratagemmi originali suggeriti dall'autore, il cui obiettivo era quello di fornire un quadro operativo completo che rendesse conto in termini economici, psicologici e sostenibili.
Dopo aver spiegato brevemente come e perché l'autore ha scelto di utilizzare l'approccio funzionalista (sezione 4.1), viene proposta l'idea di utilizzare un effetto *default* rafforzato (i cosiddetti *default 2.0*) per manipolare le opzioni disponibili e guidare gli individui verso scelte di vita più sostenibili. A tal fine, viene presentata una possibile implementazione dei *default 2.0* - l'esempio dell'azienda A (Sezione 4.3).

Successivamente, il capitolo si addentra nell'esempio più realistico e complesso di un'ipotetica Comunità "X" (Sezione 4.4).
L'intervento proposto dall'autore mira a stimolare e valorizzare i comportamenti di sviluppo sostenibile. Per farlo, l'autore descrive dettagliatamente un intervento che prevede l'uso dei già citati *defaults 2.0* insieme al cambiamento delle norme sociali e ad alcuni adattamenti emotivi e culturali su misura. Lo scenario ideale suggerito è quello in cui i *nudger* (gli attori che forniscono le risorse, coloro che applicano il *nudge*) si affermano come membri della comunità, ponendo le basi per un'influenza sociale potenzialmente trasformativa: dimostrando il loro impegno verso la comunità e creando forti legami, i *nudger* potrebbero tentare di modificare le norme sociali prevalenti - dal momento che ora fanno parte del *reference network*. Ad esempio, se la comunità ha attualmente una convinzione collettiva che porta a un uso improprio o negligente dei dispositivi digitali, i *nudger* potrebbero cercare di sostituire questa norma con una nuova che valorizzi e promuova un uso corretto dei dispositivi. Collegando ripetutamente l'uso dei dispositivi digitali a risultati positivi, i *nudger* potrebbero gradualmente modificare le percezioni e le norme della comunità.
Tuttavia, il vero fulcro della strategia è il ruolo della comunità stessa e, soprattutto, le nozioni di accettabilità sociale e di status: il centro dell'intervento è infatti il desiderio di accettazione degli individui, che dovrebbe - idealmente - portarli a comportarsi secondo la politica implementata dai *nudger*. In altre parole, se i *nudger* riescono a instillare alcune aspettative sul fatto che a) l'informazione è un bene culturale e sociale importante, b) le altre persone credono in questa affermazione e c) data la loro convinzione, le altre persone si comportano di conseguenza e si aspettano che gli altri facciano lo stesso, sarà nel miglior interesse dei *nudged* (i destinatari del programma di fornitura di risorse, coloro che ricevono il *nudge*) usare i dispositivi digitali come fonti di informazione. Inoltre, l'autore prevede anche una serie di momenti collettivi in cui tutti i membri della comunità possano - e sono caldamente invitati a - condividere ciò che hanno imparato in determinati periodi di tempo; si potrebbe pensare a un appuntamento settimanale. Questo alimenta il desiderio individuale di imparare qualcosa: essere in grado di impressionare il *reference network*, significa favorire uno status sociale e un ruolo nella comunità. Inoltre, le persone imparano individualmente cercando di impressionare, e collettivamente perché gli altri cercano di fare lo stesso - moltiplicando la quantità di informazioni raccolte per individuo per il numero dei membri della comunità.
Tuttavia, è essenziale notare che questo processo può richiedere tempo e richiede una profonda comprensione delle norme, delle credenze e dei bisogni esistenti nella comunità; per questo motivo, si afferma che più la cultura del *nudger* è vicina a quella del Comune X, maggiori sono le possibilità di successo. Il processo richiede anche flessibilità e adattabilità da parte dei *nudger*: essi devono essere disposti a imparare dalla comunità e adattare le loro strategie in base al feedback e alle risposte che ricevono. Per esempio, se scoprono che i membri della comunità sono più propensi a usare i dispositivi digitali per determinati scopi, potrebbero dover adattare le comunicazioni e gli incentivi per concentrarsi su questi usi specifici. A questo proposito, ulteriori approfondimenti possono essere trovati nel capitolo finale della tesi.

Questo ci porta al capitolo 4.6, che cerca di esplorare l'applicazione della già citata strategia di *nudging* dei *defaults 2.0*, in un contesto diverso: la gestione e il riciclo dei rifiuti, con un'attenzione particolare alla crisi dei rifiuti di Napoli e delle aree limitrofe in Italia. L'autore sostiene che le tattiche sviluppate per incoraggiare gli individui a utilizzare le risorse disponibili in modo efficace possono anche affrontare i problemi di cattiva gestione dei rifiuti, a vantaggio dell'ambiente e della salute pubblica. Dopo aver identificato le cause principali della gestione impropria dei rifiuti, l'autore suggerisce come gli interventi comportamentali possano affrontare positivamente le questioni legate alla scarsa educazione in materia, alla convenienza e alla pigrizia, nonché alle norme culturali e sociali.

Tuttavia, la maggior parte delle motivazioni che spingono le persone a gestire in modo scorretto i propri rifiuti sono legate a fattori economici, come la mancanza di infrastrutture adeguate per i rifiuti e le persone che si dedicano allo smaltimento illegale degli stessi per guadagno personale attraverso attività criminali. A causa della radicalizzazione del problema dei rifiuti in queste aree, insieme ai vincoli di bilancio degli individui stessi e del Comune come amministrazione locale, e persino al coinvolgimento di organizzazioni criminali, nuovi e più innovativi piani che implicano pochi investimenti - come le politiche comportamentali - potrebbero rappresentare una soluzione fattibile. Inoltre, si potrebbero ottenere alcuni effetti di ricaduta in termini di limitazione del raggio d'azione della *Camorra* su questo tema, uno dei principali attori coinvolti in questa crisi: è meno probabile intraprendere attività criminali se ne si comprende l'impatto sull'ambiente e sulla salute, se si ha facile accesso a opzioni sostenibili e se si sente una pressione sociale a smaltire correttamente i rifiuti. Inoltre, la strategia potrebbe essere rivolta alle attività criminali organizzate in modo più ampio, e introdurre uno stigma sociale nei confronti di queste azioni illegali. Dopo aver esaminato alcuni interventi simili, l'autore suggerisce questa ulteriore applicazione dei *Nudge in the Wild*, caratterizzata dall'aumento dell'accessibilità delle infrastrutture per lo smaltimento dei rifiuti, insieme - ancora una volta - a messaggi personalizzati, pressione sociale e cambiamento delle norme sociali.

Come la strategia precedente, il modello fa molto affidamento sull'accettabilità e sulla pressione sociale, che - secondo il piano - dovrebbe spingere le persone a smaltire correttamente i propri rifiuti grazie al fatto che lo si fa pubblicamente.

Nella conclusione del Capitolo 4, l'autore sottolinea l'importanza di considerare l'irrazionalità umana, i pregiudizi e le emozioni quando si promuove lo sviluppo sostenibile. L'obiettivo della tesi è infatti quello di incorporare i parametri umani nell'equazione, portando all'applicazione dei *default 2.0* nel contesto più ampio delle intuizioni comportamentali, delle abitudini sociali e dei comportamenti collettivi.

La strategia prende il nome di *Nudges in the Wild* per rendere omaggio al libro *Nudge* (2008) e al pensiero complessivo di Bicchieri, in particolare *Noms In The Wild* (2017), che hanno entrambi influenzato notevolmente lo sviluppo degli interventi. Queste fonti sono considerate fondamentali e fondanti per una nuova branca dell'economia, che promuove nuovi approcci alle questioni contemporanee.

Dopo aver esaminato le dimensioni razionale, irrazionale, comportamentale e sociale, l'autore suggerisce che la parte finale della tesi esplorerà la dimensione etica di *Nudges in the Wild*, determinando se questi interventi non sono solo benefici ma anche intrinsecamente etici.

Nel Capitolo 5, "Nudging for Good", l'autore si avventura nel regno dell'etica. Ispirandosi agli insegnamenti del filosofo italiano Sebastiano Maffettone, l'autore mette in discussione gli interventi proposti e ne verifica l'eticità. Secondo Maffettone, i *nudge* che mirano a un "bene maggiore" possono essere considerati in qualche misura etici, perché perseguono un risultato vantaggioso per i destinatari delle politiche. Allo stesso tempo, però, il concetto di "bene superiore" è problematico a causa della sua intrinseca soggettività. I problemi etici possono sorgere quando c'è una discrepanza tra le convinzioni e le azioni del *nudger* e la percezione di coloro che vengono guidati. Per trovare una soluzione a questo problema, Sunstein (2016) propone di valutare i *nudge* prendendo in considerazione le preferenze di coloro che ne sono oggetto, idealmente attraverso sondaggi pre- e post-*nudge*. Tuttavia, l'autore sottolinea che le preferenze delle persone possono differire dai loro bisogni, il che implica che questo approccio potrebbe non essere sempre eticamente valido.

Un modo per affrontare questo problema, come proposto dall'autore, è quello di allineare le intenzioni e la comprensione del *nudger* e del *nudged*; a questo proposito, l'autore sottolinea come la competenza culturale del *nudger* sia fondamentale, in quanto consente una comunicazione efficace e un migliore apprezzamento della strategia di *nudging* da parte del *nudged*. L'incorporazione di elementi culturalmente specifici nelle politiche di sviluppo, dimostrata da esempi pratici, viene proposta come possibile soluzione a questo problema - anche in aree meno esotiche, dove i rituali esistono, ma in forme che spesso non riusciamo a riconoscere perché abituali. In sintesi, l'autore conclude che l'allineamento degli obiettivi del *nudger* con quelli del *nudged*, il riconoscimento e l'integrazione di pratiche culturali e rituali sono importanti per promuovere strategie di *nudging* etiche e di successo.

La sezione 5.2, "Nudges in the Music", presenta un esempio di come le pratiche culturali locali, come la musica, possano essere incorporate nelle strategie di *nudging* per colmare il divario tra il *nudger* e il *nudged*. L'autrice sostiene che l'integrazione di queste pratiche culturali nelle strategie di *nudging* può renderle più relazionabili e coinvolgere la comunità in modo più efficace. Questo approccio è illustrato attraverso esempi di iniziative per la gestione dei rifiuti a Napoli, dove il ricorso alle usanze locali può aumenta significativamente l'efficacia delle strategie di *nudging*. Più avanti, la sezione 5.3, " Community Music ", sottolinea il ruolo della musica nella cultura napoletana e il suo potenziale di permeare orizzontalmente la comunità, indipendentemente dalla classe sociale. L'autore introduce il concetto di Community Music e Community Opera come approcci innovativi per il cambiamento sociale nelle comunità svantaggiate. Queste iniziative, promosse dal musicologo Dinko Fabris, mirano a utilizzare la musica come risorsa sociale per promuovere lo sviluppo e creare un impatto positivo sulle comunità.

In conclusione, il Capitolo 5 presenta un esame completo delle considerazioni etiche e dei fattori culturali associati all'attuazione delle strategie di *nudging*. L'inclusione di pratiche culturali, come la musica, è evidenziata come un potente strumento di cambiamento sociale, che promuove l'impegno della comunità e ispira comportamenti positivi.

La tesi si conclude ricordando la dialettica dello sviluppo come un processo continuo ed eterno, attraverso la quale l'autore esprime soddisfazione se la sua tesi ha contribuito, in qualche modo, al *corpus* di conoscenze

esistenti, o ha alche semplicemente ispirato la contemplazione e l’ulteriore indagine dei temi trattati. L’aspirazione è quella di continuare verso un futuro più luminoso, ed illuminato.