TRAINING METHODOLOGY:
The application of the behavioural approach to tourism sustainability

nudgemytour.com

NUDGE MY TOUR METHODOLOGY: Introduction

The tourism ecosystem is a crucial contributor to the global economy: before the Covid-19 pandemic, it contributed to nearly 10% of GDP in Europe, and generated about 12% of European jobs. At the same time, tourism-related activities have an impact on global warming, greenhouse gas emissions and biodiversity degradation. If poorly managed, tourism can cause harm on the natural and cultural heritage, and on local communities.

In the current context of climate crisis, and uncertainty concerning the socio-economic stability, the tourism sector faces unprecedented challenges. A paradigm shift is needed to re-think the way tourism activities are planned and managed, and to re-balance priorities when it comes to tourism development.

Within this context, more and more people are becoming aware of the necessity to travel more sustainably. According to a report by Booking.com, most (76%) travellers declare that they want to travel more sustainably. However, when it comes to their actual travel choices, the percentage of those who choose sustainable travel options decreases greatly.

This intention/action gap can be explained by several factors, many of which are closely related to the way human beings think, decide and behave.

Behavioural science can play a crucial role in helping to make the sustainable travel options the easiest and seamless, using insights about human behaviour, and to design better tourism activities and policies, towards a more sustainable sector.

The Nudge My Tour methodology aims to provide a comprehensive overview of the application of behavioural approaches to tourism sustainability. The objective of this pedagogic tool is to propose a behavioural lens to look at the current and future tourism challenges, with some theoretical insights, concrete examples, and case studies.

Target audience

The methodology is addressed to trainers and teachers who work in the tourism field, and who provide training and capacity building to two types of final audiences:

- On one hand, tourism planning and destination management professionals (hereafter called PRACTITIONERS)
- On the other hand, university (Master) students in tourism/destination management, tourism planning, destination marketing, etc. (hereafter called STUDENTS).

Content

This methodology is composed of four teaching modules:

- Teaching Module 1 presents some key facts and figures about tourism, to illustrate the importance of the sector and the current and future challenges.
- Teaching Module 2 illustrates the current approaches adopted by policy makers to address sustainability issues when it comes to tourism. It also gives an overview of sustainable tourism measurement.
- Teaching Module 3 presents the fundamentals of behavioural science. It explains some of the most current theories behind the study of human behaviour and of decision-making

mechanisms. It allows to better understand how human beings really think and make decisions, and it provides a methodological framework to build and test a nudge.

- Teaching Module 4 illustrates how the knowledge of human behaviour and nudging towards sustainability can be applied to tourism-related policies and activities. It discusses how an organisation or a destination can build capacity to apply this behavioural lens to sustainability issues.

Each chapter includes the following features:

- The learning objectives
- A proposed pedagogic plan organised into modules, according to the type of audience you are teaching to
- The pedagogical content: concepts, questions, examples ☐ this also includes a set of slides to illustrate the content;
- A summary of the key takeaways
- A list of readings and resources to dive deeper into the topic

The methodology also provides guidance and instructions to implement a practical exercise with your class. Different types of practical exercises are proposed according to the type of audience and time available.

Beyond the methodology

The Nudge My Tour training methodology is combined with two other awareness-raising tools about behavioural approaches applied to tourism sustainability, which you can use in your teaching:

- An informative toolkit will illustrate the topic through simple infographics and animated videos, to make this knowledge more accessible to a non-specialised audience;
- A compilation of nudges will showcase concrete examples of the application of behavioural science to topics related to tourism, and beyond. The aim is to show that this approach can be applied to real-life situations and is already generating an impact.

These tools are accessible on the Nudge My Tour website: https://nudgemytour.com/our-results/

About Nudge My Tour

Nudge My Tour is a cooperation project funded by Erasmus+ that aims to share knowledge about the application of behavioural science to the current and future challenges of tourism sustainability.

It aims to develop and test training and awareness raising tools about behavioural science and Nudge theory applied to tourism, aimed for current and future tourism professionals and policy makers.

Nudge My Tour gathers 7 partners from 5 European countries. With their complementary expertise in psychology, behavioural economics, Nudge theory, sustainable development, sustainable tourism and pedagogy they all contribute to the development and testing of the above-mentioned pedagogic tools.

> Learn more about the project <

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TEACHING MODULE 1: Challenges of Tourism Development

Didactic Plan

This document is created with the aim to help trainers to better understand and better transfer the knowledge to the students and trainees, and to clearly define the learning objectives that are foreseen as needed to solidify the different contents here planned.

Learning objectives

FOR PRACTITIONERS (Public and Private) this chapter intends to define the main elements of the tourism sector in order to understand the actual challenges and future trends in tourism development. It also intends to give tools to detect these challenges.

FOR STUDENTS this chapter intends to give a quick and wide overview of the tourism complexities, while understanding the main challenges the industry faces.

Teaching strategies

The trainers/instructors can adapt the teaching strategy to the type of audience and the time at disposal by selecting and combining the different modules presented hereafter.

Strategy 1

Discussing the main data, facts and figures, about tourism. Debating about the need to increase data collection, while valuing if we need quantitative or qualitative data for certain desired information. Finally deciding the right use in decision-making of the selected data.

Strategy 2

Deciding how the different tourism-related challenges presented in this chapter might affect, directly or indirectly, the destinations of your choice (no matter how big or small), to build joint strategies to face these challenges.

Strategy 3

Discussing and debating about the effects that the tourism activity generates, contrasting the positive and negative ones and proposing how to boost or minimise them depending on the different real scenarios.

Teaching Plan

Type of strategy	Building blocks/modules	Time
Strategy 1	Module A Importance of tourism: key facts and figures	1h
Strategy 2	Module B	2h

	Challenges and future trends for tourism Module C How to detect the challenges	
Strategy 3	Module D The connection between tourism and sustainability	1h
Total time		4 hours

Introduction

Tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors (which may be either tourists or excursionists; permanent or temporary residents) and tourism has to do with their activities, some of which involve tourism expenditure (UNWTO, 2010).

This is the standard definition we can all understand to classify a human phenomenon, but it can be said that we are all tourists at some point, even if we only travel nearby to visit family members. Tourism has become a human activity that has to do with leisure or business and mobility.

To understand tourism, you need to understand the nature of the tourism activities and products.
1) They are intangible – 2) They cannot be stored – 3) They are produced and consumed in the same place and time.

1. They are intangible: the tourism services cannot be touched and cannot be dropped on your foot Tourism products are based on individual perceptions and expectations. Those behaviours are difficult to manage.
2. They cannot be stored: If you produce 10 computers per day and today you have 10 computers to sell and you just sell 8, tomorrow you will have 12 computers for sale. If you have 10 rooms to sell today and you just sell 8, tomorrow you will have 10 again. Thus, 2 will be lost forever.
3. They are produced and consumed in the same place and time: When a guide delivers a guided tour, the guided tour is consumed by the tourist at the same time. It can't be consumed tomorrow or a little later.

In addition, tourism is facing the global societal debates related to transition. The greatest examples of this are the EU programs on energy transition and on digital transition, generating opportunities for global development, including the development of tourism activities.

Furthermore, the global debate that has been deeply impacting the tourism industry is the one generated by the United Nations Sustainable Development Goals (SDGs). In this chapter we will also introduce the relationship between tourism and sustainability, but it will be further developed in chapter 2 of this methodology.

Nevertheless, the SDGs, as a global initiative, are receiving criticism that we will also include as part of the challenges. One of the main critical points is linked to the Western vision towards less tourism developed countries. We, western world, tend to have a huge bias towards our way of understanding concepts like sustainability, equality, nature protection, or poverty. This bias is important also in terms of consumer behaviour, because cultural backgrounds intervene clearly in understanding different tourists' behaviours. This point will be further developed in Chapter 3, devoted to behavioural sciences.

Moreover, and in addition to the differences between tourists, it is necessary to highlight that the destinations and the tourism-related activities are also different. This leads to different scenarios in each destination, and consequently to different behaviours. In other words, despite tourism challenges being global, each destination might have particular and individual challenges, or particular and individual approaches to global challenges. For this reason, we truly believe that we

need to know about the global challenges, but we also need to recognise which of these challenges are most relevant to your destination or activity.

In light of this, we organised this chapter in different modules;
A) Some facts and figures to show the importance of tourism in the last decades and especially nowadays;
B) A description of the actual and forthcoming challenges that tourism will face in mid and long-term; C) A small guide on how to detect the most relevant challenges for your destination or activity, and;
D) A small introduction on the needed relationship between tourism and sustainability.

Module A: Importance of tourism: key facts and figures

Tourism is one of the largest and fastest-growing economic sectors in the world and a key economic sector in many advanced and emerging economies. Tourism also generates millions of direct and indirect jobs, with a high share of women (54% of the tourism workforce) and young people. Most tourism enterprises (around 80%) are micro, small and medium sized enterprises (UNWTO, 2020). Tourism is the world's third largest export category after fuels and chemicals, and ahead of automotive products and food. (UNWTO, 2019).

This module is based on the UNWTO data. You can check all the dataset of UNWTO, and its updated versions following this link: https://www.unwto.org/tourism-data/unwto-tourism-dashboard.

International tourism

For many destinations around the world revenues from international tourism are an important source of economic benefit.

In 2022, international tourism continued to show a strong and steady recovery, especially from January to May. During that period, international tourist arrivals reached almost half (46%) the levels of the same five months of 2019. Moreover, nearly 250 million international trips were recorded worldwide through May 2022, while in the same months of 2021 arrivals reached only 77 million. This increase in tourist arrivals was completely unexpected implying that the global economy was shaken by a previous health crisis and important geopolitical challenges. Even though international arrivals more than tripled in the last year, they remained 54% below 2019 levels.

International Tourism Arrival (in millions):
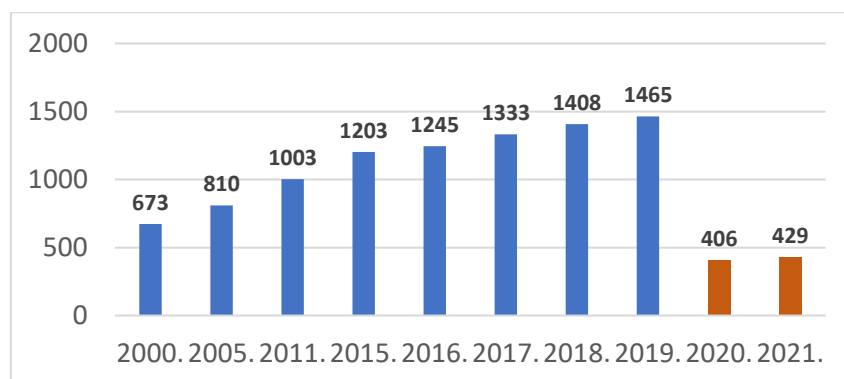
Source: UNWTO International Tourism Highlights 2020 Edition; UNWTO World Tourism Barometer, Vol 20(4), July 2022
*2020, 2021 – provisional data

Question for debate

Tourism worldwide has been increasing since its beginning. Is this fact a problem? Is this issue generating other kind of problems?

All world regions enjoyed a significant rebound in the first five months of 2022. Europe and the Americas continued to lead the recovery. Europe welcomed more than four times as many international arrivals as in the first five months of 2021 (+350%), whereas, in the Americas (+112%) arrivals more than doubled. Despite the strong rebound, arrivals remained 36% and 40% below 2019 levels in Europe and the Americas respectively.

Tourism growth in Europe was boosted by strong regional demand, the removal of all travel restrictions in a growing number of countries and increasing visitors from the US market. Strong tourism demand during the Northern Hemisphere summer season is expected to consolidate these positive results, particularly as more destinations ease or lift travel restrictions. International tourism consolidates its strong recovery despite growing challenges on socioeconomic grounds and increased political instability which is mostly affecting the European market.

Nevertheless, the global energy crisis is imposing new challenges that might hinder further recovery of the tourism industry. The scarcity of energy fuels and the fear of inflation will hardly have an improving impact on the industry; however, some macroeconomists see tourism as a lifeline for the domestic economy of several countries. Nevertheless, it is important to mention that tourism itself generates millions of direct and indirect jobs worldwide, with a high share of women and young people. It brings macroeconomic stability and development, which outreach negative impacts   . In many countries across the globe, tourism is the main component of the gross domestic product, such as in Macao (48%), Jordan (12%), Croatia (20%), Spain (12%), etc. Furthermore, the importance of the industry is also proven by   the fact that tourism is the world's third-largest export category after fuels and chemicals and is ahead of automotive and food production. Therefore, this industry, as such, must be well-preserved and governed according to the sustainable policies across the business, manage goal setting and reporting processes, strengthen relations on regional levels, and ensure overall accountability and sharing of the good practices with the purpose of sustainable development.

Europe

Europe is the world's leading tourism region, accounting for 51% of all international tourist arrivals in 2019. In 2019, all destinations reporting data saw positive results in arrivals and most of them recorded strong growth in terms of revenues. Southern Mediterranean Europe led growth and showed remarkable performance (+5% in tourism arrival and +7% in tourism receipts compared to previous year).

According to the European Parliament's report, the tourism industry is a vital part of the EU's economy and accounts for 10% of its GDP. During the pre-pandemic period, the European tourism industry showed outstanding growth and welcomed tourists coming for leisure, business, or study. Europe offers many opportunities for employment in the tourism industry and offers foreign exchange, especially in the Mediterranean countries. The Mediterranean foreruns the continental part of Europe thanks to its combination of sunshine, beaches, scenery, and historical monuments. Moreover, the Mediterranean is in unison with all those tourists need when they are on vacation, but most importantly it offers socio-economic stability that is visible through the level of security that it provides to tourists.

Number of international tourist arrivals in Europe from 2010 to 2019, by region (in millions)
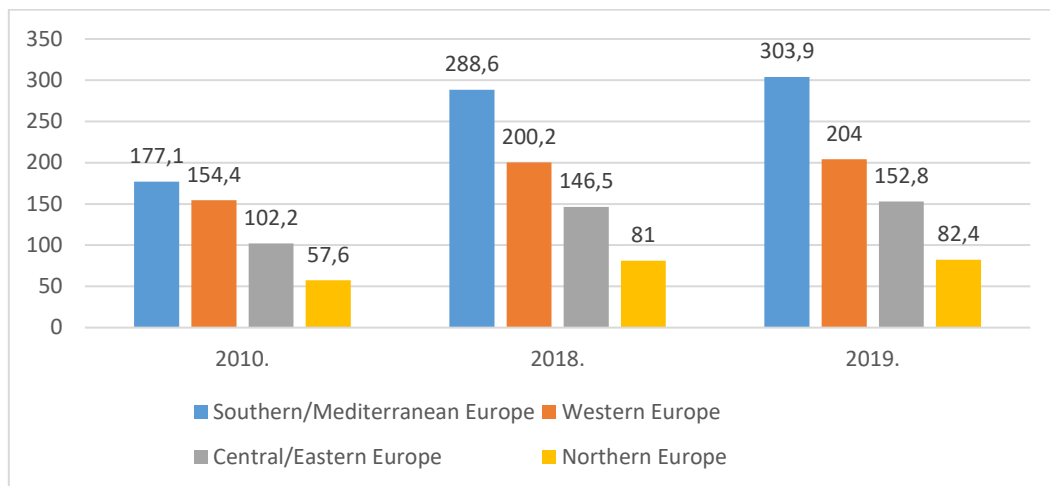
Source: UNWTO Tourism Hihglights 2020. http://www.e-unwto.org

In 2020, compared to 2019, decline in international tourist arrivals due to the covid pandemic was –68%. UNWTO's forward-looking scenarios published in May 2020 pointed to international scenarios for Europe 65% to 80% of 2019 levels (UNWTO, 2020).
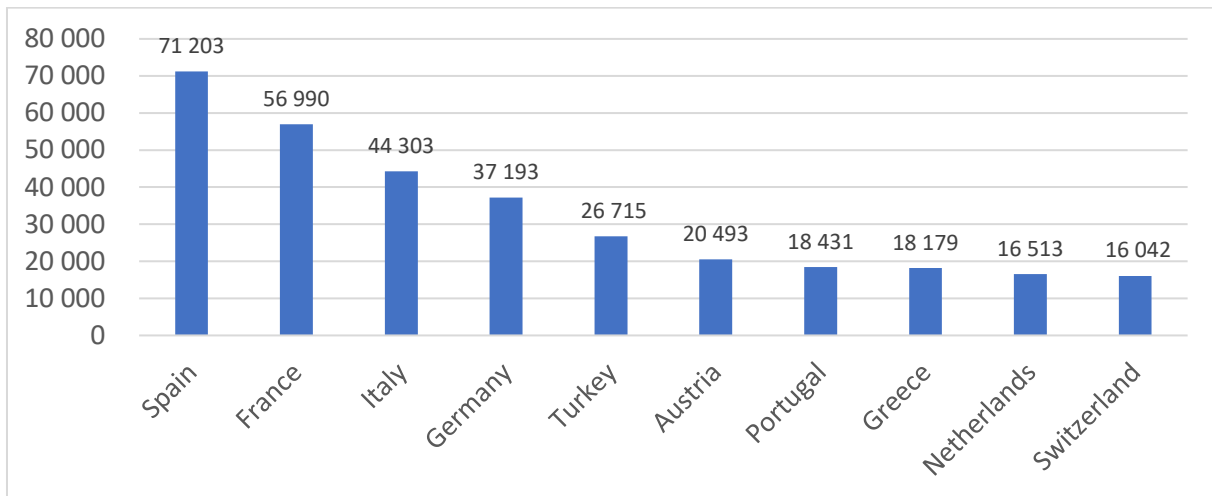
European Union[1]: In 2019, economic activities related to tourism employed over 12.5 million people in the European Union. The tourism industries accounted for more than 22 % of people employed in the services sectors. Germany has the highest employment in tourism industries, followed by Italy and Spain. The tourism industry is a major employer of women, the highest proportion is in travel agencies and tour operators (64 %), followed by accommodation sector (60 %). Further, the tourism industries have a particularly young labor force, as these industries can make it easy to enter the job market. Many foreign citizens work in tourism-related industries (15 % of the workforce in accommodation, 10 % in travel agencies or tour operators).

Question for debate

The actual focus on quantitative data, and only valuing the amounts generated and the continuous growth is creating a debate on the need to look at different types and kind of data. For instance more qualitative based data, like tourists' satisfaction. Which are the benefits of every approach 1) Quantitative; 2) Qualitative; and which one you are more in pro.

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[1] Eurostat (2022). ec.europa.eu/Eurostat/statistics-explained

Tourism receipts by country in EU

Country	Value
Spain	71 203
France	56 990
Italy	44 303
Germany	37 193
Turkey	26 715
Austria	20 493
Portugal	18 431
Greece	18 179
Netherlands	16 513
Switzerland	16 042

Source: http://ec.europa.eu/eurostat/statistic

Importance of domestic tourism

The world's largest domestic tourism markets in terms of tourist trips are India, China and the United States of America, mostly the result of their large populations and geographical size. Other large domestic tourism markets include Japan, Brazil, France and Spain. In many countries with large domestic markets, spending on domestic tourism can bi much higher that the earnings generated by inbound travel. According to Organisation for Economic Co-operation and Development (OECD) in 20 out of 36 countries with available data, domestic tourism expenditure is higher than inbound spending. Ten of the fifteen largest OECD markets by domestic tourism expenditure belong to the European Union, which shows the importance of domestic tourism in Europe. According to the Eurostat Tourism Satellite Accounts in Europe (2019) domestic tourism expenditure is 1.8 times higher than inbound tourism expenditure in EU-28. Domestic tourism is over six times bigger than international tourism (1.4 billion international arrivals in 2018) measured in number of tourist trips.

As restriction on travel, due the COVID-19 pandemic begin globally, destinations around the world are focused on growing domestic tourism. Many national tourism organizations encouraged people to explore their own countries. Domestic travel represents an opportunity to recover from social and economic impact of the COVID-19 pandemic. Destinations around the world offered bonus holiday for workers to providing vouchers and other incentives to people travelling in their own countries. Result was that most destinations generate higher revenues from domestic tourism than from international tourism. In OECD nations, domestic tourism accounts for 75% of total tourism expenditures, while in the European Union, domestic tourism expenditure is 1.8 times higher than inbound tourism expenditure. The largest domestic tourism markets in terms of expenditure are the United States, Germany, Japan, United Kingdom and Mexico (UNWTO, 2022). Given the value of domestic tourism and current trends, an increasing number of countries continue with initiatives focused on marketing and promotion as well as financial incentives. According to UNWTO (UNWTO, 2020) countries with higher shares of domestic tourism are likely to recover earlier and faster.

Check all the new data statistics about domestic tourism per country following this link https://www.unwto.org/tourism-statistics/key-tourism-statistics

Data management

Analyzing tourism's life cycle is a complex task, there are many internal and external factors that are continuously affecting its course (Butler, 2004), making it hard to forecast, as it very often produces outcomes with different reliability (Baggio & Corigliano, 2008). There are many predictable but also unpredictable circumstances (Makridakis & Taleb, 2009), that can change the projection of tourism, sometimes unexpectedly. The analysis of the impact of the COVID-19 pandemic has been as complex as many other crises.

Tourism data collection

To collect and analyse tourism data from different countries and different kind of destinations, it is important to develop indicators that are adapted to the different tourism-related existing realities. Current standard indicators, like the European Tourism Indicators System (ETIS) present a Western approach that very often does not correlate with the reality of non-Western countries (Med pearls project, 2022). Moreover, the actual systems of indicators are thought for countries that have well-developed statistical systems, and destinations with mass tourism activity where data can be more easily obtained. Conversely, less known tourism destinations that do not have high volumes of tourism-related activities and countries without permanent and extensive data-archives cannot benefit from the standard indicator's systems.

Data collection is costly, not only in monetary terms but also in time consumption. It is quantitative data that is used in these systems, which means that destinations with reduced number of tourists, like slow tourism destinations, have additional sampling problems. In addition, experience shows that most of the emerging and non-mature destinations do not have the resources needed for data gathering and to keep data systems (Med pearls project, 2022). That is why we need to think of new ways of obtaining data, and reliable systems for such destinations and in such circumstances.

Information Systems in Tourism

Thus, new ways of obtaining information to use in defining tourism strategies is indeed needed. Even more in nature and adventure tourism destinations with no mass tourism, and small-scale stakeholders.

Consumer trends important for tourism

As the tourism market is extremely dynamic and under the influence of social, economic, climatic, and other types of trends that are integral parts of human lives, modern tourists constantly change their attitude toward travel and vacation. What can move and motivate a guest today is very different from the motivations that were driving him ten, twenty or more years ago. The near future will probably bring even faster changes that will shape the wishes, preferences and needs of tourists during trips and visits to a destination. It is important to understand these changes in order to better understand the tourists' needs and behaviour during their stay in the destinations.

Some of these trends are as follows:

Growing awareness of the need for sustainability of destinations: with the growth of education, and availability of information, customers better understand the need for sustainability and their role in it (Mitomed+ project, 2021). Responsible behaviour and care towards everything that surrounds us,

as well as the need to preserve cultural, natural, tangible and intangible values is a topic with which we are surrounded every day. Modern tourists show care and interest in preserving the environment and expect the same from the destinations they visit.

Increasing experience and information: people generally travel more and more, gather experiences, and thus clearly recognize the original and authentic in relation to the standardized and artificial. They look for quality in all aspects of the offer, and they especially value authenticity, sincere hospitality and care for the guest. In addition, information is available at all levels, allowing guests to quickly gather knowledge on everything they are interested in, from specific information to other people's recommendations and experiences.

Growing awareness of health and a healthy lifestyle: the role of prevention in preserving health and generally greater concern for health has started to increasingly characterize modern society. Related to this, the importance of recreation in a healthy, natural, and unpolluted environment, consumption of foods that come from the local environment and that are seasonally grown, and generally undertaking activities that help mental and physical health are recognized.

A strong need to establish life balance: stress and hectic life, economic, political and climate crises, constant changes, especially those brought by technological development, strengthen the need to establish balance and peace. An increasingly fast-paced business environment encourages the desire for relaxation and a 'slower' environment. Tourists are looking for small, so-called micro-adventures, which refer to hiking in nature, mountain climbing, boating, or cycling, etc. These are physically not too demanding activities that are adapted to people of different age groups and fitness levels.

In addition, the following trends can be singled out, which are considered to influence the shaping of the market on the world stage by 2040:

'Digital life': technological development continues to speed up and digitalize more and more aspects of people's lives, such as shopping, socializing, jobs, education etc. It is important to understand how such development affects people's behaviour. The virtual world surrounds us and opens numerous possibilities for new ways of functioning. In the near future, almost the entire population will have smartphones and will use the Internet, which will certainly have a great impact on tourist flows. Thanks to the development of new sales and distribution methods, the so-called 'passive consumption' and connected devices allow people to multitask and shop from different locations. Even today, digital integrations enable potential tourists to create the whole travel experience themselves (transport, accommodation, tickets for attractions etc.).

Holistic approach and 'more than experience': thanks to globalisation, today it is necessary to take care of the different needs of consumers who come from different communities, have different value systems, cultural and historical heritage and thus interests, needs and desires. There is a great emphasis on experiencing the uniqueness and originality of the destination they visit, on experiencing something new and different. It is important to connect with the hosts and the local community and to be able to feel their way of life. The experience is created as a series of tangible and intangible components through numerous 'touch points' with the destination that they visited.

Growing awareness of the 'value of time': today's modern customers are aware of the passage of time and its importance. Therefore, fast, light and simple solutions that can save time are sought after. Destinations are developing loyalty programs, personalized services and implementing targeted marketing. In order to make the best use of time, there is a growing trend instead of one or two longer vacations and several shorter vacations. The COVID-19 crisis has further strengthened the need for "city escapes" or weekends in nature as well as visit to closer and safer destinations.

Searching for 'values': Global economic, political, health and other crises are prompting consumers to spend cautiously and save for future uncertain times. A critical attitude towards the relationship between quality and price is being developed, so products and services are being sought where this ratio is good and acceptable. The price should be in line with the quality of the offer, and guests are ready to spend more money for more attractive and unique tourist products. 'Local experiences' are highly valued.

Sustainable living and health prevention: modern customers increasingly understand how everyone can positively or negatively contribute to the planet and the community they live in or visit. Attention is paid to ethics and moral values, so the emphasis is on reducing food waste, reducing the use of plastic and recycling, etc. Greater attention is paid not only to responsible behaviour during the stay in the destination, but also to traveling to the destination ("low travel"), which means to think about choosing those means of transport that leave a low carbon footprint and pollute less. This is one of the main areas of application of behavioural science that has been recognized the most in recent years among the scientific community. It is important to incorporate all these aspects into the tourist offer and to "explain" to the guests in the right way. In addition, the need for a holistic approach to health leads to the fact that in addition to the physical, mental, spiritual, and emotional well-being are also important, and products and services that help to improve quality of life.

Module B: Challenges and future trends for tourism

Tourism is one of the economic sectors that is clearly facing a huge transformation for the forthcoming years. Initially due to its nature as said before. The fact that tourism, as a service sector, is produced and consumed in the same place and time, mean that services cannot be transported outside the consumption place. It is then the tourist who needs to visit the place in which the tourism activity is happening.

This need of mobilities will imply that tourism will be clearly affected by the rise of transport prices, expected in short, mid and long term, especially due to the impact of the peak oil in tourism, or the reduction of offer in plane tickets after the pandemic. So, travelling far or long-haul distances will be more expensive, less accessible, and sure it will happen less often than nowadays.

Moreover, tourism services cannot be stored due to its intangibility. Meaning that if you have 100 hotel rooms to sell, and you don't sell 10 hotel rooms tonight, you will not be able to sell 110 tomorrow. This means that in most of the cases a reduction of the number of trips will imply a reduction of the income arriving from international tourists.

> **Question for debate**
>
> A reduction of international tourists and at the same time a reduction of international mobilities can generate the side effect of higher numbers on domestic tourism?

Obviously, this is not a matter of only seeing the dark side of the moon, this is just a way to make you be aware of the challenges that tourism will have to face in the forthcoming years and be able to debate with the participants about tourism future effects.

In addition, this is also an opportunity to do things differently, learning from the past, and facing a better and more sustainable and resilient tourism. That is the reason why we will present in the forthcoming lines and pages, some of the main challenges that tourism will certainly face.

One of our aims writing this chapter is to connect these new trends with a global development strategy, known for most people of the western societies. The United Nations (UN) Global Sustainable Development Goals (SDGs). (See Module D)

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

Thus, the connection between tourism challenges and SDGs will be used to make tourism become a central actor of the global change instead of being a global problem.

There are 17 SDGs, and we will simply describe here 6 global challenges that tourism will face in the forthcoming years. We will decompose these challenges to have more details from them, and finally we will match, within the training, the possible solutions to these challenges with the different SDGs to which they contribute.

Mega Future Challenges for a Sustainable Tourism

Economic challenges	Environmental challenges	Social challenges
1. Restoration of old unsustainable commercial infrastructure and activities, throughout sustainable refurbishment projects. 2. Economic independence on seasonality, overcrowding, and more integration with other economic sectors (digital, transportation).	3. Avoid increased exploitation of natural resources and pollution of water, land, and air. 4. Prevent damage and degradation to natural, historical, and architectural sites and their image, through and noise and/or solid waste problems.	5. Better integration with the resident population and reducing hostility, between host – visitor. 6. Tourism as a driver to reduce inequalities while increasing responsible consumption.

Economic challenges

Tourism often has been defined as a manner to generate economic incomes, which is normally true. Due to this idea, in several cases tourism got the image of an economic savior, capable of generating external influxes of money. In other words, tourism offered the possibility of economic growth and prosperity everywhere.

As you might imagine, this linkage between tourism and economic growth is not always true due to a wide range of situations and externalities. But even more than that, the main challenge in economic terms is to use tourism, for a more sustainable economic development.

Even if the idea of breaking seasonality is present into tourism planning and managing efforts for the last 50 years this is still an unsolved issue. Furthermore, in the past decade, the concept of "overtourism" has gained room in academic and practitioner debates. The concept of over tourism appeared initially linked to mature and massive destinations, together with urban areas with a huge tourism potential. It is a real issue, and several authors and destination managers described the phenomenon, and tried to develop strategies to minimize its negative effects.

Practical case

As an example of a strategy to limit the negative effects of over tourism, the creation of limits to the tourism growth is one of the most tested ones. The debate about this limit has arrived in Catalonia, with a huge problem of massification in Barcelona and the coastal areas. The first limit appeared regarding the number of hotels to be built in Barcelona. When the hotel number was reached this generated a need for more accommodation that finally was created outside the city. As result, Barcelona increased hotel prices and people visiting the city finally slept in surrounding areas and visit the city during the day. Thus, Barcelona reduced the number of people sleeping, but increasing the number of daily visitors. Actually, visitors increased by 30% generating the same negative effects of massification of certain areas and loosing tourism taxes attached to accommodation.

Another strategy derived from the limitation of accommodation is linked to the vacation private accommodation, like Airbnb. The main strategy used worldwide in this case is to generate policies limiting the amount of these kind of tourism accommodation. And excess of this kind of accommodation is connected to massification and over tourism through the effect of gentrification and the rise of housing price. This needs to be controlled. Nevertheless, the vast majority of countries tackling this problem created regional or national policies obliging every destination to follow the same rules.

Following the same exact rules for every destination, mean disaster. Yes, you try to avoid over tourism (still to be confirmed as effective), but at the same time you simply forget another big issue linked to the contrary scenario under tourism.

Under tourism concept defines areas with tourism potential, non-massified, and that want tourism as a complementary activity. Having such accommodation limitations simply eliminate the non-massified destinations from the tourism scenario, instead of regulating separately and locally according to the characteristics of every area. Especially understanding some rural áreas in which building standard accommodation is not possible while at the same time private accommodation is empty due to the rural-urban migration.

This dichotomy can be seen in the work of Zerva et al. (2019) were tourism phobia and tourism philia are deeply discussed in a mass-tourism urban destination.

To sum up, this challenge needs a clear understanding of the situation, a good balance of actions and effects, and a clear local and individual gaze in deciding and implementing strategies to confront it.

Despite several strategies and initiatives, no clear nor effective solutions have been found so far. This point helps to understand the huge challenge tourism is facing in the future times.

Technological tools have seen in the smart movement a way to better connect tourism and their operators with different markets and possible users. The smart concept will be attached to the idea of wellbeing. Necstour, the Network of European competitive and sustainable tourism regions, launched a declaration in the city of Barcelona called "Better places to live, better places to visit". That is for us, how we understand smart, or smart destinations, any strategy that helps you to increase wellbeing, claiming for better lives.

The concept smart has been traditionally linked to urban areas. But along with masses, urban and metropolitan areas, most of smart technologies are also implemented to massive coastal destinations. This situation leaved outside the smart destinations' environment all rural areas and non-massive tourism destinations.

Is we understand the concept smart tourism as the increase of wellbeing for the permanent and temporary residents as mentioned beforehand, this need of wellbeing should be also present in rural destinations.

Covid-19 pandemic put into the stage the increasing demand for rural, natural, and non-massive destinations, as well as, the clear visualization that rural destinations also needed smart solutions.

Practical exercise:

You are the destination manager of a small rural destination, or a non-mass tourism destination. Can you think of three different solutions for the economic challenges this destination has to face?
- Describe each solution.
- Explain which problem each solution is tackling.
- To whom might affect or who might be interested in your solution?
- Do you anticipate any issue to implement the solutions presented?

Social challenges

The concept of pro-poor tourism, and the concept of poverty alleviation and tourism, give some insights on how this topic is on the stage nowadays. Several scholars have done research in multiple non-western destinations, without tourism development, and especially in remote areas, about how to use tourism to generate a clear flux of external income.

These concepts bring several debates on the table. As an example, the debate about authenticity, or the debate about cultural preservation. Simplifying a lot, how to change the wellbeing of permanent residents without changing their way of living. This is, per se, a contradiction. Tourism, as any human activity, changes people behaviours and has temporary and permanent effects.

One of the hardest challenges tourisms will have to face in the forthcoming years is the one linking Safety & Security. Most of the social inequalities existing in our societies affect safety and security in all terms. Of course, if a city is insecure for the citizens will also be insecure for visitors, and vice versa.

Insecurity can also be caused by the lack of information. As an example, we can think of the effects of floods in Kenya in the last years, due to climate change. The main problem was the unavailability of accurate weather forecasts, combined with the total absence of warning systems to the farming population. This ended up in thousands of hectares of crops lost, and thousands of people displaced from their land.

In destinations where tourism is developed, most of the social issues arise linked to the salaries of tourism workers. Salary is one of the key aspects linked to employability. On one hand there is the issue of the low level of salaries, and on the other hand there is the discontinuity of the job offer throughout the year.

As a clear example, different problems appeared in popular destinations because tourism workers could not afford proper accommodation within the destination due to the low level of salaries and the high level of housing prices. This generated huge mobility problems to the workers, having to live far away from the destination, and more recently to the tourism businesses that could not find people to work where they are located.

Exercise
How to reconciliate tourism as a driver to reduce inequalities while boosting responsible consumption?

Write on a piece of paper your idea to develop a debate into the class. We recommend to play a role game in which every student plays a role. Each character in the game, which corresponds to a tourism worker, manager or stakeholder, has to define their main problem and ask for a solution or find a proper joint solution. The trainer role is to find the difficulties of implementing the proposed solutions. Here are some examples of roles:

• Hotel manager
• Front office staff
• Cleaning staff
• All year-round resident
• Second home owner
• …

Environmental challenges

The need for tourism transitions

European report "Tourism Transition Pathway" (2021) stated that for European tourism ecosystem the transition towards a more green, innovative digital and resilient ecosystem is essential and that is most important that Destination Marketing and Management Organisations (at national, regional and local levels) update their strategies and reporting mechanism taking into account the principles of sustainable development that encompass economic, environmental and social resilience and governance related actions.

Interreg Mediterranean PANAORAMED as governance platform supports tourism governance practice that enables continuous improvements of environmental, social and economic sustainability, through quality and innovations. Derived from seasonality and all other development challenges and negative tourism impacts, five key areas for Mediterranean tourism policy have been identified: (1) harmonization and data sharing as basis for knowledge networks, (2) evolving from destination management to integrated and informed tourism governance, (3) enhanced and innovative tourism (business) solutions, (4) greening tourism (reducing pressures) and improving historic, traditional and natural heritage and (5) informing, educating and engaging stakeholder for changing behaviour (Key policy paper, 2020).

Module C: How to detect the challenges of a destination or company

It is important to understand the different challenges that global tourism is facing. Nevertheless, this is not relevant enough if you are not able to take the above-mentioned global challenges and connect them to your own local reality. Each destination, business, public body, or organization has its own characteristics, issues and solutions. What is perfectly acknowledged is that there is no standard formula that fits in every case and situation. This means that a specific evaluation and solution is needed.To carry on with this specific evaluation and to obtain specific solutions, we propose you to follow four different steps as follows.

To carry on with this specific evaluation and to obtain specific solutions, we propose the following four different steps.

1) First of all, you need to clearly define: which stakeholder are you? This question might be simple to answer but it is important to know which are your limits. As example, a single company will not be able to create policies applicable to all. Even if this is not possible alone, this becomes possible with the help of other stakeholders. Knowing this helps in having a holistic point of view of a destination.

Define yourself.

2) Secondly, do you know which are your main limitations? Write them down. It is relevant to understand the different issues you are facing, to take them into account, and or to find ways to overcome them.

Write down your main limitations. Please, try to avoid listing characteristics of you institution or organisation. As example, don't say that you are small. Say that your number of employees does not help you of facing a particular issue.

3) Define the main challenges clearly affecting the destination you are in. Think outside your institution or organisation to find out what needs to be afforded the forthcoming years. It might help your decisions to define them locally but connect them to superior stages. This exercise always helps to better understand the nature of the challenges.

	Local	Regional	National/Global
economic			
environmental			
social			
digital			
…			

4) Finally, define for each main challenge outlined above, the main problem they tackle, the different action you might implement to obtain concrete expected solutions.

	Problems	Actions	Solutions
Responsibility	23		
Data / technology			
Economy			
Social			
Environment			
Well-being			

Furthermore, sharing the results with other stakeholders of your destination will bring a better picture of the actual common situation, and also a better definition of the possible future scenarios you want to achieve or avoid.

Module D: The connection between tourism and sustainability

Introduction to sustainability

Tourism flows and relevance of tourism income illustrated that tourism is one of the most important economic sectors in many European countries for many decades. Tourism brings economic wealth to many regions that have limited resources and development options and as consequence many national and regional tourism development plans highlight more positive than possible negative impacts of intensive growth of tourism that we are witnessing.

To avoid negative impacts of tourism, in 2015 the United Nations adopted 17 Sustainable development goals and defined sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (https://sdgs.un.org/goals).

According to UNWTO, sustainable tourism should:

1. Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
2. Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
3. Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

Although sustainable development is a mission of most destinations, it has been rarely measured, monitored and implemented. Many European cooperation projects highlighted the necessity for better governance systems that must ensure better cooperation and understanding among different stakeholders as basis for more sustainable and responsible tourism.

The pandemic has also impacted on the behaviour of tourists, and four patterns have been identified since the Covid-19 outbreak (Donaire, Galí & Camprubi, 2021). The first pattern is related to the choice of destination: people showed to avoid dangerous or risky destinations, crowded places to reduce risk of contagion (Wen, J.; Kozak, M.; Yang, S.; Liu, F.) and instead sought natural areas close to home. The tourists chose to avoid two types of destinations: large urban destinations and popular coastal spots where mass concentration is common (Donaire, Galí & Camprubi, 2021). However, natural spaces became more crowded than before as tourists perceived these types of destinations as a healthier environment promoting domestic tourism (Higgins-Desbiolles, 2020).

The unprecedented decrease of tourism flows due to the COVID-19 pandemic highlighted the need to develop a tourism that would not harm the environment, and on the other hand emphasized the economic dependence on tourism of many countries and regions, that strive to tourism growth.

Having in mind this situation, tourism stakeholders and destination managers have the great responsibility and complex task to find the ways to implement sustainability principles and to protect natural and cultural heritage as the basis for future tourism development.

To summarise what has been said in this chapter and to connect with the following one, if we take into account actual data and the forecasts we have seen, tourism will continue to growt globally at least in two ways.

1. More people will be able to travel abroad worldwide.
2. The evolution of technology will bring an increase of leisure time to a wide amount of actual workers.

This facts imply a growing pressure to the tourism industry, thus, to the different existing and new destinations.

On the other hand, you will discover in the forthcoming chapter the importance of sustainability in our present and future tourism systems. All of us, and by extension tourists are more aware of the risk of being unsustainable, and the consumers will demand a higher level of sustainable consciousness.

These two realities are forces pulling our societies to the two opposite extremes. In this regard, finding the right balance and deciding consciously your actions will be key. If this is the predicted scenario, it will become crucial to: 1) be aware of the general challenges, 2) be able to detect the particular challenges that are affecting us, and 3) be able to anticipate the possible solutions.

The following infographics from the Informative Toolkit can help summarise some of the key messages from this chapter:
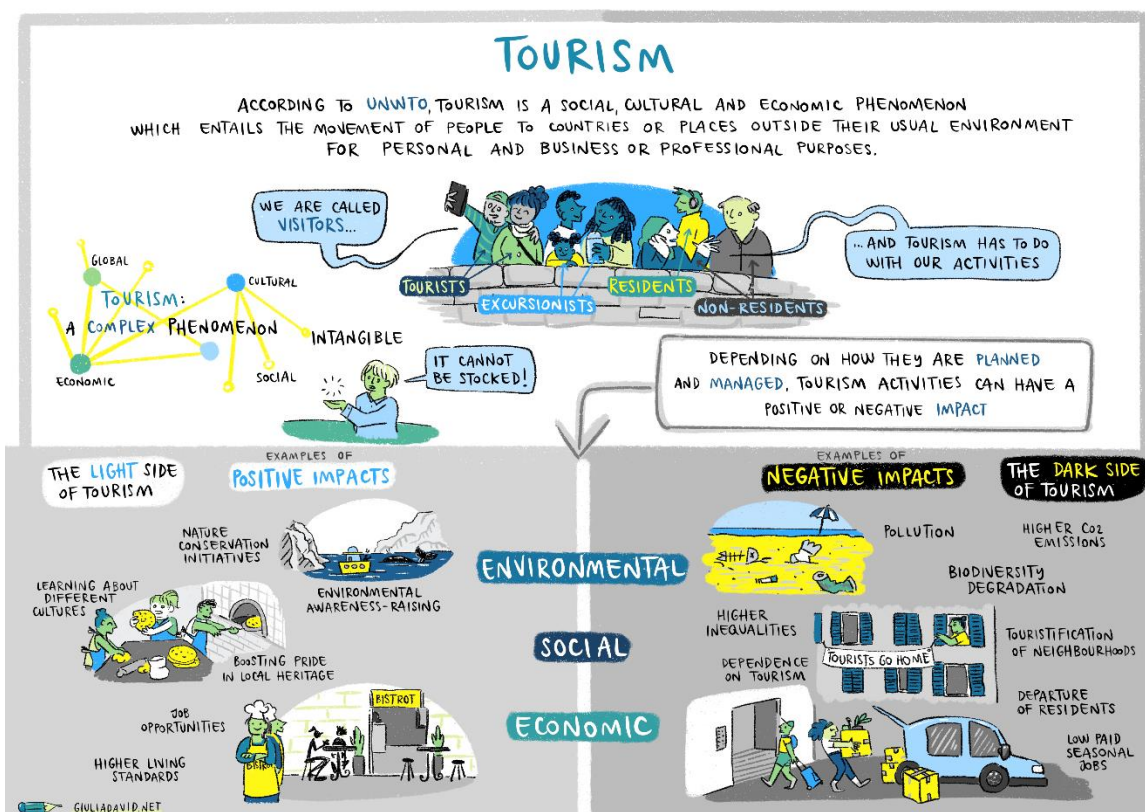
Learning Outcomes

These are three key elements that you should have learned through this chapter. Are you able to answer the following points?

1. Tourism data shows a global increase in decades. Do you have an opinion about this fact?
2. Choose the main two challenges for you destination and define them.
3. Link the main problems of your destination with different particular solutions.

References

Donaire, A., Galí, N. & Camprubi, R. (2021) Empty Summer: International Tourist Behavior in Spain during COVID-19. Sustainability 2021, 13(8), 4356; https://doi.org/10.3390/su13084356

Ferrer-Roca, N., Weston, R., Guia, J., Mihalic, T., Blasco, D., Prats, L., Lawler, M., Jarratt, D. (2020) Back to the future: challenges of European tourism of tomorrow. Journal of Tourism Futures 7 (2), 184-191

Hall, M. (2019) Constructing sustainable tourism development: The 2030 agenda and the managerial ecology of sustainable tourism. Journal of sustainable tourism https://doi.org/10.1080/09669582.2018.1560456

Higgins-Desbiolles, F. (2020) The "war over tourism": challenges to sustainable tourism in the tourism academy after COVID-19. Journal of sustainable tourism. https://doi.org/10.1080/09669582.2020.1803334

(Makridakis & Taleb, 2009)

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World Tourism Organization (2010), UNWTO Tourism Highlights, 2010 Edition, UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284413720

World Tourism Organization (2021), International Tourism Highlights, 2020 Edition, UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284422456

World Tourism Organization (2022), NEWS RELEASE: UNWTO Highlights Potential of Domestic Tourism to Help Drive Economic Recovery in Destinations Worldwide, 2022, UNWTO, web: https://www.unwto.org/news/unwto-highlights-potential-of-domestic-tourism-to-help-drive-economic-recovery-in-destinations-worldwide

European Commission (2022) Transition Pathway for Tourism. Created by GROW.G.1. ISBN 978-92-76-47149-3 doi: 10.2873/344425. Publications Office of the European Union, 2022

World Tourism Organization (2023), International Tourism Highlights, 2023 Edition – The impact of COVID-19 on tourism (2020–2022), UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284424504

Wen, J., Kozak, M., Yang, S., & Liu, F. (2021). COVID-19: potential effects on Chinese citizens' lifestyle and travel. Tourism Review, 76(1), 74–87.

Results from European cooperation projects:

Necstour (Barcelona declaration, 2018) https://necstour.eu/better-places-to-live-better-places-to-visit

Med Pearls (Evaluation report,2022) https://www.enicbcmed.eu/projects/med-pearls

Medusa (Evaluation report, 2023) https://www.enicbcmed.eu/projects/medusa

Mitomed+ (GAP Analysis 2021) https://mitomed-plus.interreg-med.eu/what-we-achieve/deliverable-library/

Panoramed (Key policy paper, 2020) https://governance.interreg-med.eu/

TEACHING MODULE 2: Managing tourist flows to foster sustainability

Didactic Plan

SUMMARY

This teaching module focuses on the strategies and techniques adopted by policymakers (at different levels of responsibility) to address, limit, and possibly overcome sustainability issues stemming from tourism. The module will also discuss the measurement of the impact of tourism on sustainability (declined in its social, economic, and environmental dimensions) and the policies that allow a proactive promotion of sustainability in tourism destinations.

TARGET AUDIENCE

This teaching module is suitable for being taught to different target audiences:

- Practitioners, particularly tourism entrepreneurs and managers, policymakers, and destination managers;
- M.Sc. students in tourism management;
- Undergraduate students in tourism management.

LEARNING GOALS

Multiple teaching objectives can be achieved through this module; they can be pursued separately or jointly, depending on the audience and the instructor's teaching strategies.

The main objectives that the module can support are:

- Identifying the traditional strategies and techniques adopted to limit the adverse impacts of tourism and depicting the new opportunities;
- Understanding the underlying approach of the current strategies adopted to pursue tourism sustainability;
- Explaining the policy tradeoffs resulting from possible conflicts of interests between the various stakeholders;
- Developing a joint discussion about the results of the strategies being applied, their benefits, and their shortcomings;
- Understanding the critical role played by individual behaviors;
- Exploring possible additional and complementary strategies to provide decision-makers with innovative tools for pursuing tourism sustainability.

READINGS AND REFERENCES

Readings related to tourism planning:

Inskeep E., 1988, Tourism Planning: An Emerging Specialization, Journal of the American Planning Association, 54(3), 360-372.

Page S.J., 2019, Tourism Management, 6th edition, Routledge: Chapter 10 (The public sector and tourism); Chapter 11 (Managing the visitors and their impact). Or other textbooks on tourism management.

Sheehan L.R., Ritchie J.B., 2005, Destination stakeholders exploring identity and salience, Annals of Tourism Research, 32(3), 711-734.

Sautter E.T., Leisen B., 1999, Managing stakeholders a tourism planning model, Annals of Tourism Research, 26(2), 312-328.

Readings and cases on the strategies and techniques applied to promote sustainability:

UNWTO, 2018, 'Overtourism'? Understanding and Managing Urban Tourism Growth Beyond Perceptions. Volume 1.

Cases on the strategies and techniques applied to promote sustainability:

UNWTO, 2019, 'Overtourism'? Understanding and Managing Urban Tourism Growth Beyond Perceptions. Volume 2: Case Studies.

Readings related to sustainable tourism indicators:

Gasparini M.L., Mariotti A., 2021, Sustainable tourism indicators as policy making tools: Lessons from ETIS implementation at destination level, Journal of Sustainable Tourism, 1-19.

European Commission, 2016, The European Tourism Indicator System. ETIS Toolkit for sustainable destination management.
https://ec.europa.eu/growth/sectors/tourism/offer/sustainable/indicators_en

Further readings:

Brandão F., Breda Z., Costa R., Costa C. (Eds.), 2020, Handbook of Research on the Role of Tourism in Achieving Sustainable Development Goals, IGI Global.

Butler R.W., Dodds R., 2022, Overcoming overtourism: a review of failure, Tourism Review, 43-47.

Ivars-Baidal J.A., Vera-Rebollo J.F., Perles-Ribes J., Femenia-Serra F., Celdrán-Bernabeu M.A., 2021, Sustainable tourism indicators: what's new within the smart city/destination approach?, Journal of Sustainable Tourism, 1-24.

Jamal T.B., Getz D., 1995, Collaboration theory and community tourism planning, Annals of Tourism Research, 22(1), 186-204.

Pechlaner H., Innerhofer E., Erschbamer G., 2019, Overtourism: Tourism Management and Solutions, Routledge.

The instructor can suggest these references as background readings in courses delivered to practitioners. However, they (all or some of them) can constitute required readings in university courses.

TEACHING STRATEGY

The instructor may adopt different teaching approaches based on her/his objectives. In this section, we propose three different directions (which can be used separately or jointly):

- Strategy 1: Discussion of the characteristics, pros, and cons of the available strategies for dealing with tourism-sustainability issues; possible focus on the role of the individual tourist behavior with respect to each strategy;
- Strategy 2: Discussion on tourism planning, based on the different responsibility layers and the interests of the different stakeholders; possible focus on the role of the actors in the various phases of the planning process;
- Strategy 3: Discussion of possible innovative strategies for influencing tourist behavior toward sustainability.

The chosen approach will impact the degree of analysis and discussion assigned to each teaching plan building block. In the following, we present a 300-minute, 5-stage teaching plan. The instructor should balance each block's discussion level based on her/his teaching approach and the students' characteristics.

After completing the previous teaching module, students should be acquainted with tourism's most relevant sustainability issues.

Before the class, students might be required to prepare for the discussion by reading some of the abovementioned contributions.

The preliminary knowledge about the sustainability issues related to tourism is essential for efficient participation in class discussions.

TEACHING PLAN

Here is a framework that you could use, or adapt, to present your Teaching Plan. The definition of the Teaching Plan depends on the instructor's choices about teaching goals and approaches. In most cases, a three-stage plan can be appropriate. The level of analysis devoted to each stage and each block is dependent on the teaching strategy. Just as a reference point, the timing balance we found efficient for a 300-minute discussion is:

Stage	Focus	Time
Stage 1 Planning and managing tourism sustainability	*Block 1* Planning tourism sustainability *Block 2* Taking stakeholders into consideration *Block 3* Measuring tourism sustainability	90 minutes
Stage 2	*Block 4* Strategies, techniques, and cases	150 minutes

Strategies and techniques for promoting tourism sustainability	32	
Stage 3 Pitfalls of tourism planning and new opportunities	*Block 5* The limits of current strategies *Block 6* Paving the way to innovative strategies	60 minutes
Total time		300 minutes

STAGE1: Planning and managing tourism sustainability

This first part aims to set the stage and foster the discussion on the background issues of tourism planning and social, economic, and environmental sustainability.

Block 1 – Planning tourism sustainability

The tourism sector, even if it seeks to be socially inclusive and permit access to different resources, has to address an ongoing problem: it needs to permit access to sites and yet needs to protect the resource base upon which tourism is based. This requires a wide range of management tools to balance the needs of the visitor, the place (i.e. the resource base), the host community and other tourism stakeholders (e.g., the industry) in providing a quality tourism experience. As a result, the area known as 'visitor management' has emerged in a tourism context (Page, 2019).

This teaching block introduces tourism planning as a pivotal task for visitor management interventions aimed at sustainability. While planning is mostly directed by public institutions, the instructor should underline the public-private nature of problems and interventions. Then the discussion should develop toward the analysis of the steps required for elaborating tourism plans.

A discussion about the different levels of intervention (in particular, local vs national) can be stimulated.

Local and national initiatives to overcome overtourism (Butler, Dodds, 2022):

Local Level initiatives	National level initiatives
Capacity limitation	Changes in marketing and promotion
Demarketing	Transfer of control on transport to local level
Reduced access to locations	Tourism policy integration with other sectors
Timed/limited entry	Changes in seasonal restrictions (holidays)
Increased provision of services (e.g. additional toilets,parking, etc.)	Reductions in visas and entry permits
Disbursement of visitors	Compatible visitor disbursement
Involvement and education of multiple stakeholders and visitors	Coordination with other levels of government
	Adaptability and multi-stakeholder accountability (e.g. integration of SDGs into tourism policy)

The complexity of the planning process should also emerge from the class discussion.

Block 2 – Taking stakeholders into consideration

The instructor should animate a discussion to identify the relevant key actors and agencies, examine the values, perceptions, and interests of significant individuals and organizations, and isolate the relationships within and between stakeholders.

Stakeholders can be defined as "any group or individual who can affect, or is affected by, the achievement of a corporation's purpose". From this definition, it is obvious that the view of stakeholders is very broad indeed – going beyond those that have purely formal, official, or contractual ties to the organization (Sheehan, Ritchie, 2005).

In the following picture, an example the instructor may use for discussing the different points of views of the stakeholders. However, it would be more effective to let the network of stakeholders emerge from class discussion.
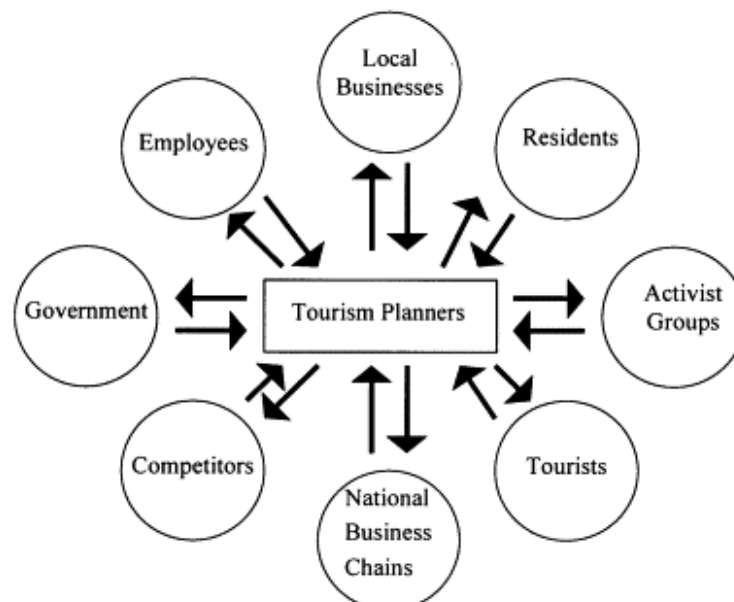
Picture from Sautter and Leisen, 1999

For each stakeholder, identify: values, perceptions, interests, goals related to sustainability and tourism.

At this stage, it is not necessary to stress the difference and the possible clash between the goals of the various stakeholders. It is important to highlight the complexity of the interests that need to be addressed through tourism planning.

The instructor may also start directing the attention towards the individual behavior (thus creating links with Chapter 3), by stressing the of the actors in the various phases of the planning process. When we refer to a class of stakeholders, we refer to collective behavior. But the collective behavior is composed of a sum of individual behaviors, which are usually not perfectly similar: collective behavior can be considered as a sort of average behavior. Is the collective behavior able to explain the individual goals and decision-making processes?

Block 3 – Measuring tourism sustainability

Assessing tourism sustainability is not a residual task only related to final monitoring. It is important that participants in the discussion understand the relevance of indicators for planning and governance.

Indeed, sustainable tourism indicators allow policy makers to assess a destination's sustainability level and monitor change over time triggering policy intervention or management responses by setting benchmarks, baselines or critical limits (Gasparini, Mariotti, 2021).

It is also interesting to discuss the multiple (institutional, conceptual, and symbolic) roles the indicators may play in policymaking.

Then, the instructor should introduce the European Tourism Indicator System (ETIS).

The European Commission launched the ETIS in 2013 to help destinations monitor and measure their sustainable tourism performance, by adopting a common comparable method.

The ETIS is a management, information and monitoring tool specifically intended for tourism destinations. It is designed as a locally owned and led process for collecting and analysing data with the overall objective to assess the impact of tourism on a destination.

The ETIS is based on 27 core indicators and 40 optional indicators, subdivided into four categories:

1. destination management
2. social and cultural impact
3. economic value
4. environmental impact

An important added value of the system is that destinations can choose the most relevant indicators they wish to adopt and monitor in order to meet the needs of the destinations, the interest of local stakeholders and the specific sustainability issues that the destination faces. This provides additional flexibility to the system and improves the potential of feasibility and success.

The basic principle of the indicator system is that destination responsibility, ownership, and decision-making is shared. Engaging a group to come together and work to collect and report information is a powerful way to undertake effective destination management.

The following table provides the list of the ETIS indicators.

Category A: Destination management	
A.1 Sustainable tourism public policy	A.1.1 Percentage of tourism enterprises/establishments in the destination using a voluntary certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility
A.2 Customer satisfaction	A.2.1 Percentage of tourists and same-day visitors that are satisfied with their overall experience in the destination
	A.2.2 Percentage of repeat/return visitors (within 5 years)

Category B: Economic value	
B.1 Tourism flow (volume and value) at destination	B.1.1 Number of tourist nights per month
	B.1.2 Number of same-day visitors per month
	B.1.3 Relative contribution of tourism to the destination's economy (% GDP)
	B.1.4 Daily spending per overnight tourist
	B.1.5 Daily spending per same-day visitors
B.2 Tourism enterprise(s) performance	B.2.1 Average length of stay of tourists (nights)
	B.2.2 Occupancy rate in commercial accommodation per month and average for the year
B.3 Quantity and quality of employment	B.3.1 Direct tourism employment as percentage of total employment in the destination
	B.3.2 Percentage of jobs in tourism that are seasonal
B.4 Tourism supply chain	B.4.1 Percentage of locally produced food, drinks, goods and services sourced by the destination's tourism enterprises

Category C: Social and cultural impact	
C.1 Community/social impact	C.1.1 Number of tourists/visitors per 100 residents
	C.1.2 Percentage of residents who are satisfied with tourism in the destination (per month/season)
	C.1.3 Number of beds available in commercial accommodation establishments per 100 residents
	C.1.4 Number of second homes per 100 homes
C.2 Health and safety	C.2.1 Percentage of tourists who register a complaint with the police
C.3 Gender equality	C.3.1 Percentage of men and women employed in the tourism sector
	C.3.2 Percentage of tourism enterprises where the general manager position is held by a woman

C.4 Inclusion/accessibility	C.4.1 Percentage of rooms in commercial accommodation establishments accessible for people with disabilities
	C.4.2 Percentage of commercial accommodation establishments participating in recognised accessibility information schemes
	C.4.3 Percentage of public transport that is accessible to people with disabilities and specific access requirements
	C.4.4 Percentage of tourist attractions that are accessible to people with disabilities and/or participating in recognised accessibility information schemes
C.5 Protecting and enhancing cultural heritage, local identity and assets	C.5.1 Percentage of residents that are satisfied with the impacts of tourism on the destination's identity
	C.5.2 Percentage of the destination's events that are focused on traditional/local culture and heritage

Category D: Environmental impact	
D.1 Reducing transport impact	D.1.1 Percentage of tourists and same-day visitors using different modes of transport to arrive at the destination
	D.1.2 Percentage of tourists and same-day visitors using local/soft mobility/public transport services to get around the destination
	D.1.3 Average travel (km) by tourists and same-day visitors from home to the destination
	D.1.4 Average carbon footprint of tourists and same-day visitors travelling from home to the destination
D.2 Climate change	D.2.1 Percentage of tourism enterprises involved in climate change mitigation schemes — such as: CO_2 offset, low energy systems, etc.— and 'adaptation' responses and actions
	D.2.2 Percentage of tourism accommodation and attraction infrastructure located in 'vulnerable zones'
D.3 Solid waste management	D.3.1 Waste production per tourist night compared to general population waste production per person (kg)
	D.3.2 Percentage of tourism enterprises separating different types of waste
	D.3.3 Percentage of total waste recycled per tourist compared to total waste recycled per resident per year
D.4 Sewage treatment	D.4.1 Percentage of sewage from the destination treated to at least secondary level prior to discharge
D.5 Water management	D.5.1 Water consumption per tourist night compared to general population water consumption per resident night
	D.5.2 Percentage of tourism enterprises taking actions to reduce water consumption

	D.5.3 Percentage of tourism enterprises using recycled water
D.6 Energy usage	D.6.1 Energy consumption per tourist night compared to general population energy consumption per resident night
	D.6.2 Percentage of tourism enterprises that take actions to reduce energy consumption
	D.6.3 Percentage of annual amount of energy consumed from renewable sources (Mwh) compared to overall energy consumption at destination level per year
D.7 Landscape and biodiversity protection	D.7.1 Percentage of local enterprises in the tourism sector actively supporting protection, conservation and management of local biodiversity and landscapes

The instructor can rapidly present the analytical dimensions, or she/he can discuss in detail each dimension and its analytical measures. Overall, this framework clarifies and operationalizes the three main dimensions of sustainability (social, economic and environmental) in the tourism sector.

Students may also be required to reflect on the strategies and tools to gather micro-level data that are necessary to calculate the indicators.

Furthermore, the instructor can stimulate a discussion on the relationship between indicators and behavior.

STAGE 2: Strategies and techniques for promoting tourism sustainability

This is an important stage since it is aimed to present, detail, and discuss the most relevant strategies and techniques applied or proposed for limiting tourism's negative impacts on sustainability.

Block 4 – Strategies, techniques, and cases

The instructor should present and discuss the strategic recommendations proposed by UNWTO. These are to be considered the value foundations of the interventions aimed at sustainability.

Specifically, UNWTO (2018: 12) proposes a set of key policy recommendations to help manage urban tourist growth. Hence, the long-term sustainability of urban tourism, depends on the implementation of key policies, namely:

1. Ensure urban tourism policies are aligned with the city's global agenda, the United Nations New Urban Agenda and the 17 Sustainable Development Goals (SDGs), and the principles of the UNWTO Global Code of Ethics for Tourism;

2. Set a strategic long-term plan for sustainable urban tourism including the definition of the carrying capacity for the city and for specific areas and attractions. This is particularly useful to implement strategies that aim at dispersal of visitors, visitor segmentation and those where new itineraries and attractions are developed more effectively;

3. Determine the acceptable levels of impact of tourism on the city through a participatory process involving all relevant stakeholders. This will make it easier for local communities to benefit, create joint city experiences for visitors and residents and help in the communication with residents;

4. Set governance models that engage administrations at all levels (tourism and other relevant administrations), the private sector and local communities. Improvement of the city infrastructure in particular requires cooperation with other departments, but, practically all strategies strongly benefit from more cooperation between administrations at multiple levels, also beyond tourism;

5. Foster communication and collaboration mechanisms among all relevant stakeholders. Management strategies will be far more effectively if all relevant stakeholders work together compared with initiatives of individual stakeholders;

6. Enhance the integration of local communities in the tourism value chain promoting their engagement in the sector and ensuring that tourism translates into wealth creation and decent jobs. Integrating local communities from the start will ensure they benefit from tourism from the start and will help bring together local stakeholders;

7. Regularly monitor the perception of local communities towards tourism and promote the value of the sector among residents. This will make it possible to identify local communities' concerns early on and jointly develop management strategies to deal with perceived issues;

8. Promote monitoring and evidence-based decisions and planning of key issues such as carrying capacity, mobility, management of natural and cultural resources and residents' attitudes towards tourism;

9. Invest in technology, innovation and partnerships to promote smart cities – making the best of technology to address sustainability, accessibility and innovation;

10. Promote innovative products and experiences that allow the city to diversify demand in time and space and attract the adequate visitor segments according to its long-term vision and strategy;

11. Plan ahead through methodologies such as strategic foresight and scenario planning. The dynamic, volatile, uncertain, and complex global developments of today require an approach that does not (only) take the past but also identifies the driving forces of change and key uncertainties, to create plausible scenarios;

12. Consider tourists as temporary residents, ensure tourism policy, promote the engagement of visitors and residents and build a city for all.

Please be aware that while these strategies primarily address the problem of urban overtourism, they can be readily applied to all forms of overtourism.

After the presentation by the instructor, a class discussion should be stimulated to identify possible strategies for implementing these policies.

Then, the instructor should present the practical strategies (11) and measures (68) proposed by UNWTO to manage tourism for the benefit of both visitors and local residents.

The strategies and the linked measures range from a time-based and space-based dispersal of visitors to coordinated communication strategies for local inhabitants, stakeholders and visitors (UNWTO, 2018).

All together, they provide a variety of tools to deal with the development of the phenomenon, and at the same time they represent the ways involved nowadays to tackle this important issue. However, if, on the one hand, a great majority is already well-known and applied by some cities, on the other hand, some of them are just suggestions that have not been fully experimented yet.

Depending on the time available, the instructor may, while presenting the slides detailing each strategy and the related measures, ask for comments to the participants. In addition, participants may be required to propose real-world examples for each measure or, in case of lack of examples, ask the participants to hypothesize possible practical applications.

After the discussion, the instructor can move to the next slide (that details the range of applications of each strategy) and to the following slide (providing short examples for each strategy).

| UNWTO Strategy	UNWTO Measures
1. Promote the dispersal of visitors	Host more events in less visited parts of the city and in its surroundings

within the city and beyond	Develop and promote visitor attractions and facilities in less visited parts of the city and in its surroundings
	Improve capacity of and time spent at attractions
	Create joint identity of city and its surroundings
	Implement travel card for unlimited local travel
	Mark entire city as inner-city to stimulate visitation of less visited parts
2. Promote time-based dispersal of visitors	Promote experiences during off- peak months
	Promote dynamic pricing
	Stimulate events in off-peak months
	Set timeslots for popular attractions and/or events aided by real-time monitoring
	Use new technologies (apps and others) to stimulate dynamic time-based dispersal
3. Stimulate new visitor itineraries and attractions	Promote new itineraries at the city entry points and through the visitor's journey, including at tourist information centres
	Offer combined discounts for new itineraries and attractions
	Produce city guides and books highlighting hidden treasures
	Create dynamic experiences and routes for niche visitors
	Stimulate development of guided tours through less-visited parts of the city
	Develop virtual reality applications to famous sites and attractions to complement onsite visits
4. Review and adapt regulation	Review opening times of visitor attractions
	Review regulation on access for large groups to popular attractions
	Review regulation on traffic in busy parts of the city
	Ensure visitors use parking facilities at the edge of city
	Create specific drop-off zones for coaches in suitable places
	Create pedestrian-only zones
	Review regulation and taxation on new platform tourism services
	Review regulation and taxation on hotels and other accommodation
	Define the carrying capacity of the city and of critical areas and attractions etc.
	Consider an operator's licence system to monitor all operators etc.
	Review regulation on access to certain areas of the city for tourist related activities
5. Enhance visitors' segmentation	Identify and target visitor segments with lower impact according to the specific city context and objectives
	Target repeat-visitors
	Discourage visitation of the city of certain visitors segments
6. Ensure local communities benefit from tourism	Increase the level of employment in tourism and strive to create decent jobs
	Promote the positive impacts of tourism, create awareness and knowledge of the sector amongst local communities
	Engage local communities in the development of new tourism products
	Conduct an analysis of supply-demand potential of the local communities and promote their integration in the tourism value chain
	Improve quality of infrastructure and services considering residents and visitors

	Stimulate development of impoverished neighbourhoods through tourism
7. Create city experiences that benefit both residents and visitors	Develop the city to fit with the residents' needs and desires and consider tourists as temporary residents
	Develop tourism experiences and products that promote the engagement of residents and visitors
	Integrate visitor facilities within local festivities and activities
	Create and promote local city ambassadors
	Promote art and culture initiatives such as street art to provide fresh perspectives on the city and expand visitation to new areas
	Extend opening times of visitor attractions
8. Improve city infrastructure and facilities	Create a city-wide plan for a well-balanced, sustainable traffic management
	Ensure that major routes are suitable for extensive tourism activity and that secondary routes are available at peak times
	Improve urban cultural infrastructure
	Improve directional signage, interpretation materials and notices
	Make public transport better suited for visitors
	Set up specific transport facilities for visitors during peak periods
	Provide adequate public facilities
	Create safe cycling routes and stimulate bicycle rentals
	Set up specific safe and attractive walking routes
	Ensure that routes are suitable for the physically impaired or elderly visitors in line with accessible tourism principles
	Safeguard quality of cultural heritage and attractions
	Ensure cleaning regimes fit with tourism facilities and with peak times
9. Communicate with and engage local stakeholders	Ensure that a tourism management group (including all stakeholders) is set up and is regularly convened
	Organize professional development programmes for partners etc.
	Organize local discussion platforms for residents
	Conduct regular research among residents and other local stakeholders
	Encourage locals to share interesting content about their city on social media
	Communicate with residents about their own behaviour
	Unite disjointed communities
10. Communicate with and engage visitors	Create awareness of tourism impact amongst visitors
	Educate visitors on local values, traditions and regulations
	Provide adequate information about traffic restrictions, parking facilities, fees, shuttle bus services, etc.
11. Set monitoring and response measures	Monitor key indicators such as seasonal fluctuations in demand, arrivals and expenditures, patterns of visitation to attractions, visitor segments, etc.
	Advance the use of big data and new technologies to monitor and evaluate tourism performance and impact
	Create contingency plans for peak periods and emergency situations

After presenting the eleven strategies, the instructor may be willing to present some real world case studies. Alternatively, the instructor can propose them to the participants as an assignment or for a teamwork analysis.

To select the cases, the instructor may refer to those available in: *UNWTO, 2019, 'Overtourism'? Understanding and Managing Urban Tourism Growth Beyond Perceptions. Volume 2: Case Studies.* It would be important that, when presenting the UNWTO strategies, the instructor let the students identify which of these are influenced by behaviors.

To complement this discussion, the instructor may show this infographic taken from the Informative Toolkit:
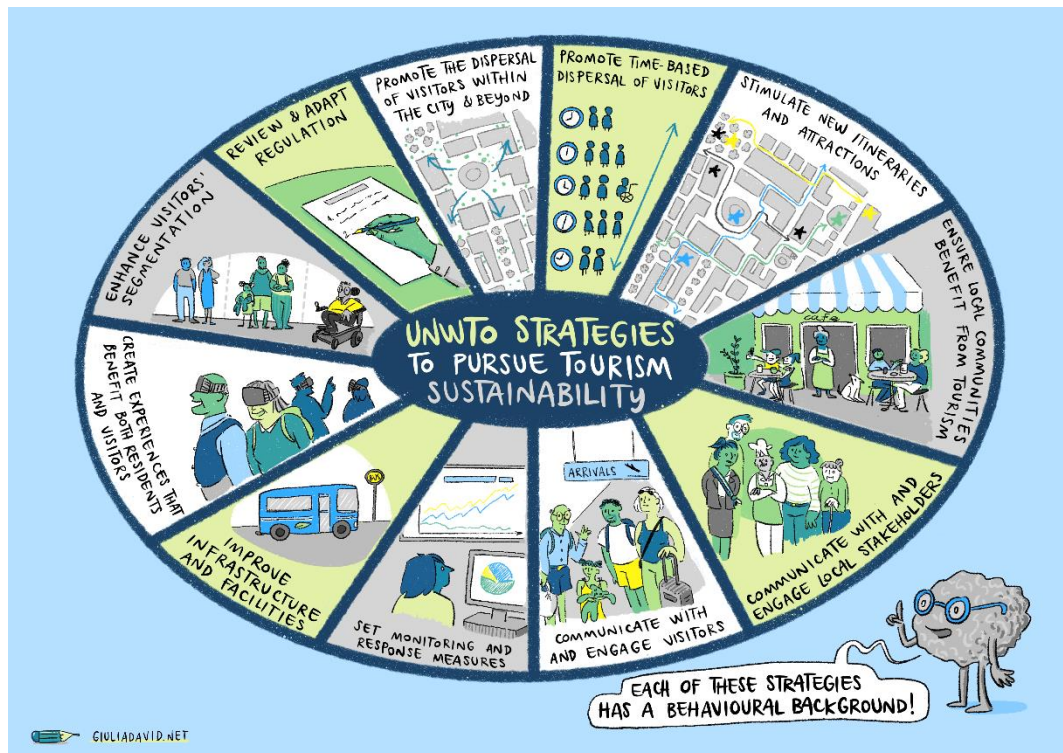
Alternative teaching strategy

Stage 2 could be tackled by following a different approach, especially useful when the trainees are already familiar with tourism-related issues (policymakers and practitioners).According to this alternative teaching strategy, case studies can be used differently, developing a problem-based discussion. The Instructor could start Stage 2 by discussing a localized case dealing with tourism-induced hazards to sustainability. The case should be well-known by the participants. The class discussion would be aimed to:

- Define the characteristics and impacts of the case on sustainability in its social, environmental, and economic dimensions;
- Identify the strategies adopted (which will predictably fall into the two classic categories: regulation, marketing & commercial activities);

The Instructor should then describe the strategies proposed by UNWTO and engage trainees in a final discussion aimed at hypothesizing additional strategies that could be applied, referring to the UNWTO suggestions (these too will be mainly related to the categories of regulation and marketing and persuasion).

STAGE 3: Pitfalls of tourism planning and new opportunities

This final stage should emphasize the problems and the complexity related to the planning process and the practical strategies. This stage should pave the way for interventions based on Behavioral Science.

Block 5 – The limits of current strategies

This teaching block should highlight the problems and incongruences emerging from the analysis of the classic approach to tourism sustainability. This can contribute to highlight, in the following block, the relevance of adopting new approaches, including behavioural approaches.

> Questions to boost class discussion:
>
> - Is planning the only option available?
> - Is planning the best option available?
> - Why none of the UNWTO strategies appears efficient?
> - What is wrong?

Then, if not emerging from the discussion, the instructor may drive the focus on the underlying philosophy of the planning process, which is based on a mainstream Plan-Do-Check-Act process (PDCA). As widely underlined by literature, this process is intrinsically top-down. The policymaker (in this case, the DMO) plays a central role. Even if stakeholders are involved in the process, still they are just contributing to the decisions made by the DMO. Another important issue refers to the huge complexity of planning for sustainability.

By reminding the stakeholder map previously elaborated, the instructor may be willing to let participants discuss about the conflicts of interests inevitably emerging among stakeholders. Every policy, every regulation generates benefits for some stakeholders and harm for others. This may cause political problems and, in general, resistance and the worsening of the attitudes towards tourism.

As a matter of fact, only a fully rational, omniscient decision-maker can propose efficient and widely accepted sustainable solutions for managing tourist flows in a destination.

Moreover, full rationality is hardly conceivable.

Block 6 – Paving the way to innovative strategies

Basing on the results of the previous discussion, the final teaching block should nudge participants to propose some new strategies and approaches.

Some of them would probably focus on the application of new technologies, big data, artificial intelligence. Basing on the availability of time, the instructor may devote more or less discussion to these topics. As a matter of fact, albeit very useful, technology does not change the rules of the game explained in the previous teaching block.

> **Examples of questions to focalize the discussion on the behavioral side:**
>
> - Since policymakers are not omniscient, would it be possible to support their decision-making processes with evidence-based data?
> - Do we have any option to influence tourist behavior without imposing new plans and new formal regulations?
> - Would it be possible to find new solutions outside the usual (mainstream) scope of the tourism planning theory?
> - What is wrong?

It is likely the discussion may end without referring to Behavioral Sciences (in particular when participants have no previous knowledge about it), however it is important that they actually feel the need for some additional and different intervention strategies.

The instructor may let the trainees reflect on the fact that, while neglected by mainstream approaches, the focus on individual behavior is pivotal to achieving broader capabilities for promoting tourism sustainability. Indeed, the mainstream approach to tourism sustainability reifies tourist behavior into a collective construct. Collective behavior becomes the subject of analysis and intervention

However, the behavior of tourists is actually composed of a myriad of atomic behaviors, dynamically implemented by individual subjects. Hence, behavior derives from individual choices, guided by individual decision-making processes (under conditions of bounded rationality). As a consequence, the possibility of changing collective behavior stems from the capability to influence individual decision-making processes.

This means that the analysis and understanding of the specific decision environments and the individual decision-making processes are essential for influencing the behavior of subjects.

The next teaching module will fill the gap with respect to the knowledge of behavioral science.

The fourth teaching module will shed light on more innovative answers to the last questions proposed in this module.

Opportunities to enhance the learning experience

It is interesting to underline how participants' involvement may differ, basing on their background, their experience, their theoretical knowledge.

Destination managers and policymakers will be contributing to the discussion of Stage 1 and, particularly, Stage 2. They might be reluctant to criticize the mainstream approach, but for sure they would be interested in becoming acquainted with new strategies.

University students in tourism management would find it hard   to understand the issues related to tourism planning and the complexity of the real world. Case studies can be helpful for overcoming their resistance. Furthermore, for them, it could be difficult to make examples, but they can be very good in providing suggestions,   hypothesizing applications and make connections with other topics related to other subjects they are studying

Business practitioners may find the discussion on the planning process a bit boring (they may perceive an excess of bureaucracy in that process). However, they would be very active in the discussion about the stakeholders' perspectives. They may also contribute on the discussion of the possible effects of the UNWTO's strategies and measures.

Recognizing the participants' different backgrounds, interests, and attitudes is then fundamental to adopt a consistent teaching approach and balance the timing of the class discussion. In mixed classes, it is a good idea to ask participants whether they have experience in tourism planning and/or in tourism sustainability since their contributions may stimulate and enrich the whole discussion.

Key Takeaways

At the end of this Teaching Module, trainees should be acquainted with the most common strategies adopted to limit the negative impacts of tourism on sustainability.

These consolidated strategies for promoting tourism sustainability can be grouped into two main categories:

- Regulation: This involves the establishment of rules, laws, and standard procedures that prohibit unsustainable behavior and enforce proper conduct. This category includes fines and penalties for offenders.
- Persuasion: This category focuses on actions aimed at modifying tourists' value systems and objectives. These interventions aim to raise awareness among tourists about sustainability issues and/or make sustainable behaviors advantageous or desirable for them. Examples include marketing, commercial promotions, discounts, and incentives.

These two categories of strategies are implemented in a planned and top-down manner by an omniscient decision-maker/policymaker. The behavior of tourists is perceived as a collective construct, malleable by the decision-maker.

It is important for the trainees to understand the following at the end of this training module:

1. Tourist behavior is far from being an integrated and homogeneous construct; it is, in fact, composed of a myriad of individual behaviors;

2. Tourism sustainability can be improved by addressing individual behaviors and the decision-making processes that guide those behaviors;

3. Policymakers and tourism decision-makers currently lack strategies and tools to understand and act upon individual behaviors effectively;

4. Strategies for intervening in individual behaviors can become an additional category of interventions that complement and integrate the two traditional categories;

5. In the upcoming training modules, methods and strategies will be defined to analyze and influence individual tourist behaviors.

REGULATION

PERSUASION

TOURISM POLICY-MAKING
TOURISM PLANNING
TOURISM MANAGEMENT

Green
tourist
behavior
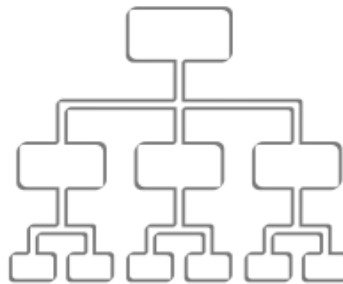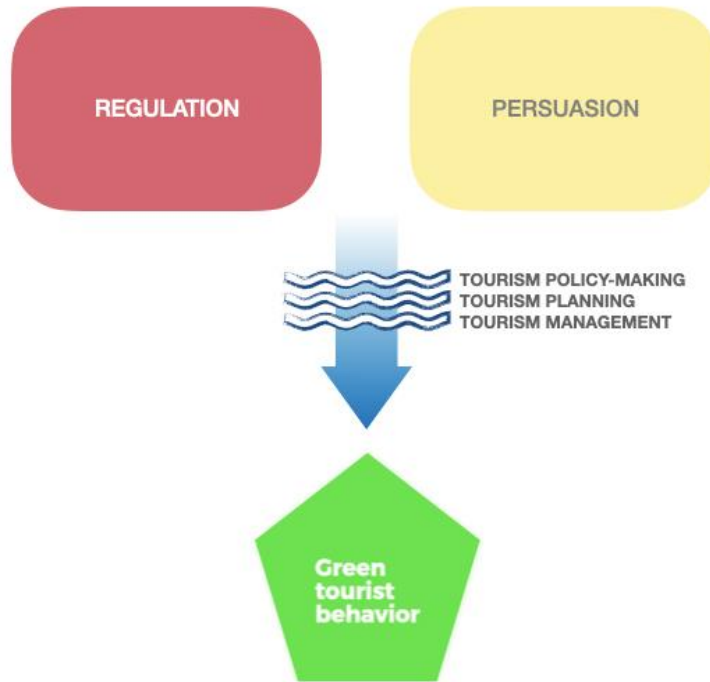
Mainstream approach reifies tourist behavior into a collective construct → Collective behavior is the subject of analysis and intervention

The behavior of tourists is composed of a myriad of atomic behaviors
Behavior derives from individual choices, guided by individual decision-making processes (under conditions of bounded rationality)
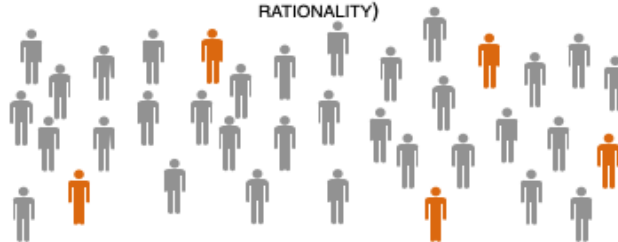
THE ANALYSIS AND UNDERSTANDING OF THE SPECIFIC DECISION ENVIRONMENTS AND THE INDIVIDUAL DECISION-MAKING PROCESSES ARE ESSENTIAL FOR INFLUENCING THE BEHAVIOR OF SUBJECTS

The following infographics from the Informative Toolkit can help summarise some of the key messages from this chapter:

TEACHING MODULE 3:
The behavioral approach

Didactic Plan

SUMMARY

After taking an overview of tourism, its key facts and figures (Chapter 1), we have seen that there are many approaches to its sustainable development, but that some of them are still relatively unexplored, such as the behavioural approach (Chapter 2). This Chapter aims to introduce the behavioural approach and to teach the behavioral aspects on which a nudging intervention can be developed. To change tourist's behavior by effective nudging, it is necessary to know how people make decisions and the errors in judgment to which they are exposed. The module will therefore explain some of the key notions of behavioural science, and their application in real-life problems: judgment, decision and rational axioms, dual process theory and prospect theory, as well as heuristics and nudges. Finally, the module will illustrate one of the existing frameworks that allow to analyse a problem and build a nudge to address it: the BASIC© framework.

TARGET AUDIENCE

This teaching module is suitable for being taught to different target audiences:

- Practitioners, particularly tourism entrepreneurs and managers, policymakers, and destination managers;
- M.Sc. students in tourism management;
- Undergraduate students in tourism management.

TEACHING OBJECTIVES

The teaching objectives that the module can support are:

- Understanding how people (really) take decisions: decision-making and judgment processes, theories of rational decisions, and how the violation of rationality axioms explains humans' bounded rationality.
- Understand dual-process theories: how the intuitive and automatic systems interact and conflict in our brain when we think and decide.
- Understand how people assess probabilities and outcomes and how these assessments influence behaviours.
- Understanding the human brain's shortcuts in decision-making, their pros and cons.

READINGS

- Ruggeri, K. (2021). Psychology and Behavioral Economics: Applications for Public Policy. (Chapters 1, 2, and 3).
- Sustain and Thaler, 2009, Nudge (Part 1: Humans and Econs).
- Tversky, A., Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*.
- Kahneman, 2002, Maps of bounded rationality, *Nobel lecture*.

- Kahneman, D. (2011). Thinking Fast and Slow (Parts I, II and IV)
- Tversky, A., Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*.

TEACHING APPROACH AND STRATEGY

The instructor can adapt the proposed material based on the audience, using, for example, the reduced program if the audience is already familiar with some of the behavioural economics concepts covered, or if there is less time available. Each module is provided with description of constructs and examples specific to the tourism context.

TEACHING PLAN

The teaching plan can be developed taking as reference the four proposed modules. The level of analysis and depth to be devoted to each stage depends on the proposed teaching strategy. As a rough guideline, we consider the time needed to address the topic to be 5.5 hours.

Stage	Topic	Time
Stage 1	Chapter 3.1. Judgment, decision, and the rational axioms.	90 minutes
Stage 2	Chapter 3.2. Dual-process theories	90 minutes
Stage 3	Chapter 3.3. Prospect theory	60 minutes
Stage 4	Chapter 3.4. Heuristics	60 minutes
	Total time	300 minutes

OPPORTUNITIES TO ENHANCE THE LEARNING EXPERIENCE

The chapter is crucial for everyone from practitioners, particularly tourism entrepreneurs and managers, to policymakers, and destination managers, but also for students. Becoming familiar with the processes that lead people to make decisions allows us to better understand behaviors and be able to intervene by developing nudging interventions appropriately.

Recognizing the different backgrounds, interests, and attitudes of participants is a good strategy for broadening discussion and sharing practical experiences.

TEACHING MODULE INTRODUCTION

The following pages provide an introduction to the teaching modules included in this chapter.

Stage 1. Judgment, decision, and the rational axioms.

The first part of the module aims to introduce the main concepts of the psychology of judgment and decision-making, what drives human behavior and which benchmarks we can use to assess the quality of our decisions.

Topic

The chapter begins with a quick definition of the terms essential for understanding the module: decision, judgment, and choice, and the difference between uncertainty and ambiguity. Often decisions are defined as an intentional and conscious process, yet the literature shows that decisions are often influenced by factors of which the decision maker is not aware or not in control of. The chapter then develops with a discussion of the Theory of rational decision making according to which decision-makers would always be able to choose the best possible option. We then define the concept of expected value, which allows us to assign a quantitative weight to the alternatives from which the decision maker can choose and allows us to rank the alternatives according to a value that tells us what we should do.

Stage 1 highlights the limitations of the rational theory of choice by introducing the utility function and thus including subjective values in the decision-making model.

Stage 1 proceeds with a discussion of how human beings, not being rational agents, often violate the axioms of rationality and act not following the dictates of rational theories. Discussion of the violation of the axioms of rationality is important for the introduction of the theory of bounded rationality (Simon). The theory of bounded rationality assumes two main concepts:

- Heuristic thinking: humans constantly strive to maximize the efficient use of limited resources, rather than trying to maximize utility.
- Satisfaction principle: people strive to find a satisfactory answer to a problem and, once found, they stop without seeking even better solutions.

> **Questions to animate the discussion:**
> - Do you think a person can sift through all possible travel options?
> - Do you think it is possible to consider all the pros and cons of a trip?

> **Questions to drive the discussion toward the next teaching block:**
> - How you decide where to go on vacation?
> - Do you only consider going to cheap places? or places nearby?

Stage 2. Dual process theory

Stage 2 describes the dual process theory, according to which decision-making processes are the result of processes acted upon by two systems of the human brain: System 1 (automatic and fast) and System 2 (analytical and slow).

Topic

The chapter starts with the presentation of the dual-process approach to the way humans think and reason. The model defines two different systems, System 1 and System 2, which in different ways guide people's thinking. The former is described as intuitive, fast, and not requiring attention, while the latter system is described as slower and requiring cognitive resources.

The chapter proceeds with a description of the interactions of the two systems. System 1 automatically jumps to a conclusion; System 2 should check it and let the behaviour stick to the automatic conclusion only when it is believed to be the right response to the specific situation. It is important to underline that our cognitive system and our attention are limited, and this affects the number of assessments that can be made. This means that often our System 2 accepts the justification produced by System 1 without really assessing whether they make sense, because there is not enough time or cognitive resource.

The second stage proceeds to explain why the two systems conflict. Specifically, System 2 is rule-based and can be effective in sifting through the conclusions provided by System 1 only when it knows what the right thing to do is. Thus, it may be the case that System 2 does not check carefully enough what System 1 suggests but it is equally true that in many important decisions, people may lack information or expertise (or both) and this greatly reduces System 2's ability to intervene. The chapter points out that these System 1 suggestions, however incorrect, are actually very useful because they enable people to get on with their lives and navigate a world that is constantly changing and presenting them with new problems.

The chapter concludes with a description of the role of self-control in prompting us to process information carefully, rather than jumping straight to an easy solution.

> **Questions to animate the discussion:**
>
> - What system drives the choice not to book air travel with a connection at an airport where we missed a flight in the past?
> - What are the consequences of booking a trip while we are doing other activities?

> **Questions to drive the discussion toward the next teaching block:**
>
> - Is it easy to assess the outcomes of a possible situation? How easy is it to predict whether we will miss a connection?
> - How much can losing a flight or connection "hurt" us?

Stage 3. Prospect theory

Stage 3 describes prospect theory, highlighting how real people choose and why their behaviour does not always conform to assumptions of economic rationality.

Topic

The chapter introduces the prospect theory developed by Daniel Kahneman and Amos Tversky in 1979. It is called a "descriptive" theory, since it explains how real people choose and why their behaviour does not always conform to the principles of economic rationality. According to prospect theory, two distinct stages characterize how people make decisions: the editing stage (simplifying prospects) and the evaluation stage (evaluating prospects).

Stage 3 then discusses how people evaluate probabilities, described by the "weighting function." This function represents the objective probability of an outcome on the x-axis and the subject's

weight on the y-axis and describes how well people perceive extremes (0% and 100%), while intermediate probabilities are perceived subjectively and not according to their objective value.

Stage 3 proceeds with a discussion of the main contribution of prospect theory: the value function. This function describes how most people evaluate outcomes (e.g., gains and losses). The basic features of the function are:

1. The relative value of an outcome (gain or loss) depends on the reference point used by the decision maker (it is important to note that the reference point is updated continuously).
2. Both gains and losses have decreasing marginal utility.
3. The function is steeper for losses than for gains: this implies that the subjective perception of a loss is more extreme in people's mind than that of a gain.

These three features of the value function are extremely important because they help understand some important distortions in human behavior and subtleties to which human decision-making is subject. For example:

- Framing: The way a problem is expressed has a significant impact on people's preferences because the value function has a different pattern for gains and losses, and most people tend to be risk-averse when it comes to gains (they are reluctant to risk when the alternative is a smaller but sure gain), while they are risk-seeking when it comes to losses (they are willing to risk a larger loss if there is a chance to avoid a sure loss).
- Status quo bias: This effect depends on the fact that people prefer to stay in the condition they are already in (the status quo) rather than change it. The following is a list of some of the reasons why people are reluctant to change the status quo: i) that they are not sure whether or not the change will lead to an improvement compared to the current conditions; ii) the current condition is more familiar (uncertainty avoidance); iii) because change requires too much effort, cognitively/emotionally, economically or in terms of time.
- Endowment effect. Because of loss aversion, selling (vs. buying) an object means giving it up and this causes people to experience a loss (vs. gain). Therefore, when people are asked to set the lowest price at which they would be willing to sell an object, they set a much higher price than they would be willing to pay to buy the same object.

Questions to animate the discussion:

- Why does missing a train, a bus or a flight hurt us so much?
- Why do sudden price increases on online platforms make us so nervous?
- What insurance would you choose for our next trip?

Questions to drive the discussion toward the next teaching block:

- Do we really analyze all possible options to make the best decision?

Stage 4. Heuristics

The fourth stage gives a definition of heuristics and describes the main ones.

Topic

Heuristics are strategies that our brain uses to "reduce the complex task of assessing probabilities and predicting values to simpler judgment operations." Heuristics contribute to people's subjective perceptions of the world and life while influencing how people evaluate the outcomes of their choices and the chances they have of achieving them in the future. In a sense, because heuristic processing is primarily rapid, intuitive, and based on our experience (System 1), it creates different possible worlds and perceptions depending on who is evaluating a particular situation. However, on many occasions, these simplified strategies are also generalized to situations in which the decision maker might use rather simple statistical or logical principles.

- Representativeness heuristic. Representativeness heuristic is used when determining whether a stimulus A belongs to category B or whether event A originated from process B. To answer this type of question, one looks at how similar event A is of process B (or category B). If A is similar to a prototypical element of category B, the conclusion is that A is also part of category B. For example, if we are in another continent and take a low-cost flight we may think that the experience is the same we are used to have at home when in fact low-cost flights are very different when in Europe or the United States.
- Availability heuristic. This heuristic is used to judge the frequency of an event and is based on the ease of retrieving instances of that event (or similar ones) from memory. This heuristic works particularly well when people are judging the frequency of events they are familiar with. However, it can lead to errors when applied to events that are not well known. For example, availability heuristics makes us think that flying is dangerous because we have heard several times about air crashes in the news (while the news never talk about all the times when a flight reaches its destination safely, which happens thousands of times every day).
- Anchoring and adjustment. This heuristic is used when people are asked to make a precise numeric estimate. On these occasions, decision-makers anchor their response to a specific value and adjust it toward what they think the correct answer should be. For instance, when tourists have to use a foreign currency, they create an anchor that is easy to compute (e.g., $100 in £) and then adjust toward the specific price (e.g., $134) they have to pay.
- Affect heuristic. This heuristic is based on the fact that we often rely on our emotions, rather than factual information, when making decisions. A positive feeling leads people to like, want and experience a specific situation (e.g., a vacation), whereas a negative feeling leads them to dislike and avoid the stimulus or condition that elicits such a bad reaction. For instance, people are more likely to visit destinations where they had a good experience in the past or that have been positively reviewed in the news or suggested by their friends, whereas they might feel uncomfortable committing money to visit places they are unsure to like.

> **Questions to animate the discussion:**
>
> - Why do we always prefer to travel with the same airlines/travel companies?
> - In booking your next vacation, how rational are you and how much are you influenced by emotions?

REDUCED PROGRAM FOR CHAPTER 3

Some audiences might already be knowledgeable on some of the concepts of behavioral economics described in these chapter, while others may not need to know all the details. In both cases this reduced chapter that focus on the main concepts would be useful for them. To follow the reduced program, please refer to the information below. This reduced program for Chapter 3 is also a good option for instructors who don't have enough time and may desire to leave some concepts out or provide some materials as add-ons not discussed in class.

In all cases, chapter 3.5 must be done in its entirety.

The following is a possible structure of the reduced program:

Part 1. Judgment, decision, and the rational axioms:

- Only present the slides on bounded rationality. These slides are useful to then transition to the following subsection on the dual process theories.
- Use slides 10, 11, and 12 from the file titled "Chapter 3 – Behavioral approach Module1"

Part 2. Dual-process theories:

- This is the section on the dual-process theories and should always be presented in its entirety.

Part 3. Prospect theory:

- Only present the slides on the value function, framing and the status quo.
- These slides cover some of the most important effects in behavioral economics and concepts that emerge often in interventions such as nudges and behavioral insights more in general.
- Use slides 10 to 14 included from the file titled "Chapter 3 – Behavioral approach Module3"

Part 4. Heuristics:

- Here you can choose based on your audience or the time available.
- You don't have to cover all heuristics but can present just one to provide an example of this type of intuitive strategies.
- If you decide to cover only one heuristic, the easiest to understand, and potentially the most useful, are usually the availability heuristic and the affect heuristic.
- The suggestion for those who do not feel comfortable to choose the heuristic they want to present is to present only the affect heuristic to cover a bit much the emotional factors that can impact our behaviors and not just the cognitive ones.
- If you follow the suggestion at the previous point then use slides 17, 18, and 19 from the file titled "Chapter 3 – Behavioral approach Module4"

NOTE: Of course, if you know what the strengths and weaknesses of your audience or their prior knowledge are feel free to select the topics in a different way and simply cover what they already know in a brief way. If you have more time, but not enough to go through all material, the suggestion is to skip some of the material in the first module and maximize coverage of the remaining three modules.

Part 1. Judgment, decision, and the rational axioms

GOAL: Use the answers to analyze why we need to understand behavior and to discuss with the participants how their examples conform with the definition of decision.

Readings:

- Ruggeri, K. (2021). Psychology and Behavioral Economics: Applications for Public Policy. (Chapters 1, 2, and 3).
- Sustain and Thaler, 2009, Nudge (Part 1: Humans and Econs).
- Tversky, A., Kahneman, D. (1981). The framing of decisions and the psychology of choice. Science.
- Kahneman, 2002, Maps of bounded rationality, Nobel lecture.

Why should we study human decision-making? And, more importantly, what drives human decision-making? These are questions that scholars from different disciplines (e.g., philosophy, mathematics, economics, psychology, law, political science) tried to answer for centuries. We now have a host of information about what decision-making is, what factors impact human behavior, and why people not always do what is in their or their community best interest.

We all have heard of people being unresponsive to climate change and we have experienced the effects of the underestimation of the coronavirus pandemic. What about people who would like to exercise or read more, those looking to learn a foreign language or quit smoking? Why people fail to achieve these goals more often than they succeed. Can we help them? When we talk about tourists and all the actors involved in tourism, is there a way to make them behave in a way that simultaneously increases the quality of the experience while respecting the environment, the art, and the local traditions?

Here we will assess the main concepts of the psychology of judgment and decision-making, what drives human behaviors, which benchmarks we can use to assess the quality of our decisions, and why the human brain is both very efficient in using information and prone to make mistakes.

1.1. What is a decision

Most definitions of a decision abide to what is usually the everyday man perception of it. For instance, a definition that is considered among the best states that a decision is a choice between different alternatives based on an assessment of the outcomes that each alternative offers and a set of expectations by the decision-maker (Hastie & Dawes, 2001).

> **BOX 1**
> **I What is a decision?**
>
> A decision is our reaction to a situation characterized by three different components:
> - A chance to evaluate more than one path of action (or alternative).
> - The presence of expectations (subjective probabilities) regarding the likelihood of achieving the outcome of each path of action.
> - The presence of consequences associated with the outcomes (consequences that can be assessed based on the personal values and objectives of the decision maker).
>
> *(Hastie & Dawes, 2001)*

Although this is a very good definition of what a decision is, it focuses exclusively on decisions that are made intentionally and consciously. This is how most of us think a decision is made. We think hard about the problem at hand, seek information, weigh such information, and then move in the direction that looks the most appropriate based on the assessment we have made. How comes, then, that we see so many people make decisions that sound awkward when they are not plain wrong? Decisions are often impacted by factors that exert their influences in an unconscious way, that is without the decision maker's awareness. For instance, people's decisions are often impacted by the context (e.g., time constrains, number of alternatives), apparently irrelevant factors (e.g., framing, numerical formats), or unconscious processes (e.g., feelings, familiarity, priming). In the next sections we will analyze in more detail these unconscious factors and the way they can bias human decisions and behavior.

1.2. Decision, judgment, and choice

Before we start to analyze the drivers of human behavior, we need to quickly review a series of definitions to make sure that we share the same terminology and framework. For instance, many people would use in a somewhat interchangeable way the terms decision, judgment, and choice. In the judgment and decision-making field, these three words have different, and more precise meanings. Specifically, the decision is the entire process by which people: i) represents the problem in their minds; ii) estimate the expectations of what they can achieve; iii) evaluate the possible outcomes; iv) select an alternative; v) assess whether the outcome met the initial expectations. This entire process can then be divided in two main sub-processes: judgment and choice. With judgment we identify the first part of the decision process, that is the decision-maker attempt to assess the expectations, possible outcomes, and consequences of his/her actions. With choice we identify the second part of the decision process, that is the selection of an alternative (or the decision to do nothing, which is one of the viable alternatives when the decision-maker can keep the status quo unaltered).

Other important concepts in decision-making pertain to the domains of risk and uncertainty. On most occasions, people make decisions under conditions in which they do not know what will happen. In other words, they will choose an alternative that can lead to several outcomes and the decision-maker may or may not know what the exact likelihood associated to each outcome is. When the likelihood is known, we talk about decisions under uncertainty. A common example of a decision under uncertainty are the gambles (e.g., a gamble offering a 50% chance to win 100 Euros, a 25% chance to lose 200 Euros, or a 25% chance to get nothing). Gambles are characterized by offering different outcomes, with different probabilities. Importantly, the decision maker knows the exact probabilities associated to each outcome. For instance, with a bit of effort, tourists could find information about the likelihood of a flight delay in a specific airport. Let's say that the likelihood is 20%. Knowing this information, tourists could represent their decision to buy a ticket with a shorter connection time or one with a longer connection time based on how likely it would be to make it to the next flight on time. This does not mean that the shorter connection time will not work, just that buying that ticket may be riskier than buying the other one. If delays are frequent out of the departing airport it might be less likely to get to the next flight on time, however if no delay happens the shorter connection will allow to reach the destination earlier and save time.

Differently, in decision under ambiguity the decision makers know that their decision can lead to one of the several outcomes possible, but they do not know the exact likelihood associated to each of these results. This is the condition in which tourists are most of the time. Let's go back to the previous examples and imagine that the tourists have not made the effort of finding out how likely it is for their flight to be delayed. Even without this information, most people would be wary of connections that are too short, because if something does not go as planned, they will miss the following flight. This time the decision is made in conditions of ambiguity because the precise likelihood of something going wrong is not known. Still, the tourists can use experience, knowledge of a specific airport, or caution in making their decision. They might infer that if an airline is offering that itinerary with a short connection, they are confident there is enough time. Or, maybe, they might not trust the airline and prefer to book a different combination of flights depending on the decision attribute that is most relevant to them (e.g., time saved or the annoyance of missing the connection – or price if different for the two alternatives).

BOX 2
The difference between uncertainty and ambiguity

Imagine these two different situations. On the left, you have an urn (Urn A) with 100 balls. 50 balls are red and 50 are yellow. If you pick a ball from Urn A, what is the chance that it is red?

On the right, you have an urn (Urn B) with 100 balls either red or yellow. You do not know how many red and yellow balls there are in the run. If you pick a ball from Urn B, what is the chance that it is red?
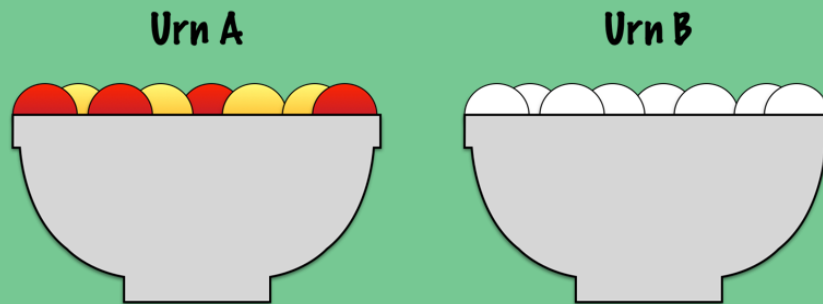
- How much would you be willing to pay to participate in a game that pays you 100 euros if you draw a red ball from Urn A without looking inside it?
- How much would you be willing to pay to participate in a game that pays you 100 euros if you draw a red ball from Urn B without looking inside it?

When these two questions are answered at the same time, most people compare the two urns and are willing to pay more when playing the game with Urn A rather than with Urn B. Knowing the probabilities makes it easier to assess one's chances to win the 100 Euros. Without probabilities we are lost. What if, in Urn B, all balls are yellow, or only one ball is red? The chances would be stacked against us… but we do not know. In Urn A, we know that we have a 50–50 chance to win and can gauge how much to pay knowing that the payoff is 100 Euros.

To better explain the difference between decisions under uncertainty and ambiguity, think about entrepreneurs who must assess the risk to their business. For some risks, they will be able to quantify both the likelihood of their occurrence and the consequence they will produce (uncertainty). An example of this type of risk could be that of an issue in the supply chain. The entrepreneurs can look at historical data and assess how often disruptions hit the supply chain or their suppliers specifically. For other risks the likelihood of occurring is unknown, therefore these risks are uncontrollable or not measurable (ambiguity). For instance, it might be hard for an entrepreneur to foresee a major technological change and especially to time it. Similarly, they may not be able to compute the likelihood of a new company producing a groundbreaking product that will change their industry forever. The entrepreneurs can find effective ways to control uncertainty and use their assessment to minimize those risks, but they won't be able to control ambiguity as effectively.

1.4. Theory of rational decision.

How would you define rationality? What characterizes a decision or behavior that we would consider as rational? Can you make one or two examples?

For as long as humans have walked on planet earth, they have attempted to develop a model of optimal decision-making. But what is an optimal decision? How can we define an optimal decision so that we are able to assess whether people are making the best choice or not? To our help comes the work of many philosophers, mathematicians, and more recently economist. They developed a series of principles according to which people should be able to always make the best possible choice. Before we get into the details of these principles, we must define the concept of expected value (EV). The EV is a central concept because it allows to assign a quantitative weight to the alternatives the decision-maker can choose from. The way it has been developed it considers both the value of the outcomes of an alternative and the likelihoods associated with each outcome. Thanks to the EV, we can rank the alternatives based on a value that tells us what we should do. Once we agree on ranking the quality of the alternatives based on their EV, we know what the optimal decision is and should expect a rational agent to consistently select the alternative with the highest EV. In an abstract world, computing the EV is not particularly difficult and can be done using the following formula:

$$EV = \sum_i P_i V_i$$

As it can be seen, EV corresponds to the summation of the products of each outcome value (e.g., 100 Euros gain) by their respective probability (e.g., 10%). In Box 3, we analyze how to compute the EV of a gamble with more than one outcome. Bear in mind, however, that this computation is still relatively simple with gambles because all the information is usually stated explicitly and the only effort we have to make is to apply the formula.

Fig. 1. The rational method to compute the Expected Value (EV) of an alternative is often too hard an effort for humans.

Imagine the following gambles:
Gamble A. A 100% chance to win 100 Euros.
Gamble B. A 25% chance to win 200 Euros and a 75% chance to lose 50 Euros.
Gamble C. A 25% chance to win 800 Euros and a 75% chance to lose 100 Euros.

Computing the EV of Gamble A is quite simple because there is only one outcome and it is a sure one (100% chance to achieve it). If we apply the formula:

EV = $\sum_i P_i V_i$

We have:

EV = 100 * 1 = 100

Where 100 is the amount of Euros we can win, whereas 1 is the probability of winning it (probability is expressed on a scale from 0, no possibility to achieve that outcome, to 1, certainty to get it).

Computing the EV of Gamble B is a bit more difficult because this time there are two different outcomes, and each has a specific probability associated to it. Thus, applying the formula to this second gamble, we have:

EV = 200*.25 + (–50*.75) = 50 – 37.50 = 12.50

As a result, when facing these two gambles, a rational agent would always select Gamble A. However, it would be a mistake to think that the rational agent should select Gamble A because it is a sure gain. In fact, we should think to these choices as decisions that people do repeatedly. Therefore, a rational agent could prefer Gamble C below to Gamble A, because it has a higher EV even though sometimes it will return a loss. On the long run, gains from Gamble C will outrun the losses and make it better than the sure gain offered by Gamble A.

EV = 500*.25 + (–100*.75) = 200 – 75 = 125

We will see later that humans not necessarily make decisions using the EV formula, and this is true even when the value of each alternative is relatively easy to compute like with gambles. For instance, a lot of people prefer a sure gain and would choose Gamble A and only take risks if the reward of such decision is way higher than expected by the economic models.

Starting from the concept of EV it became possible to develop a theory to try to predict people's choices. To exist, such a theory, needed more than just a criterion to define optimal decisions. Two important elements that needed to be thought of were respectively: i. the goals of the rational agent; ii. the principles allowing to predict how the rational agent would achieve its goals. The theory needed to be as general as possible, therefore it had to include a general motive for agents to constantly select the alternative with the highest EV (thus justifying that the agent will choose the alternative with the highest EV even when it would hurt someone else's feelings or when they could have helped others and so on). This question was answered, not without discussion and with plenty

of disagreements, by stating that a rational agent has three main features: i. self-interest; ii. full information; iii. infinite resources for computation. With these features, a rational agent would always have the information to compute the EV, would have the resource to make the computations even in very demanding situations (e.g., evaluation of stock performance), and the agent would always select the alternative with the highest EV because it maximizes the self-interest. The agent full information is also very important to make sure that it has stable preferences, meaning that he knows what is best regardless from the specific alternatives available or the way they are presented. Preference consistency, that is the stability of behaviors over time, has been achieved through a set of logical axioms such as transitivity or invariance (see Box 4 for a list and definitions of the most important rational axioms).

If we translate this to the tourists experience it would mean that they are able to make all sort of computations required, e.g. switch from their home currency to a foreign one without making mistakes or rounding up the prices (there is extensive literature showing this is not the case). Similarly, tourists would be expected to have the motivation to explore all possible traveling options, flight connections, prices, and so on (but we know that most people stop searching for alternatives when they find one that is sufficiently good rather than the absolute best one – see bounded rationality below). Finally, tourists should know exactly which type of trip/vacation (e.g., mountain, beach, artistical city) they prefer and how the different solutions rank relative to each other – and this ranking should be stable regardless from the different comparisons available (if the beach is the best type of vacation for them, it should always be preferred to anything else).

Definition of the most relevant rational axioms.

The most important rational axioms are the following:

➜ Independence axiom: This axiom states that preferences should depend exclusively on the outcomes (or features) that are not shared across the different alternatives. In other words, the maximization of utility is achieved by eliminating the states of the word that are independent from the chosen alternative (meaning those outcomes that the decision maker would achieve regardless from his/her choice because are offered by all available alternatives).

If we have two gambles like the following:

Gamble X. A 50% chance to win 100 Euros and a 50% chance to win 75 Euros

Gamble Y. A 50% chance to win 100 Euros, a 25% chance to win 200 Euros, and a 25% chance to lose 80 Euros

Our decision should not be influenced by outcomes that are the same in both alternatives. Regardless form our choice (be it to play Gamble X or Gamble Y), we will always have a 50% chance to win 100 Euros, it is the other outcomes that count because they offer us different things depending on what we choose.

➜ Transitivity axiom: This axiom states that if a person prefers Alternative A to Alternative B, then it should always prefer Alternative A to B. It also means that if we add an Alternative C, inferior to Alternative B, this should not change the decision to choose Alternative A.

This is a necessary and sufficient assumption to produce a stable order of utility associated to each alternative and serves the objective of modeling the rational agent consistent ranking of preferences. Therefore, the rational agent choice should not depend on which alternatives have been presented together with the favorite one, the one with the highest utility.

The best example to understand this axiom is the following:

Alternative A > Alternative B > Alternative C > Alternative D

No matter what, if Alternative A is present, the rational agent will always choose it; if it is not present, the rational agent will always choose the best option available according to the ranking above.

➜ Dominance axiom: This axiom states that when an alternative is better than another on at least one attribute (and not inferior on the other attributes) it will always be chosen. It is the dominating option.

A stochastic form of this axiom suggests that when facing risky alternatives and mono-dimensional ones, agents should always prefer the alternative whose cumulative distribution is the most skewed to the right. In the figure below, A should always be preferred to B.

Negative outcomes ← → **Positive outcomes**
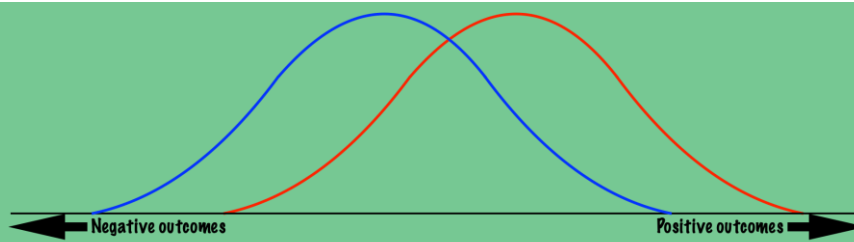
The red distribution dominates the blue distribution

➔ Regularity axiom: This axiom states that in a binary choice, the preference for an alternative depends on its relative value (relative utility) compared to other alternatives. If the number of alternatives increases, the relative popularity (frequency of choice) of two alternatives already available should not change. The compromise effect (figure below) and attraction effect (or asymmetric dominance) are examples of violations of the regularity effect as described in the marketing literature.

You are planning a 10-day vacation, what is your favorite solution?

Choice set 1

Itinerary 1
- Three-star hotel
- €1500

Itinerary 2
- Four-star hotel
- €2500

Choice set 2

Itinerary 1
- Three-star hotel
- €1500

Itinerary 2
- Four-star hotel
- €2500

Itinerary 3
- Five-star hotel
- €5000

Example of compromise effect: more people choose Itinerary 2 in the second choice set than in the first one.

➔ Invariance axiom: This axion states that when an alternative is preferred to another one, such preference should be independent from the method used to assess it (e.g., choice, rating scale, willingness to pay – WTP, or willingness to accept – WTA).

Furthermore, preferences should not change or "reverse" depending on how information is presented (e.g., problems presented in positive vs. negative terms – framing, different but logically equivalent numerical formats, or presence of a comparison – joint vs. separate evaluation).

This axiom is fundamental because it ensures the stability of preferences. Once we have uncovered what is preferred by an agent, it is irrelevant how the preference will be measured or what type of information it will be presented with, the preference will not change. Together with transitivity, invariance ensures that we can model an agent behavior and generalize it to different contexts without the risk of having too much variability. The agent knows what it wants and has stable preferences.

For more details on the violations of these rationality axioms see: *Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. The Journal of Business, 59, S251-S278.*

It might appear, at this point, that the rational theory is a little naïve. We all know that there are differences among people, and therefore we cannot reduce everything to a single number indicating the goodness of each alternative we face. Of course, this point has not been lost to the

economists and philosophers who tackled this type of questions. However, it was thanks to a mathematician, Daniel Bernoulli, that we had a first, important attempt to include subjective values into the model of decision making. To achieve this goal, Bernoulli started from a game known as the St. Petersburg Paradox (see Box 5).

BOX 5
The San Petersburg Paradox.

In this San Petersburg game, people must first bet a sum of money. Once they accept to play the game and made their bet, a coin is tossed. If the outcome of the coin toss is head the starting payoff is doubled (e.g., from 2 to 4 Euros), and the coin is tossed a second time. If the outcome is head again the payoff is doubled once more (e.g., from 4 to 8 Euros). The game ends as soon as the outcome of the coin toss is tails. At this point the participant gets the amount accrued during the game minus the amount he/she had bet at the start. Typically, people are not willing to pay much in such a game, mainly because they can anticipate losing money if they get tails in one of the first rounds. However, the game can offer a good amount of money because, by doubling the payoff at every round, it reaches high values quickly (e.g., with ten heads in a row the payoff is 1,024 Euros).

Although the probability of a new head is lower at every round because it is contingent on the outcomes of the previous rounds (i.e., it depends on the previous outcomes being heads as well), it is not impossible to get several heads in a row. In fact, by a purely probabilistic point of view the chance of obtaining an infinite number of heads in a row is higher than zero. Since the coin has "no memory," at every round there is a 50% chance to get heads. The contingent chance to get another head, after previous ones goes down at every round because it is the product of the probabilities of obtaining heads in each round up to that point but is never zero (the result of a product between numbers above zero cannot be zero). For example, getting a head on the first coin toss has a probability of 50% (.50), while two heads in a row have a chance of .25% (.50 * .50 = .25) since the possible combinations are four (first coin toss – second coin toss): head–head, tails–tails, head–tails, tails–head, and we are interested in achieving only one of these combinations (head–head); three heads in a row have a probability of 12.50% (.50 * .50 * .50 = .125). Therefore, the chances of getting a head decrease at every round, but they will never reach zero.

This means that, if we apply the formula to compute the EV to the St. Petersburg game, the result is an infinite EV. A rational agent should be willing to pay a very high amount of money to play the game if, and only if, we only consider the EV but humans do not, hence the "paradox". In real life, people bet only very small amounts of money in the game and that is because they would not be very happy if they get a tail after just one or two rounds. Bernoulli was puzzled by this mismatch between what was suggested by the mathematics of the optimal choice and people's actual behavior, thus he decided to find a solution to this puzzle and formalized the concept of utility function – a sum of money that people may gain is not evaluated the same way at all times, but gets less and less attractive as we get richer and richer.

And the answer was that of creating a utility function. The main point of the utility function was to describe how people evaluate money (or other quantities that they can gain in a game like the St. Petersburg paradox). The figure below shows typical utility functions corresponding to agents with

different risk attitudes. Most people are thought to follow the first image on the left, the one that describes a risk averse attitude. What we can see is that the subjective value of money is very high when people gain their first few bucks but diminishes as their wealth increases. What this means is that, in a game like the one Bernoulli was studying, doubling the payoff becomes not as attractive beyond a certain value and people do not take risks to get them (but they would take risks if the payoff was significantly larger).

Going back to our example of the short flight connection, people will likely avoid taking a risk if that solution only allows to save little money on their travel (or not too much time in terms of arrival time). However, if the price difference is large, people will likely take a risk to save a substantial amount of money (and even if the miss the connection, they will be less annoyed knowing that they were able to avoid a higher cost).
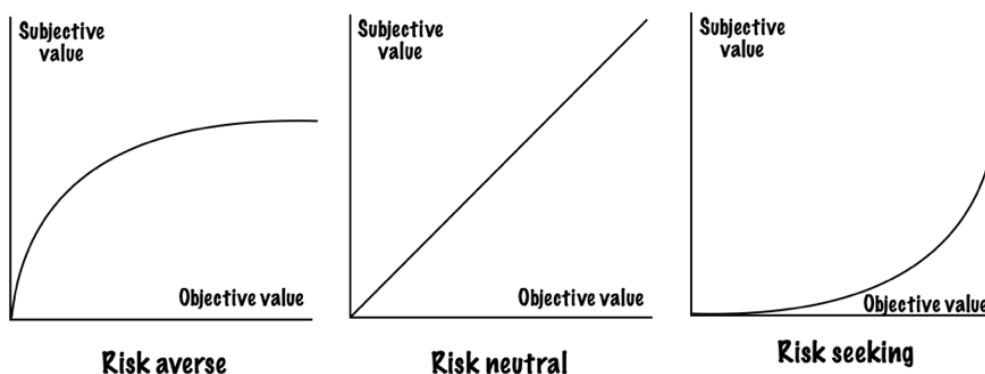
Figure 2. Different types of utility functions.

1.5. Violation of rational axioms.

With time it was demonstrated that humans, unlike rational agents, often violate the rational axioms and behave in a way that is not consistent with the rational theories (so much so, that they may even choose alternatives that do not maximize utility). Many examples are available of violation of rational axioms, and it would be a waste of time to review all of them or even many of them, thus we will simply present a few examples to clarify what this means. Most demonstrations have been proposed using gambles because this is the simplest format to describe a decision under uncertainty. One example is the following case of violation of independence:

Please, choose one of the following trips:

- TRIP A: A 50% chance to win a 3-week trip to England, France, and Spain.
- TRIP B: A 100% chance to win a 1-week trip to England.

In this case, most people prefer the sure outcome (1-week trip to England). Now imagine this second case:

- TRIP C: A 5% chance to win a 3-week trip di England, France, and Spain.
- TRIP D: A 10% chance to win a 1-week trip to England.

This time, most respondents prefer the alternative offering a 3-week trip to the one offering only 1 week in England. This is a violation of independence because the alternatives C and D are simply A and B with the respective probabilities reduced to 1/10 of the original values (50% in alternative A

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became 5% in C, while 100% in alternative B became 10% in D). When both probabilities are low, and none of the alternatives are sure, then people are willing to take chances and aim for the largest price rather than play it safe.

There are many instances of violation of rational axioms that happen in more ecological situations even within the tourism domain. Many of these come from the marketing literature. For instance, imagine this situation:

CONDITION 1: "You are thinking to go to Hawaii on a two-week vacation. On a website you find the whole package available at a discounted price of 2500 Euros instead of 3000 Euros."

What would you do? Would you buy it? Most people who are interested in this destination would say yes, they want to take advantage of the discount. Now imaging the following situation:

CONDITION 2: "You are thinking to go to Hawaii on a two-week vacation. On a website you find the whole package available at a discounted price of 2000 Euros instead of 3000 Euros. You decide to think about it a little and when you check again the price has gone up to 2300 Euros."

In this second case, many people would be less willing to buy the vacation even though it is still discounted, and it is even less expensive than in the first case. However, they are now anchoring their assessment of the cost on the first discount (2000 Euros) rather than the full price (3000 Euros). As a result, the new deal (2300 Euros) does not look as good since they feel like they are losing 300 Euros. This is a violation of the transitivity axiom, since in the second case the vacation package is clearly the best (based on the available information). Unsurprisingly, in condition 1, people find a price of 3000 Euros as worse than a price of 2500 Euros but, because of the different comparisons available, in condition 2 they are less willing to pay 2300 Euros than they would be to pay 2500 Euros. It is true that people who see the 2300 Euros price do not see the 2500 Euros offer, thus cannot compare them (if they could, they would never make this mistake). However, if they were rational agents, they would have known the value of each price even without comparing them and would have valued the difference. This is also a display of an important feature of human decision-making. We make decision on the spot with the information we have in front of our eyes thus being influenced by the different comparisons available from time to time.

One of the questions we can ask ourselves, is why are people unable to make the best possible decision or to be consistent in their preferences even when the situation is quite simple and there is not too much information to process? A first piece of this puzzle is answered by the theory of bounded rationality.

1.6 Theory of bounded rationality.

An important point to stress about the rational theories of decision that we have just covered is that they do not make any hypothesis about the processes that lead to an optimal decision. In fact, no hypothesis is made about how the rational agent arrives to a decision. At least in their original form, these models provided principles that one should follow, but then look only to the outcome of the decision. If a decision is optimal or not, it is implied from its outcome. To economists, people are not making all the complex computations that rational agents are expected to make, but it is "as if" they are making these computations. Thus, the process is not so relevant as it mimics the rational one and the outcome is enough to assess whether it has been followed or not. If the outcome is suboptimal, then the process followed is not the right one.

GOAL: Assessing whether the participants have understood what we mean by rational decision-making; are their examples of "irrational" behavior at odds with the rational theory of decision-making? Or are they just listing behaviors that are at odds with their way of seeing a tourist's experience? Before moving on and showing why it is normal, and even effective, for human beings to behave in a way that does not necessarily conforms to the principles of rational decision-making, it is useful to see what participants mean by "irrational" decisions; what are the examples they make? We can start now to channel their understanding of what it means to decide "irrationally" and why it happens.

In psychology this changed with cognitivism that supplanted behaviorism and started to investigate psychological processes by way of the now famous analogy of the "brain as a computer." By this analogy, cognitivists were able to make hypotheses on how people would process information thus leading to the creation of experiments that could test such hypotheses. Nowadays, thanks to the neuroscience, we are even better equipped than in the past to look at psychological (and psychophysiological) processes, although we are still unable to "see" them and still need to make inferences (these days even economists have become interested in the actual processes and have embraced methodologies and techniques developed in psychology and neuroscience).

A notable precursor to the cognitive revolution, and subsequently one of the main exponents of this movement, was Herbert Simon. Simon was not a psychologist by training but was one of the first to understand the potential of artificial intelligence (AI) and simulation. To understand the problems AI was supposed to solve or help with (e.g., complex engineering projects or medical diagnoses), Simon ended up studying human decision-making and developing what was at the time a revolutionary theoretical framework. He understood that human decision-making is limited by the interaction between the characteristics of the cognitive system and the environment in which the decision is made. As such, Simon hypothesized that humans were limited in their attention span (that is, they could only attend to a limited amount of information at the same time). For instance, when tourists are making travel plans online, they can take advantage of websites offering a huge number of different alternatives in which many different features are mixed in unique ways. If we go back to the example of the flight connection. People can check online numerous alternatives with different prices, different itineraries, and length of connections. However, they will not be able to remember all the alternatives available for their trip. As a result, they would focus only on some of them, maybe disregarding trips that are too expensive or those that require too many stops. They will memorize and really assess only a few alternatives that they perceive as acceptable for their specific needs (e.g., reaching the destination as fast as possible or avoiding annoying issues). This is exactly what Simon meant by saying that our cognitive system has limited resources and is compromised by request of the surrounding context. In this example, people can only compare a few alternatives otherwise the information is too much, and they cannot keep it all in mind at the same time. Either they compare several alternatives on a specific attribute (e.g., price) or they select just a few and compare them on multiple attributes (e.g., price, departure/arrival time, stops, airlines, airports, and

so on). Companies know these limitations all too well and try to leverage on them telling costumers that there are only a few seats still available at that price creating an urge to complete the purchase before the best deals are gone.
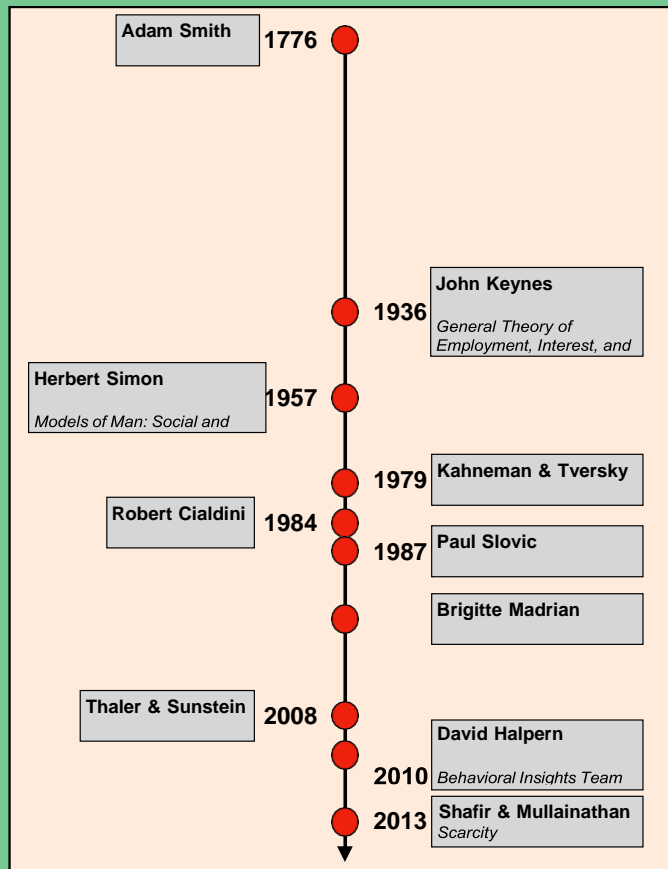
Simon's work showed that people accept results that they know are not optimal when this allows to save cognitive energies. In other words, this means that human beings are constantly striving to maximize the efficient use of limited resources rather than trying to maximize utility. This process of trading off the quality of the decision for speed and energy saving was dubbed by Simon as bounded rationality. By this label Simon intended to highlight that human beings strive for the highest quality of decision possible and can certainly understand and follow the rational principles. However, they rarely do so because the complexity is so high that they need intuitive strategies to save energy and jump to a conclusion without going through all the steps. To define this "shortcutting" process, Simon borrowed the term "heuristic" from informatics. A heuristic is a process whereby we input some information and get a result without going through all the steps required.

Importantly, by studying engineers, managers and chess players, Simon introduced another concept, the satisficing principle. This principle voluntarily mixes the concepts of satisfy and suffice to explain that people strive for a satisfying answer to a problem and once they reach it, they stop without searching for even better solutions. Going back to our example of booking a flight, the satisficing principle states that people would choose a solution that is good enough rather than perfect. Among the available options, they will select a few that satisfy their main needs and then choose one of them even though they might know that a longer search could have led to a better decision. As long as the final decision is in the price range they deem acceptable, does not have too many stops, and the time available for the connecting flights is neither too short nor to long, they will be satisfied with their choice.

The theory of bounded rationality was fundamental to shift the attention from the outcome of the decision (*instrumental rationality*) to the process with which the decision was achieved (*procedural rationality*). It offered a first account of the limitation of people's cognitive resources and how these limitations are impacted by environmental factors such as: time constraints, number of alternatives, or number of attributes used to describe each alternative. Simon's work showed how easy it is for the cognitive system to be overwhelmed by information, even when people are motivated to do the best job they can. Without the theory of bounded rationality none of the following contributions would have been possible and it is likely that the behavioral approach as we know it would not exist.

BOX 6
The history of the behavioral approach (*adapted from Ruggeri, 2021*).

Adam Smith	1776
John Keynes *General Theory of Employment, Interest, and*	1936
Herbert Simon *Models of Man: Social and*	1957
Kahneman & Tversky	1979
Robert Cialdini	1984
Paul Slovic	1987
Brigitte Madrian	
Thaler & Sunstein	2008
David Halpern *Behavioral Insights Team*	2010
Shafir & Mullainathan *Scarcity*	2013

The following infographics from the Informative Toolkit can help you illustrate the concept of bounded rationality and other elements explained in this section:
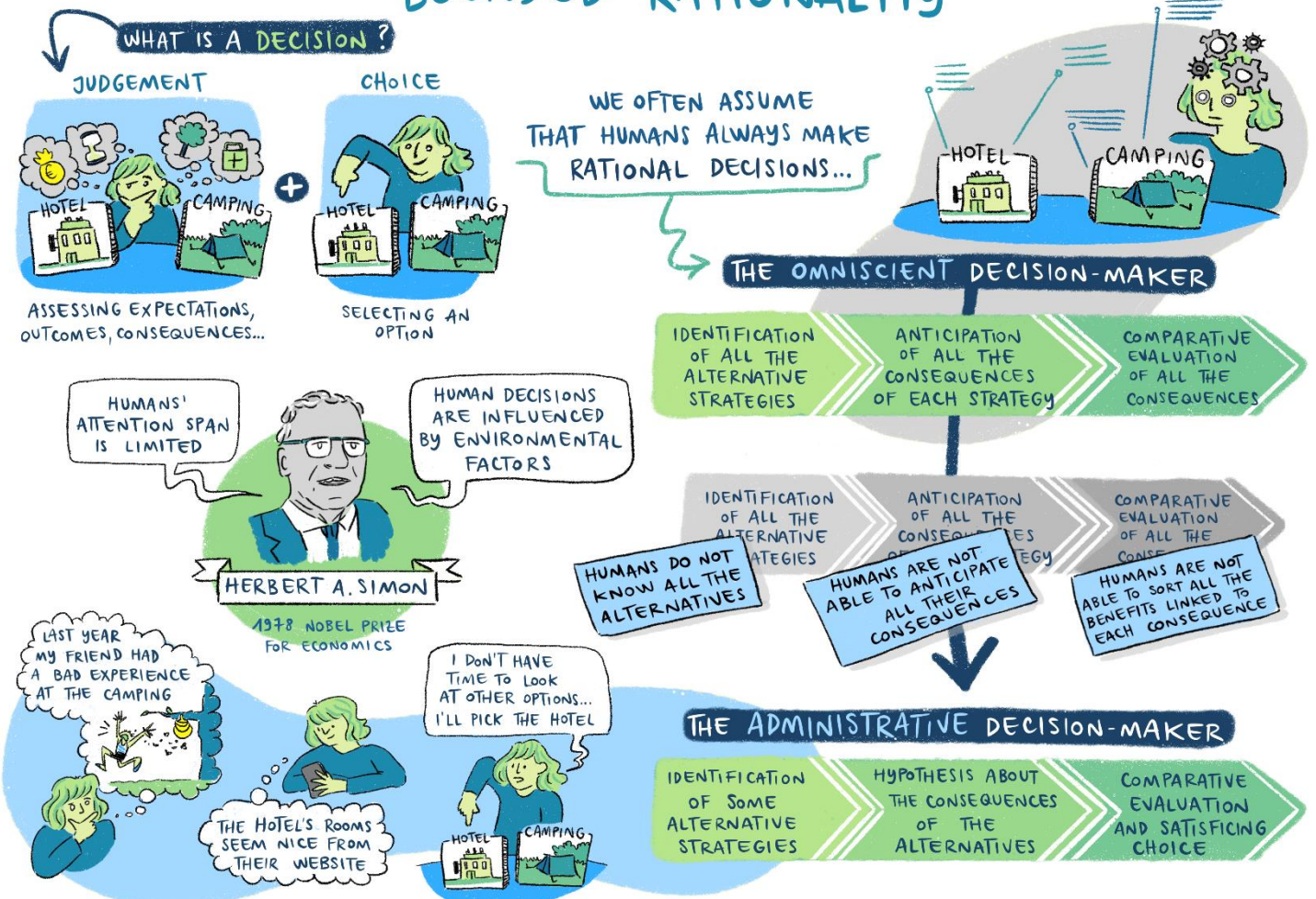
BOUNDED RATIONALITY

ABSOLUTE RATIONALITY	BOUNDED RATIONALITY

ALTERNATIVES

ABSOLUTE: ALL ALTERNATIVES ARE WELL KNOWN

BOUNDED: KNOWLEDGE OF ALTERNATIVES IS ALWAYS FRAGMENTARY

CONSEQUENCES

ABSOLUTE: THE CONSEQUENCES OF EACH CHOICE CAN BE ANTICIPATED

BOUNDED: THE CONSEQUENCES OF EACH CHOICE ARE IMPERFECTLY ANTICIPATED

PREFERENCES

ABSOLUTE: THE DECISION-MAKER HAS A PRE-DETERMINED UTILITY FUNCTION

BOUNDED: PREFERENCES ARE FUZZY AND CHANGE OVER TIME

DECISION

ABSOLUTE: OPTIMAL DECISION

BOUNDED: SATISFICING DECISION

HOTEL

CAMPING

OPTION 1
OPTION 2
OPTION 3
OPTION 4

I HAVE UNLIMITED TIME AND COGNITIVE CAPACITY TO CONSIDER ALL OPTIONS AND THEIR CONSEQUENCES

I AM NOT INFLUENCED BY EXTERNAL FACTORS

I MAKE THE BEST POSSIBLE DECISION

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I AM NOT ABLE TO CONSIDER ALL OPTIONS AND ANTICIPATE THEIR CONSEQUENCES

TIME IS LIMITED AND I HAVE TO SAVE MY COGNITIVE ENERGY FOR OTHER DECISIONS

HOTEL

CAMPING

I MAKE A DECISION THAT IS GOOD ENOUGH

Part 2. Dual-process theories

> **Ice-breaking questions:**
>
> - How do you choose where to go on vacation? Do you follow your heart or analyze which places are likely to be cheaper or less crowded?
> - When you plan a trip, what factors do you consider? Cost? Effectiveness of the transportation? Time spent traveling?

GOAL: Use these questions to make people start thinking about what impacts their decisions and especially the unconscious (System 1) factors that they are often unaware of.

Readings:

- Kahneman, D. (2011). Thinking Fast and Slow (Parts I)

2.1. Intuition vs. deliberation.

Another key theory to understand why people do not follow the principles on which is based the theory of rational decisions is the dual-process approach to the way humans think and reason. This framework identifies two different thinking systems: System 1 which is fast, unconscious, and does not require much effort and System 2 which is slow, conscious, and requires plenty of cognitive resources (attention, memory, self-control). The labels System 1 and System 2 are linked to the stages in which they have developed in the evolution of humans and the way they mature in individuals during life. System 2 is the most recent, and it is commonly identified with the neocortex (the two hemispheres); for behavioral planning and reasoning, a major role is played by the frontal lobes that are the very last structure to have evolved and the one that matures latest during an individual's life (around 30 years of age). The prefrontal lobe regions are involved in functions such as planning, being conscious of one's feelings, empathy and the consequences of our actions on others (or others' actions on how we feel).

Most people identify themselves with System 2 and naively believe to be always conscious of what they think and what impacts their behavior. Psychological research, however, showed that this is not the case, and this conclusion is consistent with Simon's theory of bounded rationality. The brain has developed in a way that allows it to save as much energy as possible for the occasions in which it is really needed. To achieve this goal some functions are automatic. A good example of the two systems and how they work is shown in Box 7.

Difference between the automatic, unconscious processing of information (System 1) and the deliberate, conscious one (System 2).

Look at the left panel in the image below, what do you see? Do you see a happy person? That is what most of us see, but regardless from that, even if you identify a different emotion with the facial expression of the woman in the picture, what is sure is that you did not have to think about it. The answer came automatically to you. Experts of emotions would point out that when people activate the zygomaticus muscle and extend their smile, we perceive it as a sign of happiness or positive emotion. However, when looking at the picture none of us makes this type of analysis, we are used to infer that a person is feeling good when their face has that particular expression and we jump straight to that conclusion (for instance, we do not ask any information about the context in which the picture was taken, maybe this woman was smiling nervously to yet another male joke made by her boss). Therefore, this is an example of how System 1 works.

Now, look at the panel on the right, and count the number of ducks painted in green. This is not a difficult task, the ducks painted in green are quite easy to spot among the yellow ones. However, if you are motivated to do a good job or if you get a reward for giving the right answer, you will have to scan the image, focus your attention, and count the number of ducks painted in green. The answer is 6. Did you get it right? If you did, it means you used System 2 and exerted self- control to get to the answer. It also means that you have spotted the for roosters painted in green. If your answer was 10, then it means that you were still relying on your System 1 too much (and not taking the task seriously!).
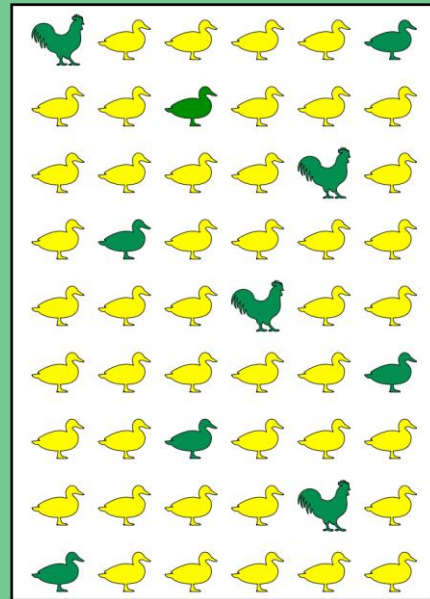
If we go back to our example of the flight connection, the tourists will compare some options and then make a choice. Some people are more analytical than others, but we know that something along these lines could happen: i) some tourists will believe they have thought hard about what to do, but really they may simply decide to buy the itinerary with the longer connection because it includes stopping in an airport they have already been in the past (this is not an irrational decision, but it is driver by System 1 because the analysis serves to justify a gut feeling that stopping in a familiar airport is more convenient than stopping in an unfamiliar one); ii) similarly some tourist will choose the itinerary that is cheaper because they experience negative feelings paying more for another

alternative (again, they will find justifications for their decision, for instance rationalizing that if the connection is short that is because the airlines know it will be fine or they might believe that they are accurately balancing the risk of missing the connection and the benefit of getting to the destination earlier).

Although we are characterizing System 1 and System 2 as independent processes, this is just a simplification to make these concepts clear to understand. However, the two systems as the extremes of a continuum. Sometimes people tend to rely more on the intuitive, automatic System 1 whereas on other occasions they try to exert the maximum effort to achieve the best solution possible. For instance, on many occasions the issue that arises when we see a behavior that seems illogic or incorrect is not that people failed to analyze the situation but, rather, that their analyses were biased by their intuitive, unconscious reactions. Maybe, they were not actually weighing all the information objectively but according to their intuitive opinions and attitudes about the problem at hand. If tourists have a positive attitude towards a specific destination, they will easily overvalue the positive things of that place and undervalue the negative ones. In the remaining of this presentation, we will keep the distinction between the two processes but let's not forget this is just an expedient to simplify things a bit.

We can develop a taxonomy of tasks and activities that are more likely to be handled by System 1 and those that are more likely to engage System 2 (see Box 8). Of course, there will be variability among different people because they will have experienced and training on different activities (not everyone knows how to ski) and they will care about different things (not everyone looks for months to find the best discounts on the hotel for the next vacation). Hence, it is important to know what people who are visiting a specific location are looking for, what they expect to find and so on to develop the right tools and programs to impact their behaviors. Some of these factors will be easy to spot, others will be harder to identify and will require interviews or analysis because they are unconscious and people find it difficult to explain them in words (as a matter of fact, they might not be aware of the role the unconscious factors play in their choices).

System 1 (also labeled: intuitive, automatic, unconscious, "irrational") is more suited for the following activities:

- Perception (e.g., perceiving that an object is farther away than another).
- Orienting attention towards the source of a sudden, loud noise.
- Expressing disgust while watching a revolting image (e.g., a horror movie).
- Easy computations (e.g., 2 + 2).
- Driving a car on a desert road.
- Understanding easy sentences (e.g., commercial, or political slogans).
- Enjoying a sunset on the beach.

Thus System 1 is particularly good at completing tasks that are innate (e.g., physiological reactions we have in common with other animals such as: thirst, hunger, sleep) or learned through intense repetition and training (e.g., driving, riding the bike, and so on).

These are the elements of thought engaged by System 1: i) Emotions, ii) Free associations, iii) Similarities, iv) analogies, and v) concrete and vivid examples.

System 2 (also labeled: deliberative, analytic, conscious, "rational") is more suited for the following activities:

- Focusing attention (e.g., when focusing on someone's voice in a crowded room or reacting to a starting gun).
- Searching for a specific information in mind.
- Maintaining a faster walking pace than normal.
- Monitoring our behaviors in a social context.
- Telling a phone number to someone else.
- Deciding how to invest our money.
- Looking for the best vacation package.

In general, System 2 is important when we need to focus on what we are doing and our performance decreases when we do not pay attention. For instance, driving is an automatic task for most of us and we can talk to another passenger or listen to music, but it would require System 2 if we are driving in the UK, and we are not used to be on the left side of the road.

These are the elements of thought engaged by System 2: i) abstract information (logical thinking), ii) formal rules (e.g., of language or mathematics).

2.2. Attention and decisions.

Within this theoretical framework a very important role is played by the interplay between the two systems. To achieve a good performance in our decisions it is very important that System 2 oversees the activity and conclusions reached by System 1. In other words, System 2 should be conceived as a gatekeeper that let go only the information that are instrumental to achieve a correct, answer. In other words, if System 1 jumps automatically to a conclusion, System 2 should check it and let the behavior fallow the automatic conclusion only when it is deemed to be the right answer to the specific situation. However, System 2 is a very lazy gatekeeper, and this has to do with the limits of our cognitive system, and especially our attention.

It is common knowledge for most people that it is hard to maintain the focus of the attention and that doing so requires a lot of self-control. Often, when people are tired or not sufficiently motivated, they do not put in the effort to carefully assess the information and the potential solutions to a problem. As a result, the quality of what they do decreases, and decision errors become more likely.

What is less commonly understood is that the brain is constantly balancing the amount of effort exerted and the quality of the decisions it achieves. In other words, we tend to save as much cognitive energy as possible even though we know that this could make our judgments and decisions a little less accurate. This is a perfectly fine thing to do when we are dealing with very simple decisions that require minimum analysis, familiar decisions that we have made many times in the past, or when the feedback on our choice is immediate (so that we can learn whether we were right or wrong and update our behavior the next time).

Unfortunately, many of the most important decisions we make are complex, we do not make them often, and the feedback is deferred in time (when there is at all feedback!). As a result, the effort to save energy for later tasks creates an asymmetry where System 2 does not always summons the required attentional resources and lets many of the intuitions of System 1 slip through. It trusts System 1, otherwise people would be tired and exhausted very quickly. System 2 often accepts the justifications produced by System 1 without really assessing whether they make sense. If tourists need to use a trash bin, and the trash bin is far away, they may consider throwing the trash on the ground. Sure, some of them will resist this urge and walk to the trash bin. Others will follow their System 1 and come up with some justification such as "this place is very dirty anyway, using the bin makes no difference" or "everyone is throwing stuff on the ground." If people do not have strong environmental values or if they are tired (e.g., parents on the beach with young children who are sapping their cognitive resources), their System 2 may accept the "not-so-reasonable" justifications produced by System 1.

Finally, errors and dips in performance can happen when what we do is beyond our attentional capabilities. For instance, people can do two tasks at the same time if they are very easy (e.g., wash the dishes and talk to a friend), but multi-tasking is detrimental to the quality of our performance and decisions when people need to focus their attention on what they are doing. When System 2 is activated, it is very efficient at focusing attention on the task at hand but since attention is a finite resource, we find very hard to divide it between two different tasks without a deterioration of the performance in both. For instance, the tourists who visit a city are often confronted with the need of adapting their habits to the place they are visiting. The hotel beds might not be as comfortable as those they have at home, the choices for breakfast might not reflect what they usually eat (especially if they are visiting a country with a very different culture), they need to figure out what to do during the day, how to move around, where and what to eat, and so on. All these decisions can sap a person's cognitive resources and open the way for System 1 which is going to become more relevant to the decisions made during the trip. Tour operators know this very well and can use these conditions to their advantage leading people to spend more money or to visit specific attractions. As we will see, there are ways to make sure that, at the same time, the interest of tour operators and local institutions is achieved while ensuring that tourists have a pleasant experience and are not exploited.

The following infographic from the Informative Toolkit can help you illustrate the dual process theory:
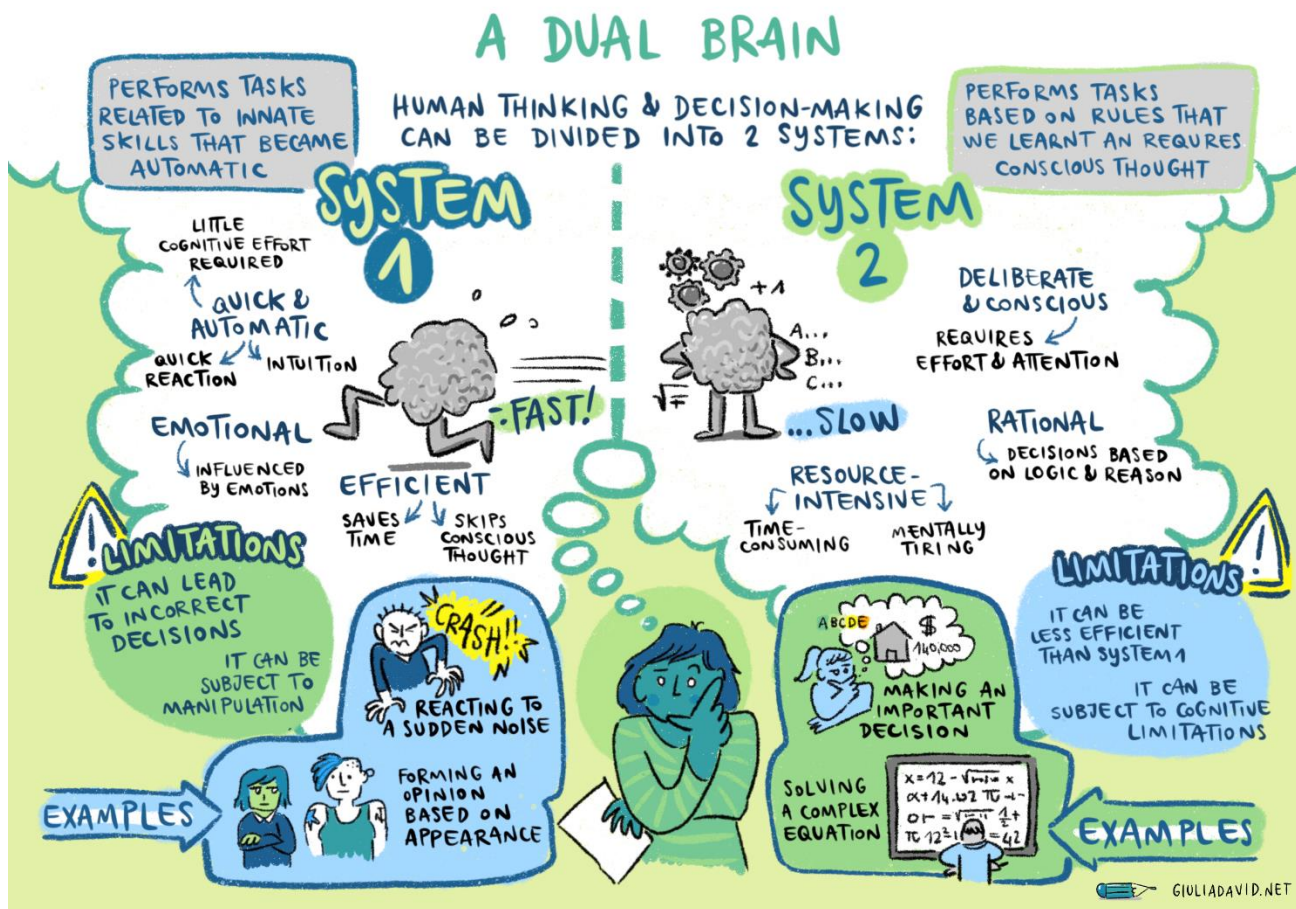
2.3. The conflict between the two systems.

As we already mentioned, System 2 is lazy in controlling the activity of System 1 and, as a result, many of our intuitions and feelings end up biasing our thoughts and behaviors. However, it must be said that the task assigned to System 2 is a daunting one. Since this system relies on rules, it can be effective in vetting the conclusions provided by System 1 only when it knows what the right thing to do is. Therefore, it is true that on may occasion System 2 is simply not controlling carefully enough what the System 1 suggests (e.g., eat the cake even if we are on a diet). Still, it is equally true that in many important decisions people may lack information or expertise (or both) and this significantly reduces the ability of System 2 to intervene. If people do not know which information they need or do not have the expertise to assess how reliable the information they receive is, it becomes very hard to know what to do. Even if they focus their attention and try hard to find the correct solution, System 2 does not know how to deal with the problem while System 1 is constantly coming up with intuitive ideas until a plausible one is found.

Importantly, these suggestions from System 1, as incorrect as they might be, are actually very useful because they allow people to keep going with their lives and to navigate a world that is constantly changing and present them with new problems. Despite all its shortcomings, this way of dealing with unknown situations allows the brain to be flexible, without getting people stuck and unable to move on.

For instance, tourists that are visiting a foreign country in which information about public transportation is presented mainly in the local language may not be able to rely on System 2 to figure out if they are on the right train or not. Imagine tourists who are travelling on a budget and have not paid for the internet connection abroad. They could ask the information to some fellow travelers, but they might not speak a fluent English. The only viable solution is to figure out an intuitive strategy based on what they know about the country and adjust their travel plans (e.g., should they jump off at the next station and see if they find information about where the trains on that line are headed?)[2].

There are of course plenty of situations in which System 2 intervenes and blocks the intuitive inferences made by System 1. It happens when people know the rules required to solve a problem and have the cognitive resources to complete the task. When this happens, and the information do not require extensive elaboration, System 2 can easily realize that the solution provided by System 1 does not fit the rules we are expected to follow and corrects our initial, automatic response (an example of a very easy situation in which System 2 can intervene and correct System 1 is provided in Box 9).

As mentioned before, it would be wrong to think that every time there is a conflict between the two systems, System 2 should prevail. It only prevails when it has a chance to anchor its assessment on rules that have been learned. Without a clear directive on how to proceed, System 2 will be lost and very likely will end up following the suggestions coming from System 1. This will potentially lead to errors but will also allow to respond somehow to the circumstances and to move on without getting stuck.

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[2] This is example is based on a somewhat similar experience we had in the Netherlands when a colleague and I were leaving Groningen to reach Schiphol Airport in Amsterdam. It was January, and intense snowfalls had fallen for the previous two days. We heard on the news that trains were having trouble reaching the airport because of a power outage. Once at the station, we thought whether to take a bus or a very expensive cab ride to make sure we would get there on time then, as the train was about to leave, we made a rushed decision to board trusting that the problem would be solved by the time we reached the airport. We spent the whole trip asking a very compassionate lady to translate all communications from the speaker since they were all in Dutch!

BOX 9
Conflict between the two systems.

A simple an elegant example of the conflict between the two systems is the Stroop Effect. In this task that was developed to study cognitive inhibition and attention, people have to complete two different tasks:

- Taks 1, congruent trials: People have to read a series of color names (e.g., green, red, blue).
- Task 2, incongruent trials: People have to say the ink color used to print the word (e.g., green, red, blue).

In the second task, System 1 is very quick at reading the word (green) but System 2 knows what we have been asked to do (say the ink color, not reading the word) and corrects the answer produced by System 1. Here there is a conflict and System 2 can override the conclusions of System 1 because the rule to follow is clear and easy to assess. Of course, that means that the answers take a few milliseconds more in the incongruent trials than in the congruent ones because we people are not just answering automatically but need to assess their answers and make sure they are completing the task correctly. This is way this task was interesting for scholars studying inhibition and attention. System 2 oversees the inhibition of the answer that comes intuitive to System 1 and has to change it if it is wrong. This take (a bit of) time because it requires to consciously process the answer provided by System 1, remember the rule for the specific task, compare the answer to the stimulus and decide whether it is consistent with the rule (no change needed) or not (then System 2 will find out what is the correct answer).

You can try it for yourself; name the color in which each of the following words is written and go through the list as fast as you can:

RED // BLUE // GREEN // GREEN // BLUE // RED // BLUE // RED // RED // GREEN

If you followed the instructions, you probably had an experience in which System 1 would read the words very quickly, while System 2, more slowly, would try to correct System 1. At some point, you may have felt a dissociation since System 1 was reading a word toward the end of the list (e.g., red) while System 2 was still trying to figure out if the answer to an earlier word (e.g.,) was correct or not. At this point you may have started to just read the words because System 2 gave up and was unable to follow the quicker System 1. This happens because you were told to go as fast as possible, if you had plenty of time to answer to each trial (or word) no mistakes would have occurred if you paid enough attention.

Of course, no mistakes are usually made in the congruent trials, because after a few words System 2 realizes that it can let System 1 read the words (the color of the ink and the meaning of the word are the same!). Try for yourself, the goal is still to go through the list and say the ink color as fast as possible:

RED BLUE GREEN GREEN BLUE RED BLUE RED RED GREEN

This should have felt much easier, but did you realize that the third to last word (red) had a mismatch between ink color and meaning of the word? Did your System 2 intervene to change your answer? Probably it did not, by that point in the list it assumed all trials would have the same ink color and meaning... see, it is a lazy controller!

2.4. Self-control and decision.

As we have seen, System 2 can actively inhibit the suggestions and behavioral intentions coming from System 1 when there is a clear rule, or a person is sufficiently motivated to analyze the problem carefully. Motivation will help focus our attention and assess which solution is the best. However, we have also seen that System 2 often fails to keep System 1 in check. This does not happen only under conditions of uncertainty or when the rule to apply is not well defined. It also happens when people are tired, or cognitively depleted as psychologists would say.

One of the main components that help System 2 function properly and pay attention to the task at end is self-control. Self-control is very important because it drives the effort to process information carefully rather than skip straight to an easy solution. When people must focus their attention, they must do so in an active way by concentrating on what they are doing. After a while attention will start to drift away, because remaining focused is difficult and it can induce negative feelings. When attention will start to drift, and people will start thinking about other things that are going on in their lives rather than the task at hand, System 2 will consciously and effortfully move attention back to the main task. When we are cognitively depleted, System 2 finds harder to do so, our attention drifts away, and we are more likely to follow our intuitions.

This step of consciously focusing attention is undermined when people are tired or not motivated to pursue a high-quality decision. In these cases, they are unable to (or they do not care about) exerting the effort required to assess if they are behaving in the best possible way. This can lead to serious mistakes because it interferes with even very simple computations and inferences that people are constantly required to perform when making decisions. As you can see in Box 10, self-control and lack of effort can impact even very simple decisions.

The previous example on the many decisions tourist must make during a trip is an example of activities that can deplete their self-control and impair, at least to some extent, their ability to make sound decisions. Another example is when must constantly interact in a foreign language they do not speak well or when they have to keep figuring out the price of products in another currency. Even in the example of the flight connection that we have seen previously, if people are evaluating the itineraries at night after a long day of work, they might be unable to focus well and to realize the risk of a short connection or how annoying it could be to spend hours at the airport waiting for the following flight.

A famous problem used to show how easy is for people to fail in exerting self-control or to make the effort to compute the right answer is the "bat and ball problem". The problem is the following:

"A baseball and a bat cost $11 together. The bat costs $10 more than the ball. How much does the ball cost?"

This problem was created in a way that makes easy for System 1 to find an intuitive answer (the ball cost $1, this is the answer most people give), but it requires effort and self-control for System 2 to assess if the intuitive answer is correct or not. Did you make the effort?

The correct answer is not $1 but $.50. In fact the math is as follows:

- *Correct answer*: $.50 cost of the ball + $10.50 cost of the bat = $11 ball + bat *($10.50 – $.50 = $10)*
- *Wrong answer*: $1 cost of the ball + $10 cost of the bat = $11 ball + bat *($10 – $1 = $9)*

Similarly, in everyday life people may not make the effort of computing some hidden costs or to aggregate different costs (e.g., the amount spent for food during a trip, or the fuel spent to reach the airport when comparing driving their own car with the use of public transportation). They may litter because they do not make the effort of spotting where the nearest trash bin is placed and so on.

The following infographics from the Informative Toolkit can help you illustrate the conflict between the two systems:

Part 3. Prospect theory

Readings:

- Kahneman, D. (2011). Thinking Fast and Slow (Parts IV).
- Tversky, A., Kahneman, D. (1981). The framing of decisions and the psychology of choice. Science.

Prospect theory was developed by Daniel Kahneman and Amos Tversky in 1979. The theory is based on work showing that people do not follow the rationality axioms and has been integrated in the two-process framework in the last two decades (although it precedes it temporally). While the theory of expected utility must be considered as a "perspective" theory, which tells us how we should decide, prospect theory is a "descriptive" theory, which tells us how real people choose and why their behavior does not always conform to the hypotheses of economic rationality. In the current view, the two theories complement each other.

A prospect is much like a gamble with another name, and the reason for the change in the label is the fact that prospect are more effective at conveying the fac that alternatives are a mental representations in the decision-maker's mind rather than objective information (that is, they resemble the individual's subjective perspective about a problem and not the objective facts). Two distinct phases characterize the way people make decisions according to prospect theory:

- *The editing phase*, in which the prospects are mentally modified to simplify them. There are several operations that people can use to simplify the prospect, but we do not need to cover them in detail.

- *The evaluation phase*, in which the simplified prospects are evaluated and the best one is chosen. The evaluation of the prospects is carried out considering both the probabilities to reach a specific outcome and the value of such outcome. Empirical work applied to the evaluation phase showed that, for most people, we can draw specific functions corresponding to how they evaluate probabilities and outcomes. These functions help us explain some of the apparently illogic decisions humans make.

3.1. Evaluating probabilities.

How people evaluate probabilities is described by the *"weighing function"*. This function depicts the objective probability of an outcome on the x-axis and the subject weight on the y-axis. As you can see in the Figure 3 below, people have a good perception of the extremes (0% and 100%), simply indicating that they understand when there is no chance to achieve a goal and when something is one hundred percent sure. All the probabilities in between are instead perceived in a subjective way and not according to their objective value (otherwise the function would follow the dashed line in the figure). What emerges clearly from the figure is that:

- Low probabilities are overestimated, meaning that people see a low probability as a little more likely than it is (e.g., someone my subjectively weigh in their mind a 5% chance as 10%).

- Medium and high probabilities are underestimated, meaning that people see a high probability as a little lower than it is (e.g., someone may subjectively weigh in their mind a 95% chance as 90%).

These subjective weights help explain, in part, why people buy insurance for their luggage when flying (they overestimate the small chance that this would happen) but they do not buy health insurance unless specifically required (the chances that they would need medical assistance are much higher than to have your luggage lost but since it might not happen people think it is wasted money to buy that insurance). We saw many instances of a similar assessment of probabilities during the pandemic; people took chances that may have looked not that big in their mind but were seriously exposing them to infection by the coronavirus (e.g., attending crowded gatherings, going in indoor stores without a mask, and so on).
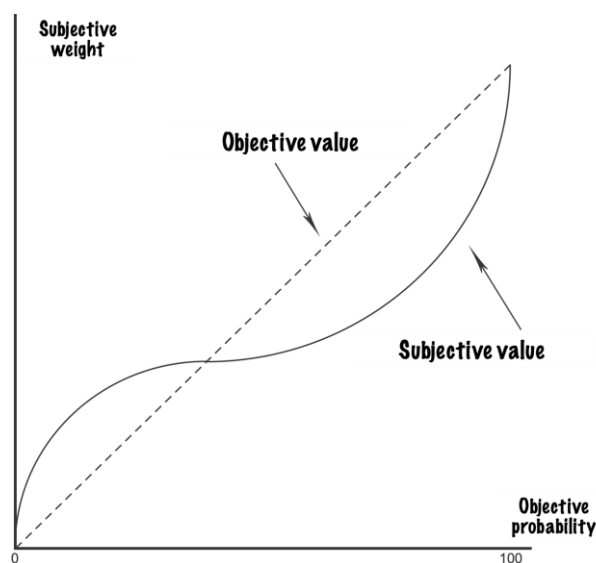
Figure 3. The "weighing function.

3.2. Evaluating outcomes.

As much as people evaluate probabilities in a subjective way, the major contribution of prospect theory lays in the value function depicting how most people evaluate outcomes (e.g., gains and losses). Compared to the theory of expected utility, the main contribution of prospect theory is in fact that people evaluate outcomes in a relative rather than absolute way. Just to make an example of this, imagine two people, John and Mary, who paid the same amount of money, €4000, for the same two-weeks trip to a beach resort. Now, let's also imagine that John was offered an original price of €5500 but, a few days later, found a special offer, while Mary saw an offer for €3000, mulled over it a bit too much and ended up paying more. If these two people have similar wealth, economists would tell us that they should evaluate their purchase similarly. However, anyone of us can quickly realize this is not the case. Of course, John is happier with the purchase because he thinks he has saved some money, whereas Mary probably thinks she has lost the chance to get a better deal.
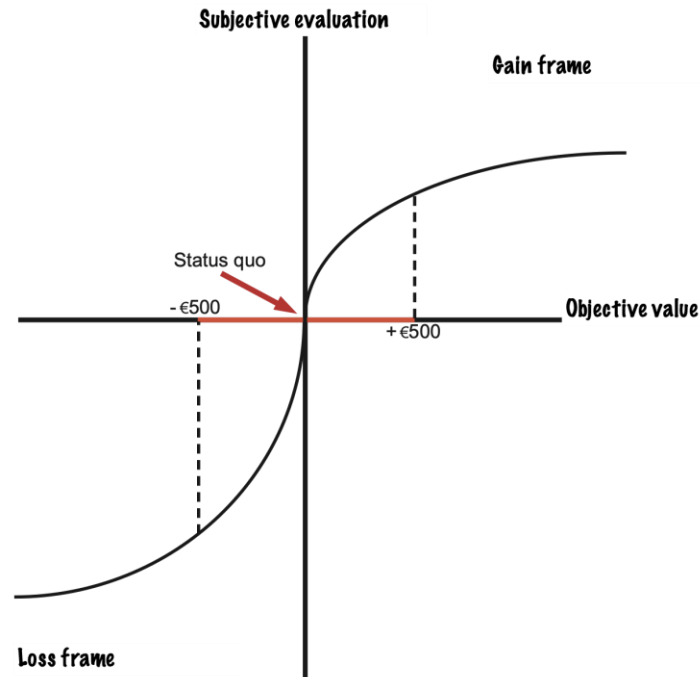
The value function is depicted in Figure 4 below.

Figure 4. The "value function."

This function has three main features that are extremely important to describe how people decide:

1. The relative value of an outcome depends on the reference point used by the decision maker. Outcomes falling above the reference point are perceived as gains (gain frame), while those falling below the reference point are perceived as losses (loss frame). The reference point is usually the status quo (the condition of the decision maker at the time of the decision), but it can also be a future aspiration (in that case, a gain that falls short of the final goal/aspiration will be perceived as a loss). Importantly the reference point is updated overtime, thus restarting the evaluation every time that this update takes place.

2. Both gains and losses exhibit a diminishing marginal utility whereby as the gains and losses increase the difference made by additional gains or losses decreases. In other words, gaining/losing 10 dollars makes a big difference when no gain or loss has been recorded yet but does not make much difference when the person has already gained/lost a large amount of money. In other words, the more people move away from the reference point/status quo the less an additional gain/loss will feel good/bad.

3. Finally, the function is steeper for losses than gains – when looking at the function close to the origins, it falls more for losses than it raises for gains. This implies that people have a subjective perception of a loss that is more extreme than their subjective perception of a gain. This phenomenon is called *loss aversion* and indicates that losing €500 is more painful than how pleasurable it is to gain €500. In other words, psychologically, a loss and a gain of an equal amount do not cancel each other out. Most people ask for a gain that is 2/2.5 times larger than the loss to feel even.

The coding of outcomes as gains or losses is what drives tourists' decision not to buy the carbon offsets for their flights. Most of them perceive it as an additional cost rather than a gain in terms of environment protection. Furthermore, the value function can be applied to resources that are not necessarily expressed in monetary terms. For instance, if planning a tour with public transportation requires a lot of time because information is unclear or difficult to find, tourists might perceive it as

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a loss and rather rent a car if their budget allows that. They will save time, effort and will be free to move around as they please. Similarly, if we want to give tourists some free perks, it might be helpful to present them as a single bundle rather than many little savings. After a few days tourists may feel that saving the same little amount every day is not equally enjoyable as it was early on.

These three features of the value function are extremely important because they help understand some important distortions in human behavior and subtleties to which human decision-making is subject.

3.3. Implications of prospect theory on behavior.

The major implications of prospect theory, and particularly the value function, in describing human behavior are the following:

Framing. Since the value function has a different trend for gains and losses, most people tend to be risk averse when it comes to gains (they are reluctant to take risks when the alternative is a smaller but sure gain), whereas they are risk seekers when it comes to losses (they are willing to risk a larger loss if there is a chance to avoid a sure loss). As a result, the way a problem is expressed has a significant impact on people's preferences. This was originally shown by the Asian disease problem created by Kahneman and Tversky (1979; *risky choice framing*) and replicated many times with several variations.

Afterwards, framing has been shown to be effective in a host of contexts, even those who are not characterized by uncertainty. For instance, it may make a difference to tell potential tourists that in your location 90% of the trains are on time or only 10% of the trains are late (*attribute framing*). Similarly, the way the consequences of a behavior are described can impact decisions. For instance, we can tell people the actions that can help reduce the impact of climate change on our lives (frame on a positive outcome) or the effects that no action will have on our lives in the future (focus on a negative outcome; *goal framing*).

An even broader definition of framing includes the effects of different numerical formats. For instance, people are more able to make probabilistic judgments when presented with a natural frequency format (e.g., 10 out 100) than with a percentage format (e.g., 10%). In much the same vein, people treat equal forms of money as different. For instance, Americans attach a higher value to the $1 banknote than to the $1 coin, whereas in other studies participants have been found to attach more value to twenty $1 notes than to a single $20 one.

BOX 11
The Asian disease problem and other framing examples.

The Asian disease problem is the classic example of framing and is characterized by two different conditions that are as follows:

Condition 1 (positive framing – lives saved):

Imagine that the U.S. are preparing for an outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed:

- Program A: Adopting this program 200 people will be saved.
- Program B: Adopting this program, there is a 1/3 probability that 600 people will be saved and a 2/3 probability that no people will be saved.

Condition 2 (negative framing – lives lost):

Imagine that the U.S. are preparing for an outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed:

- Program C: Adopting this program 400 people will die.
- Program D: Adopting this program, there is a 1/3 probability that nobody will die and a 2/3 probability that 600 people will die.

Most people presented with the first condition show risk aversion in the frame of gains (lives saved in this case are perceived as gains/positive outcome) and choose Program A. They prefer to save 200 people for sure than trying to save everyone at the risk of not saving anyone. However, when presented with the second condition, most people show the common risk seeking behavior that characterizes the loss frame. They prefer to take a gamble and try to save everyone (at the risk of saving no one) rather than letting 400 people die for sure.

It is important to note that all four programs have the same EV, and that programs C and D are created based on information that is complementary to that presented in programs A and B. Of course, the sure alternative and the uncertain ones have the same EV but widely different outcomes (the results would be comparable only if we repeat the same decision many times). However, people only look at the information that is explicitly presented to them, thus focusing their attention on lives saved or live lost elicit a different reaction and triggers different decisions (this is an example of violation of the invariance axiom).

The results also show that people are not simply risk averse or risk seekers but that their attitude toward risk changes depending on how information is presented or whether they are dealing with potential gains or losses.

The lost ticket problem:

Condition 1 (money lost):

Imagine that you have decided to see a concert where admission is $50 per ticket. As you enter the venue you discover that you have lost a €50 bill. What do you do? Do you buy the ticket for the concert?

Imagine that you have decided to see a concert where admission is $50 per ticket. As you enter the venue you discover that you have lost the ticket. The seats are not marked, and the ticket cannot be recovered. What do you do? Do you buy another ticket for the concert?

Almost everyone who is presented with the first condition is willing to buy the ticket, whereas almost half of the people who are presented with the second condition are not willing to buy another ticket. Because of the theory of mental accounting, buying a ticket twice seems a waste, but buying it after losing a bill of the same value of the ticket does not seem to be a problem. The point is that the bill was not earmarked for a specific use while the lost ticket makes people infer that they are spending twice for the same thing and to some of them this seems unacceptable. However, regardless of what we would have done with the €50 bill, what should really count is that in both cases we are spending €100 on the evening of the concert:

Condition 1:
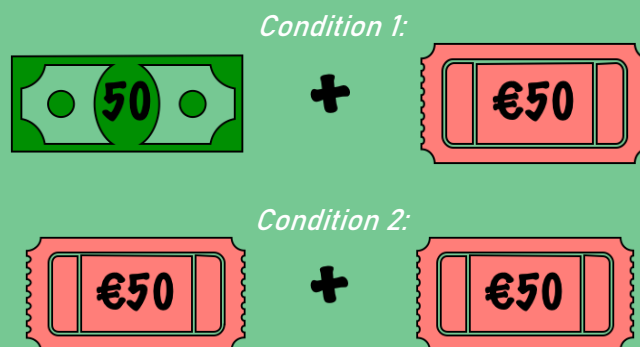
Condition 2:

Money illusion and inflation problem:

Condition 1 (12% inflation):

During a financial crisis, a company is in economic crisis. The company is based in an area that has been hit hard by the crisis and there is very high unemployment, with an inflation rate of 12%. For this year, the company decided that they will rise the employees' salary by 5%. How acceptable do you judge this decision?

Condition 2 (0% inflation).

During a financial crisis, a company is in economic crisis. The company is based in an area that has been hit hard by the crisis and there is very high unemployment, but zero inflation. For this year, the company decided that they will cut the employees' salary by 7%. How acceptable do you judge this decision?

In the first condition, most people find acceptable to raise the employees' salary to fight back the crisis whereas in the second condition the majority of respondent find the salary cut not acceptable. It is easy to see the reason of these responses. We intuitively think that raising salaries is good while cutting them is unfair. However, respondents fail to consider the inflation and to realize that in both conditions the purchasing power of the employees is reduced by 7%:

Condition 1: 12% inflation – 5% salary increase = 7% decrease in purchasing power Condition 2: 0% inflation + 7% salary cut = 7% decrease in purchasing power.

Status quo bias. This effect depends on people preferring to remain in the condition they are already (the status quo) rather than changing it. There are several reasons why people may decide not to change job, unhealthy habits, or any other behaviors. One of such reasons is that they may not be sure whether the change will bring an improvement on the current conditions or not. In doubt about the advantages of a change, people end up not doing anything. This is also related to the fact that the current condition is more familiar, and people have already developed ways to cope with it – whereas they might be concerned that a change for the worse would force them to deal with a new, less positive condition. Finally, people may not change the status quo because of inertia or because changing requires too much effort, either cognitively, economically, or in terms of time.

An example of status quo bias are tourists who prefer to drive long distances to reach the destination so that they are more flexible regarding how they plan the trip but fail to realize that it would be more convenient, less stressful, and more sustainable to travel by train and then use public transportation once at the destination. The status quo bias has a very strong influence on our behavior and is pervasive in people's live but is not always effective. For instance, the development of faster train connection among major European cities moved people away from airports since the alternative was cheaper (or at least not too expensive), did not require security checks, and the stations were much closer to downtown (thus saving a lot of time) – and trains are emit much less CO_2 emissions than airplanes.

Figure 5. Default options.

A particular implication of the status quo bias is that people are likely to keep a default option rather than change it. This is a phenomenon called *default effect* that has been very successful in policy making (e.g., opt-out programs for organ donation or retirement contribution plans).

The cartoon below, instead, shows a way in which marketing experts were able to exploit the default effect to make people pay for services or goods they value or need in addition to a cheap default option. Examples of these marketing strategies are payments for check-in bags or leg room on a flight, additional pillows at the hotels, shipping fees in online shopping, and so on. When there is a strong motivation, highlighting the additional bonus or service (rather than integrating it in the overall price) induces people to leave the default and pay a surcharge for the specific service.

Endowment effect. One last important implication of the value function is endowment effect. This bias involves the difference between acquiring an object or good and selling it. Because of loss

aversion, selling an object means giving it up and this makes people experience a loss. On the contrary, acquiring an object means getting something that we did not have yet, and it is experienced as a gain. Therefore, when people are asked to set the lowest price at which they would be willing to sell an object, they set a price that is higher than what they would be willing to pay to buy the same object (even when they are asked to set the highest price at which they would be happy to buy the object; see Box 12).

BOX 12
The coffee mug experiments.

In the first experiment, the researchers divided the participants randomly so that there were three different groups. In the group "coffee mug", participants received a mug and could swap it with a bag of candies of similar value. In the group "candies", participants received the candies and could swap it with the coffee mug. Finally, in the third group "choice", participants were not given any of the two goods and could choose the one they preferred to have. The results are provided in the figure below. This study is both a confirmation of status quo bias, because people largely preferred to keep the goods they were given whereas when allowed to choose they split almost evenly. It is also first evidence that people are averse to giving up something they feel they are owning.

Group 1		Would you swap the mug for the candies?	89% keep the coffee mug
Group 2		Would you swap the Candies for the mug?	90% keep the candies
Group 3		Which one do you prefer? The mug or the candies?	56% chose the coffee mug 44% chose the candies

Subsequently, in what became famous as the "coffee mug" studies, participants were divided in two groups: "the buyers" and "the sellers". The buyers were asked to set the highest price they were willing to pay to buy the mug. The sellers were given the mug and were asked to set the lowest price they were willing to accept to sell the mug. The results are reported in the figure below. In 90% of the cases the prices were such that no transaction took place (the request from the sellers was too high and was not matched by what the buyers were willing to pay). Importantly, the endowment effect arises even in situation in which people has just received the object and has no experience with it (or any affective attachment to it). In real life, this effect is much stronger because to the material value people attach to a good they are selling they also add the value of past experiences and emotions derived from their story with that good.

| Group 1 "Buyers" | | What is the highest price you are willing to pay to buy this coffee mug? | Average response: $2.75 |
| Group 2 "Sellers" | | What is the lowest price you are willing to accept to sell this coffee mug? | Average response: $5.25 |

* Responses from the original study; the value of the mug was around $4.00

An example of endowment effect could be when tourists have a reservation for a seat on a train or a table at the restaurant. Giving up something that they paid for, and they own would make them ask for a payoff that is much higher than what they paid in the first place. It is important to manage these situations carefully, rewarding the tourist's willingness to give up something with a new offer that is a the very least competitive than the previous one (so that we counteract loss aversion, possible negative feelings, and the tourist's future decision to spend their money elsewhere). If we go back to the example of the flight connection, let's imaging that the traveler decided to go for the shorter stop after received reassurance from the airline. Once they miss the connection, the simple voucher to buy food would be not enough to overcome their sadness (sometimes anger…) of missing out on something that they feel they were already owning (the seat on the next flight and maybe even a first night in the hotel at the destination).

Part 4. Heuristics

Readings:

- Kahneman, D. (2011). Thinking Fast and Slow (Parts II).
- Tversky, A., Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science.

4.1. What is a heuristic.

The heuristics and biases program was originally proposed by Tversky and Kahneman at the end of the 1960s and early 1970s; it was then adopted as an approach to the study of decision making by many scholars around the world and is still one of the main framework to analyze people behavior. Tversky and Kahneman defined the heuristics as strategies that "reduce the complex task of assessing probabilities and predicting values to simpler judgmental operations."

The heuristics contribute to people's subjective perception of the world and their lives. Similarly, heuristics impact the way people assess the outcomes of their choices and the chances they have to achieve them in the future. In a sense, since heuristics processing is mainly quick, intuitive, and based on our experience (System 1), it creates different possible worlds and perceptions depending on who is assessing a particular situation. Different individuals may hold different beliefs or opinions even when the information is the same. However, we also know that heuristics lead to systematical biases that may get people stuck on a specific worldview and, to some extent, unable to fully explore other possibilities.

Therefore, heuristics allow to simplify judgments that would be otherwise too complex or require too much time to retrieve all relevant information. However, on many occasions, these simplified strategies are generalized even to situations in which the decision-maker could use rather straightforward statistical or logical principles.

4.2. The main heuristics.

Initially, Tversky and Kahneman described three main heuristics: representativeness, availability, and anchoring and adjustment. Subsequently, work by Slovic and colleagues lead to identify a further strategy that has now become central to the study of human decision-making, the affect heuristic. Below we provide definitions and basic examples of each of these heuristics.

Representativeness heuristic. People use the representativeness heuristic when they have to determine whether a stimulus A belongs to the category B or whether the event A has originated from process B. To answer this type of questions, people look at how representative event A is of process B (or category B). Instead of using actual probabilistic information, they use similarity as a proxy of the relationship between two events. If A closely resembles the prototypical exemplar of category B, it is inferred that it must belong to that category. Several examples of representativeness have been reported. For instance, empirical research has shown that, because of the representativeness heuristic, people become insensitive to base rate frequency (the

frequency with which an event occurs in the population). A second important implication of the representativeness heuristic is people's insensitivity to sample size as well as people's misconception of chance (for examples of this heuristic see Box 13).

Although the representativeness heuristic can be a good approximation of the correct answer in many contexts, it can lead people to feel over-confident about their inferences. This happens because probabilities are almost completely assessed based on the degree of similarity between the stimulus and the category, with little consideration for base rates or sample size. Finally, representativeness can lead people to be unaware of regression to the mean. This principle states that extremely positive or negative events, once they are measured again, are likely to converge toward the mean value for their population. However, people tend to infer that an extreme event is representative of an extreme phenomenon. When thinking about climate change, individuals may find it difficult to understand that global temperature is increasing because not every day the weather is warmer than usual. Because of regression to the mean, after a very hot day or week, it is likely that the temperature moves back toward the mean.

BOX 13
Examples of the main errors produced by the representativeness heuristic.

Base rates

This is John. He likes to look at things rationally and love mathematics. He has a logical mind and his friends are all geeks and tech savvy.

Is John a psychology or an engineering grad student?

Psychology grad students | Engineering grad students
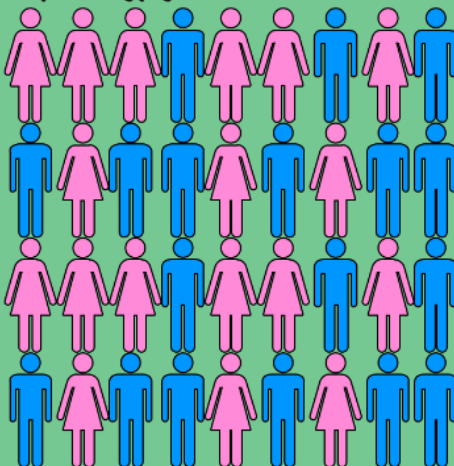
Although John's description resembles that of an engineer, he is more likely to be a psychology grad student because there are many more students enrolled in that program than in the engineering one.

Sample size

Sample 1

Sample 2

Five people randomly selected don't tell us anything about the average height of the population to which they belong. The smaller the sample the more outliers have an impact on the measurement - one very tall or very short individual will have a large impact on the average value we obtain.

Misconception of chance

H T T T T T

H T H T H T

Which sequence of coin tosses is the most likely?

(It's impossible to say because the sequences are too short and not representative of a random process - it's not impossible to get six heads in a row!).

Availability heuristic. This heuristic is used to judge the frequency of an event and is based on how easy it is to retrieve instances of that event (or similar ones) from memory. This heuristic works particularly well when people assess the frequency of events they are familiar with. However, it can lead to mistakes when applied to events that are not well known. The availability heuristic has a significant impact on people's risk perception. On the one hand, if many instances of a disease (e.g., friends that suffered of cancer, news in the media, and so on) come easily to our mind, then we will be likely to overestimate its rate of occurrence in the population. On the other hand, if we find it difficult to come up with instances of people who died struck by lightning, we will underestimate this cause of death. Research showed that the ease with which instances come to mind is influenced by familiarity with the event, but also its salience (e.g., seeing the event first hand rather than being exposed indirectly) or recency.

Finally, two additional implications of the availability heuristic are biases of imaginability and the illusory correlation. On many occasions, people must assess the frequency of events by imagining examples of these events. According to Tversky and Kahneman, the availability heuristic induces people to perceive illusory correlations based on the strength of the association between co-occurring events. When the association comes up easily in people's mind, they are likely to infer a correlation between the events.

Examples of this heuristic in tourism are the following: avoiding a specific destination, company (airline, hotel chain), airport only because of previous negative experiences, because of news that were reported in the media, or because of stereotypes. For instance, a person may decide to avoid a flight connection at an airport in which they experienced delays or problems in the past although their direct experience relates to only a tiny fraction of the hundreds of thousands of flights handled in that airport. Other tourists may avoid a specific destination because of news related to criminality or safety that might not reflect what is really going on. In short, understanding the availability heuristic is fundamental to understand how to manage the image of a destination and how to prevent tourists from making the wrong inferences. These reactions can also be exacerbated by the halo effect, that is people's tendency to extend the feelings and thoughts about an attribute of a stimulus to other attributes. For instance, if tourists think that a destination is dirty, with lots of trash left on the streets, they will likely think that it is unsafe and marred by criminality or that prices are too high even though these dimensions could be uncorrelated.

Anchoring and adjustment. This heuristic is used when people are asked to make an estimate. On these occasions, decision- makers often anchor their response to a specific value and adjust it toward what they think the correct answer should be. Anchoring is an interesting heuristic since it involves different processes depending on how estimates are elicited. The anchoring and adjustment process can be based on an intuitive adjustment process (System 1), but researchers have demonstrated that anchoring can arise from deliberative thinking as well (System 2). Sometimes people are provided with an anchor and use it as a starting point for a hypothesis testing process (e.g., "is mount Everest higher or lower than 10.000 meters?"; lower, "but exactly how high is mount Everest?"). This process is intuitive and usually ends up finding confirmatory information in support of the anchor. As a result, the adjustment is insufficient, and the anchor has a large impact on the answer. On other occasions, people are not provided with a precise number but can think about the question and self-generate and anchor (e.g., "what is the boiling temperature of water at the top of Mount Everest?"; well, we know that at sea level water boils at 100°C...). In these cases, people know that the anchor is not the correct response (they created the anchor!) but still adjust insufficiently.

Anchoring is quite clearly connected with any situation in which tourists must engage in numerical estimates. Examples are the way prices are presented to them but could also be information on the emissions of the tourists' transportation or the facility in which they choose to stay. In general, it would be useful to give tourists the actual numerical information and not let them figure it out based

on anchors they find or even generate by themselves. If the quantity tourists are trying to assess depends on their choices and plans, a solution could be that of offering online calculators where they can specify the main information and get a precise result without too much effort.

Affect heuristic. Following Tversky and Kahneman seminal work, other heuristics have been described in the literature. One important, intuitive strategy that has been proposed more recently is the affect heuristic. This heuristic showed to be relevant both because it advanced our understanding of how people make decisions and because of the applied implications it spurred. When people decide where to go on vacation, they don't simply decide based on the cost of the trip (and eventual benefits) but weigh this information based on their feelings. Some locations (e.g., beaches vs. mountains vs. cities) may induce more positive feelings than others thus people will underweight the costs or other issues like crowds and distance from where they live (see Box 14). Finally, people's judgments and behaviors do not depend exclusively on the valence (positive or negative) of the feelings they experience toward a stimulus but also on the precision with which they can think about it. As a result, activities that are easy to imagine, familiar, or widely reported in the media are more vivid and induce stronger affective reactions, therefore impacting behavior in a more decisive way.

BOX 13
Affect heuristic.

Sometimes people are upset because changes are introduced close to where they like to go on vacation, and they feel the place is not pleasant or safe as it was before. A famous study analyzed the case of the nuclear waste repository in Yucca Mountain, Nevada. The results showed that the idea of building the repository led people to have more negative mental images about Las Vegas and to say that they were less likely to go there on vacation. Coupled with doubts about how safe the repository would have been, these results led to decide not to build it (although the idea resurfaces every now and then).

A famous study on the proposal to house a nuclear waste repository in Yucca Mountain, Nevada?

If they build the repository in Yucca Mountain, Nevada, will you still go to Las Vegas?

NO!

Negative affective reactions
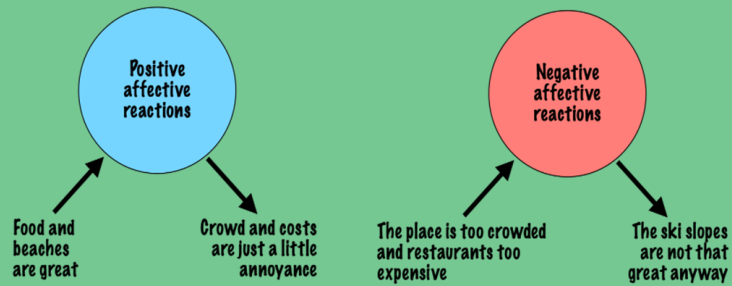
High risk perception

Low benefit perception
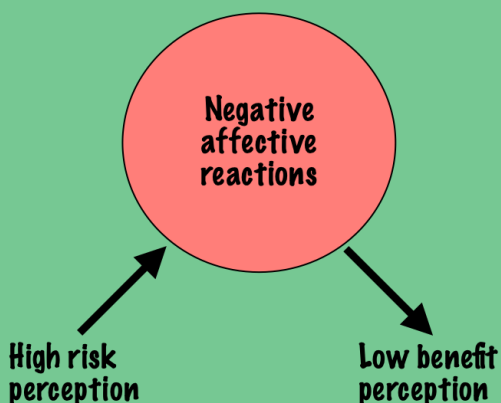
Similarly, when people attach positive thoughts and feelings to a particular destination, they are likely to downplay the negative sides of that place (or not remember what they did not like of it in the past). Instead, if they attach negative thoughts and feelings to a destination, they are likely to downplay the positive features of it.

Huge crowds and high costs at a specific travel destination.

If I like the place where I am going:

Positive affective reactions

Food and beaches are great

Crowd and costs are just a little annoyance

If I don't like the place where I am going:

Negative affective reactions

The place is too crowded and restaurants too expensive

The ski slopes are not that great anyway

The following infographics from the Informative Toolkit can help you illustrate the concept of heuristics:

Part 5: Building and testing a Nudge; Presentation of the BASIC framework

WHAT IS A NUDGE?

In the Nudge My Tour project we will use the definition of a nudge which is described in the report Tools and Ethics for Applied Behavioural Insights: The BASIC Toolkit (2019).

Nudge as originally defined by Thaler and Sunstein

"A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not" (Thaler and Sunstein, 2008).

Mechanistic definition

"A nudge is a function of any attempt at influencing people's judgment, choice or behaviour in a predictable way (1) that is made possible because of cognitive boundaries, biases, routines and habits in individual and social decision-making posing barriers for people to perform rationally in their own declared self-interests and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such attempts" (Hansen, 2016).

In addition, nudging may be regarded as the systematic development, test and implementation of evidence-based nudges, where practitioners rely on psychological theories, such as dual and triple process theories, and make use of experimental methods for effect-and policy evaluation.

Sources:

OECD (2019), Tools and Ethics for Applied Behavioural Insights: The BASIC Toolkit, OECD Publishing, Paris, https://doi.org/10.1787/9ea76a8f-en.

Thaler, R. and C. Sunstein (2008), Nudge: Improving Decisions about Health, Wealth, and Happiness, Yale University Press;

Hansen, P.G. (2016), "The definition of nudge and libertarian paternalism: Does the hand fit the glove?", European Journal of Risk Regulation, Vol. 7(1), pp. 155-174.

Throughout the present teaching notes we will use the mechanistic definition as it is the most precise definition of a nudge.

The following infographics from the Informative Toolkit can help you illustrate the concept of nudges.

NUDGES

AN EFFECTIVE NUDGE IS:

TIMELY

EASY & SIMPLE

TRANSPARENT

POSITIVE

NON-COERCITIVE

POSSIBLE TO OPT-OUT

PERSONALISED

EVIDENCE-BASED

NO FOOD WASTE

PORTION DISPLAY

COME BACK IF YOU WANT MORE!

REDUCE FOOD WASTE

33% OF FOOD IS WASTED

AVERAGE WASTE PER WEEK
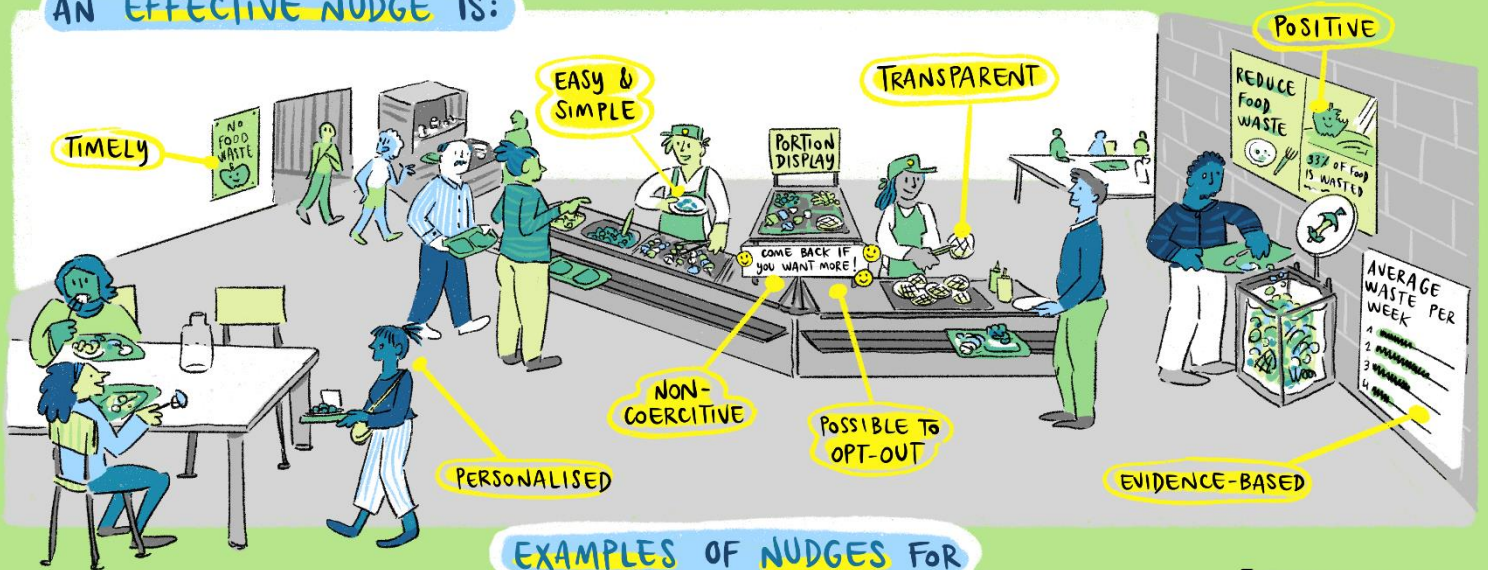
EXAMPLES OF NUDGES FOR TOURISM SUSTAINABILITY

MAKING SUSTAINABLE OPTIONS THE DEFAULT CHOICE

please display this sign if you would like us to change your towel

towel

MAKING SUSTAINABLE OPTION EASIER TO CHOOSE

Menu
LOCAL DISHES
STARTERS
MAINS

HIGHLIGHT SOCIAL NORMS

75% of guests reuse their towel
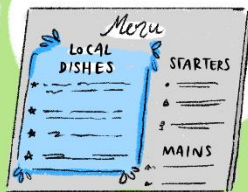
REMINDERS

GET YOUR BIKE PASS!

FEEDBACK ABOUT THE OUTCOME OF PAST CHOICES

YOU USED LESS WATER TODAY!

GIULIADAVID.NET

THE BASIC FRAMEWORK: INTRODUCTION

This is a guide for instructors, who will be teaching chapter 3.5 in the Training Methodology: "Presentation of the BASIC framework". The guide contains an instruction manual for the accompanying power point presentation as well as a list of literature used in the presentation.

The overall objective of the presentation is to introduce students, practitioners, and policy makers (and others) to the BASIC framework as one of several frameworks in Behavioural Science.

BASIC is a toolkit that equips policymakers and practitioners with best practice tools, methods, and ethical guidelines for conducting Behavioural Insights (BI) projects from the beginning to the end of a public policy cycle. This approach is reflected in the five stages of BASIC: Behaviour, Analysis, Strategies, Interventions and Change.

Earlier BI frameworks have primarily focused on the end stages of the policy cycle such as experimentation, implementation, or compliance while less emphasis is placed on the behavioural analysis of a policy problem. BASIC aims to bridge this gap by providing guidance on how to apply BI to ex ante appraisal (based on forecasts) as well as the ex-post evaluation (based on results) stage of a policy cycle. By understanding how and under what circumstances BI can be applied to cause behaviour change, policymakers and practitioners are far more likely to design and deliver more effective policies and interventions.

GENERAL INFORMATION

The estimated time for this Presentation is 2 hours (2 x 45 min). The instruction manual contains additional information and points for the accompanying Power Point presentation. For easy use the manual is presented in a table with two columns with two separate headlines:

1. Module = The title of the specific slide.
2. Notes (points) = Additional information to explain the specific slide and its relevant points.

After certain sections in the notes, there will be references (written in blue text) to the places in the BASIC report or the brochure, respectively, where the instructor can find further information on the topic at hand.

The instruction manual and the accompanying power point presentation have been prepared based on The Basic Toolkit, which consists of a short brochure and a longer report (see literature list below). This material is licensed to the OECD and therefore will the accompanying slides contain text about copyright at the bottom of the relevant slides.

LEARNING OBJECTIVES

Both students and professionals will get a brief introduction to the whole BASIC Framework and how it works. It is not the intent that the attendees will be able to make their own behavioural interventions by solely attending this course.

However, by the end of this session, they will learn:

- To determine the tools needed for finding a behavioural problem.
- To use the ABCD wheel to define a problem and why it might occur, and develop strategies to be tested.
- How an intervention works, and the importance of testing your solutions before implementing. But they will not be able to design and run experiments themselves only based on this information.
- How to consider ethics throughout the whole BASIC Framework

LITERATURE USED IN THE PRESENTATION

- Hansen, PG & OECD (2019). *Tools and Ethics for Applied Behavioural Insights: The BASIC Toolkit*, OECD Publishing, Paris. http://oe.cd/BASIC
  - The BASIC brochure
  - The BASIC rapport
- OECD (2017), *Behavioural Insights and Public Policy: Lessons from Around the World*, http://dx.doi.org/10.1787/9789264270480-en

INSTRUCTION MANUAL FOR "Presentation of the BASIC framework"

MODULE	NOTES (points)
THE BASIC FRAMEWORK	
Applied behavioural science is here to stay	Behavioural Insights (BI) help understand how context and other influences can impact decision-making and inform the actual behaviour of people and organisations. The BI approach focuses on understanding what actually drives the decisions and behaviours of people, rather than relying on an assumption of how they should act. By doing so, it helps ensure that interventions reflect actual needs and behaviours for greater impact and effectiveness.
BASIC closes a gap in the literature	With the rise of BI around the world, several useful frameworks have been developed by both government and non-government agencies. See ANNEX 1 in this document for a list of additional frameworks. But almost nothing has been written about how BI specialists approach a policy issue in behavioural terms, as well as identifies suitable Behavioural Insights to apply in order to ensure an effective and responsible policy intervention. BASIC has been developed to fill a need in the community for how to apply BI and implement behaviourally informed public policy.

What is BASIC?	BASIC is a toolkit that equips you with best practice tools, methods, and ethical guidelines for conducting BI projects from the beginning to the end.

This approach is reflected in the five stages of BASIC: Behaviour, Analysis, Strategies, Interventions and Change. |
| BASIC is a diagnostic framework | BASIC is not only distinguished from other frameworks by encompassing the whole process involved in BI-projects.

It also distinguishes itself by being diagnostic – it systematically relates the BEHAVIOURAL ANALYSIS (Why the problem occurs) to that of identifying what Behavioural Insights to integrate in potential STRATEGIES (How to solve the problem).

The diagnostic approach ensures that there is a close connection – the diagnostic link – between the behavioural problem and the behavioural insights and tools used to develop the solution to the problem (the intervention). |
| | |
| Ethics should be a priority form the onset | The Behavioural Insights (BI) approach has specific ethical concerns that are different from traditional public policy because it often involves the use of primary data of individual- or group-level behaviours and leverages behavioural biases to inform policies.

As public policy operates within a transparent setting and has far reaching implications, it is important to integrate ethical considerations when applying BI from the start to the end of the policy cycle.

While people may avoid a behavioural intervention in principle, this does not mean that they can in practice. BI interventions neither force individuals to act a certain way nor sanction them for not acting a certain way. This does not mean they are always free to choose what they want, and issues related to consent and awareness need to be carefully considered since individuals are inherently not ideally rational.

Therefore, at the end of each section you'll be presented with ethical considerations for every stage of BASIC.

See page 37ff in the BASIC rapport for ethical considerations before starting a behaviourally informed intervention. |
| 1. BEHAVIOUR | Objective: Identify and define the behavioural project |
| STAGE 1: BEHAVIOUR | The first stage, BEHAVIOUR, focuses on problem definition. Applying BI at this early stage is ideal because it is less likely that concrete |

solutions are developed and more likely that innovative approaches are welcomed.

The first stage focuses on *what* the behavioural problem is.

The purpose is to identify, conceptualize and quantify the relevant patterns and problems to address, and turn them into feasible BI-projects.

To help do this, BASIC offers the following tools:

Behavioural reduction

Before applying BI to any policy issue, it is important to define in as much detail as possible the behavioural elements of the problem. You can start brainstorming by using a Behavioural Reduction tool to identify relevant concrete behaviours that are relevant to your policy issue. The behavioural reduction tool helps you decompose an overall problem into its behavioural components.

See page 13 in the BASIC brochure and page 56ff in the BASIC rapport for examples.

Tool: Priority filter

When choosing which relevant behaviour to pursue, in addition to financial and political feasibility, there are several considerations that are specific to BI projects. The priority filter questionnaire can be a guide to generate a more holistic discussion on which elements are important to the project and apply this to the selection of the target behaviour.

The priority filter questionnaire is a decision-tool composed of weighted questions that reflect important considerations for the success of the behavioural project. For each question, you can rate the target behaviour (i.e., on a scale from 1 = "definitely not" to 5 = "definitely"), pre-determine a cut-off (i.e., questions that score at least a 4.8 will be considered) and calculate the overall score for each.

The priority filter helps you select those behaviours exhibiting the best potential for a BI approach.

See page 58ff in the BASIC rapport for sample questions for the priority filter questionnaire.

Behavioural pattern descriptions

To apply BI, you need to conceptualize the relevant behavioural patterns underlying the behavioural problems selected by the priority

filter. This is done through mapping out a so-called behavioural pattern, which consists of answering the following questions:

- Preferred behaviour: What behaviour do you want to achieve, and what is the current rate of compliance?
- Non-preferred behaviour: What behaviour is the one you would like to change, and what is the current rate of non-compliance?
- Who: Whose behaviour do you want to change? How many people does the target group contain?
- Context: In what context does the behaviour occur?

NB: Remember also to describe (quantify) the observed frequency distribution over the choice options.

See ANNEX 2 in this document and page 60f in the BASIC rapport for examples.

Tool: Behavioural Flowcharts

Gaining a deeper understanding of where the target behaviour occurs or is the most likely to occur can shed light on how this affects your desired policy outcome. A process map that outlines decision points immediately before, during and after the target behaviour can help pinpoint areas where you can potentially design a behavioural intervention.

A process map is a visual tool that identifies touchpoints for the key actors engaging in your target behaviour(s). There are several popular process tools available from the fields of psychology and design research. These include behavioural flowcharts behavioural mapping, user journey mapping, service blueprint.

The process map should reflect how people "actually" behave rather than how they should behave. Speaking to or surveying relevant stakeholders and target individuals can generate helpful insights. Observations can expose new insights because people may not provide honest answers, not remember past behaviour or not be consciously aware of their own behaviours or biases.

If you are using a user journey map, go to actual users, observe their process and listen to their real-time feedback. If you are using the behavioural flowchart, observe friction points such as delays to find out how long the delays really are.

See page 16 in the BASIC brochure and page 61f in the BASIC rapport for examples.

BEHAVIOUR – guiding questions	The purpose of the BEHAVIOUR stage is to identify, conceptualize and quantify the relevant patterns and problems to address, and turn them into feasible BI-projects.

	When you are finished with the BEHAVIOUR mapping (with help from the available tools) you should be able to answer the following questions: ● Who is performing the action? ● What are these people doing, and what do we want them to do instead? ● Where and when is the action performed? NB: Remember to quantify – how many are performing the action (both the preferred and non-preferred action).
Ethical considerations	
Ethical considerations for BEHAVIOUR	Observe the limits of legitimate public policy interventions. ● Not all behaviours driving a policy problem fall within the legitimate confines of policymaking. ● Make sure that you refrain from targeting and changing behaviours that cannot be defended as being in the public interest or aligned with government priorities. Secure acceptance when targeting behaviours. ● Policymakers and practitioners suffer biases too, which can influence the decision to target certain behaviour(s). ● To avoid these biases, always evaluate the existing evidence for targeting a given behaviour change. Beware not to simplify behaviour too much. ● Behavioural analysis of policy problems aggregate patterns of groups, yet individuals usually hold distinct preferences. ● Distributional impacts may also result in some citizens being influenced differently than others. ● Always consider how to minimise potential side effects and protect individual rights, values and liberties when targeting behaviour change. See page 65 in the BASIC rapport for Ethical guidelines for Stage 1: BEHAVIOUR
2. ANALYSIS	**Objective: Diagnose target behaviour**
STAGE 2: ANALYSIS	Once you have identified the behavioural problems at the heart of your policy issue, it is important to understand why people behave as they do. The second stage, ANALYSIS, aims to examine, through the lens

	of BI, which psychological and cognitive factors are causing the targeted behaviours. The aim is to understand why people act as they do.

BASIC differs from other BI approaches by emphasising the importance of analysis and its systematic relationship to relevant strategies.

This feature is captured through the ABCD framework that suggests behavioural problems may be analysed in terms of four aspects and their respective Behavioural Insights:

1. Attention: *People's attention is limited and easily distracted.*
2. Belief formation: *People rely on mental shortcuts or intuitive judgments and often over/underestimate outcomes and probabilities.*
3. Choice: *People are influenced by the framing and the social as well as situational context of choices.*
4. Determination: *People's willpower is limited and subject to psychological biases.* |
| ANALYSIS – guiding questions | When you are finished with the ANALYSIS (with help from the ABCD wheel) you should be able to answer the following question:

● Why does the problem occur? (diagnosis) |
| The ABCD wheel | |
| The ABCD wheel (inner cycles) | Like other existing BI frameworks, ABCD seeks to assist you in analysing behavioural problems based on behavioural insights.

Different from these frameworks, however, ABCD goes beyond presenting a list of selected insights. Instead, it includes a structured diagnostic approach for analysing target behaviour(s).

In the analysis we look specifically at the inner two circles in the ABCD wheel, which helps narrow behaviours into their respective section(s) of the ABCD Framework (the yellow circle).

In ANALYSIS we will look at the inner cycles of the ABCD wheel to determine, which aspects of behavioural problems, we need to address:

1. Diagnostic aspect
2. Diagnostic indicators
3. Aspects of behavioural problems

See page 75ff in the BASIC rapport for more on diagnostic aspects and indicators.

ABCD is derived from the fundamental assumption of BI that behavioural problems result from systematic deviations from what |

	is predicted by rational models and since rational models make predictions within the aspects of Attention, Belief formation, Choice and Determination, relevant aspects of behavioural problems must be examinable according to these four domains.
	See ANNEX 3 in this document for a table of how the aspects of ABCD departs from rational choice theory.
Ethical considerations	
Ethical considerations for ANALYSIS	Behavioural analyses usually observe or study human behaviour close up and often in their individuals' everyday environments, running the risk of affecting participants' personal lives and colliding with people's privacy. Seek ethical approvals and competencies where necessary: • Use the ethical review board or relevant authorities within which the behaviour is studied to grant approval. • If using a third party to conduct the study, this ethical responsibility cannot be transferred. • Ensure appropriate training to develop sufficient competencies for data use and analysis. Consider what guidelines must be followed when studying behaviour up close: • These include collecting and documenting consent, revealing the purpose of the study, ensuring participants are voluntarily participating and additional safeguards are in place when studying vulnerable populations. Only collect data that is necessary and ensure secure handling: • Ensure that those handling the data are properly instructed in the secure collection and handling of data. See page 81 in the BASIC rapport for Ethical guidelines for Stage 2: ANALYSIS.
3. STRATEGY	**Objective: Develop an intervention to solve the behavioural problem**
STAGE 3: STRATEGY	Building on your behavioural analysis, the next step is to identify behaviourally informed strategies that will effectively change the identified behaviours that you wish to or can address, at the root of your behavioural problem.

	The third stage, STRATEGY, aims to identify behavioural insights that might be effective for informing behaviourally informed strategies using ABCD that might effectively change target behaviours and can be tested in the subsequent stage of INTERVENTION.
	In the stage STRATEGIES, you will need to do the following:

1. Identify classes of strategies and behavioural insights that match the behavioural analysis of the behavioural problem(s) conducted in Stages 1 and 2.
2. Conceptualise a suitable intervention based on the relevant strategies and insights, and which might be tested for their efficiency.
3. Screen these interventions regarding ethics, feasibility and costs.

STRATEGIES have always been an unavoidable step in any BI project. However, what makes BASIC different from other frameworks is the "diagnostic link" between the BEHAVIOURAL ANALYSIS of the two first stages and the third stage of STRATEGIES.

Thus, this stage is only to be engaged with when a behavioural analysis has been conducted. BASIC ties the BEHAVIOURAL ANALYSIS to STRATEGIES by using ABCD.

See page 89ff in the BASIC rapport for more information on the different BI strategies using the ABCD framework.

Ethical considerations for STRATEGY

Some behavioural insights rely on mechanisms that are not fully accessible to consciousness or under people's conscious control, while others involve counter-intuitive and theoretical insights whereby moral intuitions are not well adapted.

To ensure the responsible use of BI in public policy, you should always evaluate the morality of a policy strategy with regards to transparency and "avoidability". Transparent insights are when citizens can identify: i) who is trying to influence them; ii) what this means; and iii) what purpose is being achieved. Alternatively, behaviours that people cannot control are referred to as unavoidable, while those that make possible or depend on conscious control are referred to as avoidable.

See page 114ff in the BASIC rapport for more information on ethical guidelines for designing BI strategies for behaviour change.

STRATEGY – guiding questions	When you are finished with the STRATEGY (with help from the ABCD wheel) you should be able to answer the following question:

	● How do we solve the problem?
The ABCD wheel	

The ABCD wheel (outer cycles)	Like other existing BI frameworks, ABCD seeks to assist you in creating a strategy for solving behavioural problems on the basis of behavioural insights.
	
	Different from these frameworks, however, ABCD goes beyond presenting a list of selected insights – it ties the BEHAVIOURAL ANALYSIS to STRATEGIES. This is also called the "diagnostic link".
	
	In the STRATEGY we look specifically at the outer two circles of the ABCD wheel, which helps narrow strategies into first broad categories of strategies (the red circle) and hereafter specific strategies (the blue circle).
	
	In STRATEGY we will look at the outer cycles of the ABCD wheel to find Behavioural Insights strategies that may be used to understand as well as influence target behaviours:
	
	    4. Categories of Behavioural Insights strategies
	    5. Behavioural Insights strategies
	
	The purpose of the ABCD-framework is to match specific behavioural problem(s) with the right behavioural strategy: If for example your ANALYSIS shows, that you are dealing with a problem within the ATTENTION domain, you should apply a STRATEGY from the ATTENTION domain and so on.
	
	See page 89ff in the BASIC rapport for more information on the different BI strategies using the ABCD framework.

Ethical considerations	

Ethical considerations for STRATEGY	Some behavioural insights rely on mechanisms that are not fully accessible to consciousness or under people's conscious control, while others involve counter-intuitive and theoretical insights whereby moral intuitions are not well adapted.
	
	To ensure the responsible use of BI, you should always evaluate the morality of a policy strategy with regards to transparency and "avoidability".
	
	Transparent insights are when citizens can identify:
	
	    i) who is trying to influence them;
	
	    ii) what this means; and
	
	    iii) what purpose is being achieved.

Alternatively, behaviours that people cannot control are referred to as unavoidable, while those that make possible or depend on conscious control are referred to as avoidable.

When assessing the transparency and "avoidability" of an intervention, keep in mind the following considerations:

Prioritise transparency.

- Is your intervention clearly communicated, including being transparent about its purpose and nature?

Offer a way out.

- Can citizens avoid the intervention? Does the intervention offer easy pathways to objections and complaints?

Ensure the policy intervention serves the public interest.

- Is it in line with public sentiments? Does it prevent harm against others?

Ensure citizens are not being held responsible for consequences that they did not consciously select.

- In your context, are they able to fully understand the implications of their choices? Are they considered legally accountable for these?

See page 114ff in the BASIC rapport for Ethical guidelines for Stage 3: STRATEGY.

4. INTERVENTION	Objective: Testing the strategy
STAGE 4: INTERVENTION	At this point, a BEHAVIOURAL ANALYSIS has been conducted and, using ABCD, relevant behavioural insight STRATEGIES aimed at creating behaviour change have been identified.
	The next stage, Stage 4: INTERVENTION, aims to actively participate in the design of an intervention that will test whether these strategies may be effective or not.
	At the heart of the BI paradigm lies the ambition to evaluate the effectiveness of suggested behavioural insights for informing public policies according to the methodological standards of the behavioural sciences.
	This stands in marked contrast to many other innovative policymaking methods, which may employ piloting and testing but in

a more design-led perspective that is not based on rigorous experimental methods.

Thus, Stage 4 of BASIC focuses specifically on the experimental approach that is fundamental to BI, based on a systematic and iterative process of positing hypotheses about human nature, and then designing and evaluating behavioural insights strategies based on these hypotheses to arrive at the best possible strategies for changing the target behaviour.

See page 122ff in the BASIC rapport for more information on the basic features and concepts of the experimental approach.

See ANNEX 4 for a list of preliminary considerations for your intervention.

Experiments	
What is an experiment?	To "experiment" or, to "carry out an experiment", is a word that has penetrated everyday language in a sense where it means to "try out new things" or "do things differently than usual" to see if some change might have an effect on something else. Yet, in the sciences, testing through experimentation means something much more precise.

In the sciences, the point of an experiment is to demonstrate the causal relationship between an intervention and its outcome. Said differently, the reason you conduct an experiment is to find out whether making some intervention (i.e., the manipulation of an independent variable) will cause an effect (i.e., a measurable difference in one or more dependent variables).

In addition, an experiment may also aim to determine through which mechanism (mediator) a cause produces its effect, under what conditions (boundary conditions), what may moderate it (moderators) and what kind of relationship between cause and effect is obtained (relationship).

An experiment does this by "cloning the world in two", then simulating what happens in the cloned world (counterfactual) where the only difference is that the intervention occurs, and finally comparing the resulting state of the cloned world with the original one (status quo) to determine whether a difference is obtained. Insofar as the only difference between the two worlds is the prior occurrence of the intervention in the counterfactual world with a following change in the state of that world, the difference may be asserted to result from the intervention. That is, the cause of the effect can be attributed to the intervention.

See page 122ff in the BASIC rapport for more information on the basic features and concepts of the experimental approach, including RCTs. |

Brief about experiments	Behavioural experiments
	At the heart of behavioural science are experiments. By carrying out an experiment that tests a solution that has been developed to tackle a given problem, it is possible to obtain evidence for the solution's real effect on behaviour.
	Experimental groups
	In its simplest form, an experiment consists of a control group and an intervention group. This is also seen, for example, in medical research, where participants in experiments either receive a placebo (control group) or the newly developed medicine (intervention group). With this approach, it is possible to subsequently measure the causal effect of the medicine's effect on the relevant health parameters. The approach to experiments in the behavioural sciences is similar in many ways to that seen in medical research. You divide (randomly) a group of people into a control group (where nothing in the context is changed) and two or more interventions (where one or more solution concepts are implemented). The behaviour is then compared across the groups to investigate the effect of the solution concepts on the behaviour.
	Experimental design
	The way in which an experiment is structured (experimental groups, number of participants, measurement parameters, measurements over time, etc.) is called the experimental design. There are an infinite number of variations of experimental designs, and it is therefore important to strive for a design that provides as high a validity of the results as possible within the limitations that reality now sets.
	See ANNEX 4 for a list of preliminary considerations for your intervention.
The 10 main steps for carrying out a BI experiment	1. Integrate strategies into a prototype intervention. Integrate the principles you identified as potential STRATEGIES (Stage 3) for influencing the target behaviour into a prototype intervention that could realistically be implemented.
	2. Collect feedback for improving your prototype intervention. Consider whom to involve and how, including people from the target group of the intervention, to get valuable input and feedback on the proto-type intervention. When done, make revisions and iterate the process starting from (1) until you feel ready to proceed to (3).
	3. Determine the variables of the experiment. Determine what variables potentially, realistically, and ethically may be manipulated and measured, including background variables, independent, dependent and proxy variables.
	4. Select experimental setting and design. Determine which kind of experiment (field or laboratory) and which kind of experimental

	design is feasible for testing the effect of the prototype intervention given the constraints set by the project, the involved institutions, and the real world. Against this background, also determine what sample size is necessary for detecting an effect size sufficiently large to justify running an experiment.
	5. Develop experimental protocols for testing interventions. Develop an experimental protocol for testing the intervention, including procedures for sampling, data collection and data analysis and share this with relevant people – researchers as well as BI and policy practitioners – to get feedback and input for making necessary revisions. When done, revise the protocol and iterate this step until you feel ready to proceed to (6).
	6. Obtain approval and pre-register your experiment. Consider pre-registering the study and whether to get approval from an ethical review board is necessary as well as what legal resources to consult attached to the institutions involved in the project. Consider also whether to involve people from the target group of the intervention in getting input and feedback on the ethical aspects of the intervention. In particular, define potential "ABORT" conditions.
	7. Conduct a pilot-experiment. Conduct a pilot or pre-test of the prototype as well as important aspects of the protocol, so as to examine: i) whether institutional, technical and systemic aspects work out as expected; ii) what challenges to time schedules and other unforeseen factors might reveal themselves in the process; iii) potential indicators of what effect size of the intervention to expect; iv) the feasibility of the planned data analysis; and v) whether revisions to the prototype and the protocol are needed – thus returning the process to (5) – before continuing to (8).
	8. Carry out the experiment. Use the advice located at the beginning of this section to determine your final experimental method and follow appropriate standards for rigorous experimental methods.
	9. Analyse the result. Follow the planned analysis as described in the protocol and discuss any possible changes to this with relevant researchers, the ethical review board (if involved) as well as the project advisory board if this has been established.
	10. Writing up the experiment: procedure, results, and perspective. Write up a report on the experiment independent of the result and register this in the relevant databases.
	See page 132f in the BASIC rapport for more information on the main steps for carrying out a BI experiment.
Ethical considerations	
Ethical considerations for INTERVENTION	Be aware that interventions unavoidably intervene in people's lives.
	• Experiments intentionally give one group a treatment that is believed to have a positive impact, while withholding this treatment intentionally from another group.

	• Consider three sources for help ensuring interventions are carried out ethically:
	   • i) ethical codes of conduct;
	   • ii) informed consent; and
	   • iii) institutional review boards.
	• These sources may not be uniformly applicable to all experimental research. You must orient yourself within the standard ethical guidelines and codes that fit into the special circumstances of the specific behavioural interventions.
	
	Consider whether legal permission is required and demonstrate the necessity of the experiment.
	
	   • You should consider if the laws in your country deem experimentation as legally permissible in public service.
	   • It may also be necessary to demonstrate that the intervention will improve a policy situation, reveal knowledge not currently known, provide necessary data, be used to inform policy and protect the rights of individuals.
	
	Always consult experience.
	
	   • Make sure that experiments are conducted by people with experience in experimental design, intervention and reporting to ensure proper protocols are followed.
	
	Ensure justice, fairness and distributional impacts are considered.
	
	   • You need to consider and address the potential ethical issues that arise from one group receiving treatment, and the other not.
	   • This may require deploying safety valves for discontinuing the experiment for ethical reasons or compensating/ offsetting groups after the experiment.
	
	Take all measures to protect confidentiality and ensure ethical data analysis.
	
	   • You should carefully consider using procedures and protocols that ensure the confidentiality of participants' responses, e.g. by using randomised response methods or determining not to collect or connect any data about potential identifiers.
	   • Ethical data analysis can be strengthened by pre-registering studies, over accounting for data outliers and truthfully reporting on attrition, to strictly follow standards of statistics and their representation.
	
	See page 135f in the BASIC rapport for Ethical guidelines for Stage 4: INTERVENTION

5. CHANGE	Objective: Implement, scale, maintain and share

| STAGE 5: CHANGE | In the fifth and final stage, CHANGE, is the time for you to look back at your BI exercise and think of its long-term implications.

By this stage, you will know whether the (pilot)tests have produced promising results and a behavioural insight can be scaled up into a full intervention – or whether repeated failure brings the project to an end and the community can learn from what did not work.

CHANGE is a crucial decision point for policymakers – at this time, you really have the decision power to determine which direction to take the project.

The goal of CHANGE is to inform public policies based on the results of the project and to ensure that society gains the broadest possible value from the insights of the experiment.

BASIC suggests that this is done by reaching the final five-point milestone:

1. Revisiting the political context and project level.

  - Are the interventions aligned with the current context such as political, and technological, state of affairs?
  - Are the results sufficiently promising to motivate policy action, in light of the current legal landscape?
  - Would the intervention be in line with public opinion or feasible in the current climate?
  - Are the resources in place to implement the intervention in the long term?

2. Implementing and scaling behaviourally informed policies.

  - How can you best implement and scale up your intervention? Should you change a law, regulation, or regulatory regime?
  - Is it possible that the results might fail to generalise when scaled?
  - Keep in mind that through the implementation and scaling up of a behaviourally informed policy, certain groups could be more or less affected than what was suggested by the intervention. This, in turn, may lead to further iterations and tweaks in the design of the policy in question.

3. Setting up monitoring of long-term and potential side effects.

  - Because most BI experiments are limited in time span, plan to have specific plans for monitoring the scaled-up policy in the long term as well as its potential side effects.
  - This may be done by integrating an ex-post evaluation or review of a given policy as a required step of the policymaking process. In this way, evaluations or reviews will help ensure the quality of policy over time. |

4. Maintaining the policy initiative.

- While crucial to avoid watering down behavioural policies, sometimes maintenance of BI interventions may be neglected.
- This can happen because BI features may appear as unimportant or may conflict with what seems necessary from a more rational perspective. Therefore, it is important to have instructions for the proper maintenance – physical or systemic – of the policy.
- To avoid problems with maintaining a policy initiative over time, practitioners should consider what audiences need to be involved in the maintenance and produce material and instructions that fit these audiences and the situations in which this material is to be used.

5. Disseminating knowledge widely.

- While the idea of disseminating results is common in the behavioural community, it is still not so in most public institutions. As a result, many early BI projects were not reported at all or only for internal use. In particular, null results have not been widely publicised leading to publication bias.
- Likewise, the lack of standards has led to non-transparent reporting; reporting without moderators; reporting only in local languages; overstatement of effects, savings, and revenues; and understatement of true costs.
- For this reason, it is crucial that researchers and practitioners participate, support and systematically share and report their work in national as well as international networks of both researchers and policymakers.

See page 137ff in the BASIC rapport for more information on CHANGE and the final five-point milestone.

BASIC and the Policy Cycle	
Apply BASIC in all stages of the policy cycle	BASIC is a toolkit that equips the policymaker with best practice tools, methods, and ethical guidelines for conducting BI projects from the beginning to the end of a public policy cycle. Earlier BI frameworks have primarily focused on the end stages of the policy cycle such as experimentation or compliance while less emphasis is placed on the behavioural analysis of a policy problem (OECD, 2017). BASIC aims to bridge this gap by providing guidance on how to apply to BI to ex ante appraisal (based on forecasts rather than actual

| | results) as well as the ex-post evaluation (based on actual results rather than forecasts) stage of a policy cycle.

This approach is reflected in the five stages of BASIC.

By understanding how and under what circumstances BI can be applied to cause behaviour change, policymakers are far more likely to design and deliver more effective policies.

See page 44ff in the BASIC rapport for more information on applying BI in public policy. |
|---|---|
| **Ethical considerations** | |
| Ethical considerations for CHANGE | Adhere to principles of proper stakeholder engagement.

• Make sure to involve public bodies, staff, citizens, businesses and other affected parties are properly consulted and the results of this consultation are clearly communicated.

Follow principles of transparency and accountability.

• Results of experiments and consultations should be shared with executive and legislative branches, as well as with broader society.
• This includes ensuring proper credit is given to the policymakers and government agencies who ran the experiments.

Report on what works and what does not.

• Other policymakers, society and the research community should learn from your efforts.
• This includes reporting on null results and unexpected effects to avoid exposing citizens to interventions that have already been shown to fail.

Monitor long-term and side effects.

• In implementing behaviourally informed interventions, you also have the responsibility for developing plans for monitoring the effects of the interventions to protect citizens from the potential negative consequences.

See page 143f in the BASIC rapport for Ethical guidelines for Stage 5: CHANGE |

The following infographic from the Informative Toolkit can help you illustrate the BASIC Framework:

DESIGNING AND TESTING A NUDGE:
THE BASIC © FRAMEWORK

BEHAVIOURAL INSIGHTS FOCUS ON UNDERSTANDING WHAT ACTUALLY DRIVES HUMAN BEHAVIOUR AND DECISION-MAKING

THERE ARE SEVERAL FRAMEWORKS ON HOW TO APPLY BEHAVIOURAL INSIGHTS TO ANALYSE A PROBLEM AND DEFINE A POSSIBLE SOLUTION

THE BASIC FRAMEWORK IS A SET OF METHODS, TOOLS AND GUIDELINES FOR APPLYING BEHAVIOURAL INSIGHTS TO PUBLIC POLICIES

B BEHAVIOUR
IDENTIFYING A BEHAVIOURAL PROBLEM

WHO IS PERFORMING THE ACTION?
WHAT ARE THESE PEOPLE DOING? WHAT DO WE WANT THEM TO DO INSTEAD?
WHERE AND WHEN IS THE ACTION PERFORMED?

A ANALYSIS
IDENTIFYING THE COGNITIVE AND PSYCHOLOGICAL FACTORS CAUSING THE TARGETED BEHAVIOUR

WHY DOES THE PROBLEM OCCUR?

S STRATEGY
IDENTIFYING A BEHAVIOURALLY INFORMED STRATEGY TO CHANGE THE TARGET BEHAVIOUR

HOW DO WE SOLVE THE PROBLEM?

I INTERVENTION
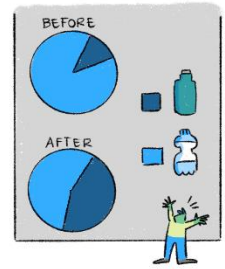TESTING WHETHER THE STRATEGIES ARE EFFECTIVE OR NOT

DOES THE STRATEGY WORK?

C CHANGE
THINKING OF THE LONG-TERM IMPLICATIONS

BEFORE
AFTER

HOW CAN THE BEHAVIOURAL STRATEGY BE SCALED UP?
HOW CAN WE LEARN FROM WHAT WORKED AND WHAT DID NOT WORK?

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ANNEX 1: Additional frameworks

Below is a non-exhaustive list of widely referenced frameworks that complement BASIC and could be a resource for policymakers looking for different ways to analyse a behavioural problem.

- MINDSPACE (The Behavioural Insights Team, 2010): Provided an early checklist for thinking about how nine well-evidenced behavioural insights may inform public policy development, design and delivery.
- Test, Learn, and Adapt (The Behavioural Insights Team, 2013): Gave an accessible introduction to the basics of using randomised controlled trials in policy evaluation.
- EAST Framework (The Behavioural Insights Team, 2014): Provided a simple framework considering how behavioural insights may help design policies based on leveraging convenience, social aspects of decision-making and the attractiveness and timeliness of policies.
- World Development Report Mind, Society, and Behavior (World Bank, 2015): Gave a comprehensive overview of how the BI perspective on human decision- making is of relevance to development policy.
- Define, Diagnose, Design, Test (ideas42, 2017): Provided a practical framework for thinking through a problem and identifying behaviourally informed solutions.
- US Internal Revenue Service (IRS) Behavioral Insights Toolkit (IRS, 2017): Created to be a practical resource for use by IRS employees and researchers who are looking to use BI in their work.
- Assess, Aim, Action, Amend (BEAR, 2018): Presented a playbook developed for applying BI in organisations outlining four steps for applying BI.

ANNEX 2: Behavioural pattern

Example of a "Behavioural pattern" taken from the BASIC rapport page 61:

Figure 2.4. Schema for conceptualising behaviour as a decision point
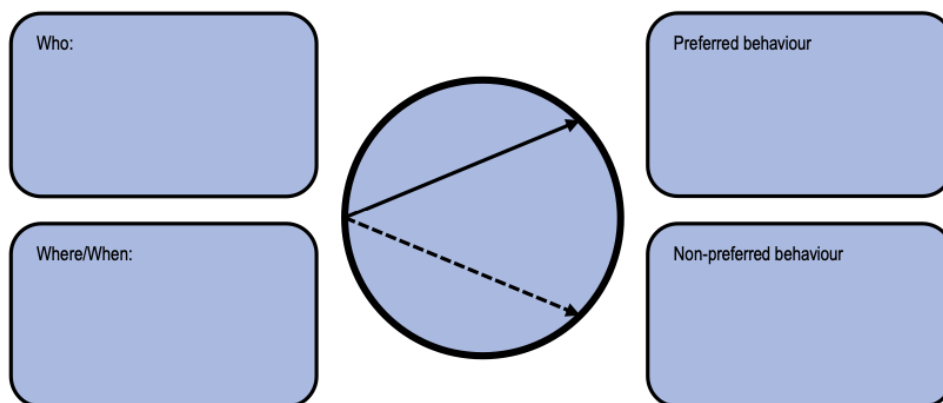
ANNEX 3: How the aspects of ABCD departs from rational choice theory

This "ABCD framework" assists you in analysing and diagnosing behavioural problems. The framework, and how each aspect departs from rational choice theory, is summarised in the table below:

ASPECT	WHAT RATIONALITY SAYS	WHAT BI SHOWS	EXAMPLE
Attention	People should focus on what is most important in light of their knowledge and preferences.	People's attention is limited and easily distracted.	Forgetting an appointment.
Belief formation	People should form their beliefs according to the rules of logic and probability.	People rely on mental shortcuts or intuitive judgments and often over/underestimate outcomes and probabilities.	Underestimating how long a task will take.
Choice	People should choose so as to maximise their expected utility.	People are influenced by the framing and the social as well as situational context of choices.	Being influenced by what our social circle thinks is the right thing to do rather than choosing the rational option.
Determination	Provided that one decides to pursue certain long-term goals, one should stick to the plan.	People's willpower is limited and subject to psychological biases.	Failing to quit smoking.

ANNEX 4: Preliminary considerations for your intervention

Define success. There is no single definition for a successful BI project. Take the time to understand what success looks like for you, your stakeholders and the experts at the start of your project to manage expectations.

Involve user-tests early on when piloting BI strategies. When moving into the research and design stage, a first step is to involve users in testing aspects of the solutions that the strategies give rise to.

Explore research designs. Seek consultation on whether an experiment or another design is the best fit for the project. Explore digital platforms that may make it easier to randomly

assign and deliver the intervention in a cost-effective way. If testing in a real-life setting (field trial) is not possible, discuss possibilities of conducting a laboratory or online experiment.

Know your sample size. The bigger the sample size, the better, but it comes at a cost. Work with stakeholders to determine what you both find to be a meaningful difference. Consult the experts who can calculate how many participants are necessary to achieve it and what is the statistically meaningful difference.

Assess the risks of the intervention. Conduct a risks assessment with stakeholders and experts to manage risks and potential unintended outcomes. This may include a null result where no intervention has an effect.

Be realistic about the timeline and budget. In addition to necessary approvals, consult the experts on how much time and resources are necessary for your intervention to have its desired effect (or not). Learn from stakeholders on what is necessary to generate the desired sample size. Build this into your timeline and budget.

Secure legal, ethical and other approvals. Seek necessary approvals required to carry out the experimental design. If you are working with external experts understand what is required to obtain their institutions' approvals to consult on the project (i.e. institutional review board).

Be transparent about data sharing and publications. When engaging with external experts such as those from academic institutions that value novel research and scientific publications, it is important to be explicit about what data can be shared and the user-rights of results for external publications.

Consider options for communicating results, long- term monitoring and scaling. Outline a game plan on how to move forward after data collection and analyses, accounting for the possibility of null or negative results. Refer to the Change section for guidelines.

TEACHING MODULE 4: Building the Nudging Capacity in tourism policies and destinations

Didactic Plan

Learning objectives

FOR PROFESSIONALS (public and private) and OPERATORS. This chapter traces the pathway to building the nudge capacity of policymakers and operators for more sustainable tourism in destinations' management and policies. It illustrates how behavioral insights and nudge can create public value, improving impact of tourists' and tourism operators' decisions on the sustainability of the sector.

FOR STUDENTS. This chapter enhances comprehension of how the negative impact of tourist behaviors and decisions on social and environmental sustainability in specific destinations and on the planet can be mitigated or prevented using a behavioral approach and nudges.

Teaching strategies

The trainers/instructors can adapt the teaching strategy to the type of audience and the time at their disposal by selecting and combining different building blocks (modules).

Strategy 1 – Discuss the contribution of the behavioral approach to sustainable tourism more in general, using concepts and some illustrative examples from the Compilation of Nudges.

Strategy 2 – Discussing the contribution of nudging to sustainable tourism, going deeper into the Nudge design and its possible innovative effects on tourist policies (public and private) using descriptive examples.

Strategy 3 – Discussing the contribution of nudging to sustainable tourism using concepts and some illustrative examples from the Compilation of Nudges; going deeper into the Nudge design and its possible innovative effects on tourist policies (public and private) with descriptive examples; using examples and interactive exercises to build nudge capacity.

Teaching Plan (building blocks). All strategies share the introduction
10 minutes ⏱

Type of strategy	Building blocks/modules	Time
Strategy 1	*Module A* Creating public value through nudging *Module B & Module C*	60

130

	Tourism venues and destination architecture	
Strategy 2	*Module D* Nudge capacity building in the tourism sector *Module E* Nudge capacity building more in-depth	120
Strategy 3	*Module F* Nudging in action and *The Compilation of Nudges*	120
Total time		300 (5 hours)

Introduction

10 minutes ⏱

Illustrate to the class why it is relevant to addressing sustainability in tourism destinations using the behavioral approach.

The challenges posed by COVID-19 and climate change suggest using nudges 'to address many problems in which the actions of individuals can strongly affect third parties, for good and bad' (Thaler & Sunstein, 2021, pp. 251–52).

Understanding harmful behavioral patterns in the tourism sector includes knowledge of how individual behaviors are embedded in environmental and social contexts. Behavioral interventions could be meant as a tool to change harmful behaviors and *improve how government and enterprise function'* and impact through public and private policies. *'Applying behavioral insights (serves) to change organizational behavior within and outside government'* (OECD, 2017, p. 49).

The increasing number of tourists and the high costs of reducing the negative impact of human activities on eco-social systems urge policymakers. However, tourism operators are still unaware of the advantages of nudge in achieving and ensuring more sustainable and attractive tourist destinations while contributing to 'saving the planet'. The teaching methodology is a way to popularize the nudge, to embed it in the tourist sector and beyond by diffusing it and boosting nudge capacity by policymakers and workers with different backgrounds in a joint endeavor of nudge co-production.

The chapter tries to answer the following questions: Are policymakers, managers of destinations, and tour operators aware of their potential to influence tourists about sustainability? What message do they think is more effective to obtain more sustainable decisions? How do they inform tourists of their wanted or unwanted behaviors in fragile destinations or in contexts where the environment and communities need to be respected and protected attentively?

For this purpose, the chapter addresses some basic concepts such as tourism nudge capacity, sustainable tourism as public value, the destination's architecture, nudge capacity building. Finally, it applies the BASIC framework illustrated in chapter 3 and gives some examples of nudge design and implementation in tourism policy and destination management.

Modules A (for student and practitioners)

Nudge capacity and sustainable tourism as public value

For trainers. Explain to the participant why behavioral insights (BI) and nudging are relevant to increase sustainability along the tourist's experience.

> **BOX 1**
> **Sustainability definition.**
>
> 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs' – is accepted everywhere as a general normative orientation (WCED 1987).

The behavioral analysis adds a new dimension to the traditional design and implementation of tourism policies and destination management (see Ch.2). It boosts the capacity to determine changes, to verify the cognitive and decision-making feasibility of the sustainability objectives incorporated in the destination policy and management (Viale, 2021).

The most difficult challenges to face with nudging are the ability to change the behavior of tourists who typically seek pleasure while on vacation, making them more sustainable tourists. They are more impatient when making sustainability trade-offs in the present tourist experience than sustainability-oriented trade-offs that will materialize in the future for everyone (Chabris et al., 2017). However, policymakers should *benefit individual tourists' experience while achieving value for the public* and the entire community (i.e., mitigation of the effects of climate change).

For instructors: Tourism is not one of the goals of the 2030 Agenda (see Ch. 1). However, the activities to manage tourist flows and destination visits sustainably belong to many SDGs and targets. The UNWTO set of Tourism Sustainability Indicators (see the Toolkit p.10) can be integrated with a behavioral approach.

Applying a behavioural approach means recognizing that there is always a behavioural problem behind an issue that we want to solve. This is also the case when we talk about tourism sustainability. This means that to solve a sustainability-related issue in tourism effectively we need to consider the different types of problems behind it, including the ones related to human behaviour.

Tab.1 proposes a way to adopt a behavioral approach to the 2030 Agenda and the sustainability impact related to tourist's behaviors. Starting from the UNWTO Strategy and the related Measure, we have included an example of behavioral problem and expected behavior that can be linked to it, which allows us to answer the 'how' question.

Clarify better UNWTO is proposing something not enough.

Tab 1 – UNWTO set of Tourism Sustainability Indicators – From Strategy and Measure to Behavioral problem and Expected behavior.

UNWTO Strategy	UNWTO Measures	Example of Behavioral Problem	Example of expected behavior
Promote the dispersal of visitors in the destination and beyond	Create/joint identity of destinations and their surroundings How?	Tourists find the destination more attractive. They congest the destination's attractions and do not visit the surroundings' ones.	Facilitate and making more attractive to visit surroundings attractions for tourists.
Create experiences that benefit both residents and visitors	Develop *collaborative* tourist experiences and products that promote the engagement of residents and visitors How?	Residents refuse to take part in the tourist experience and tend to boycott them	Collaborative design and take up of tourist events or products
Improve infrastructure and facilities	Set up specific transport facilities during peak periods. How?	Visitors do not use the transportation facilities provided.	Visitors are aware of the transportation facilities and infrastructure in the destination, and use them to reach the attractions they want to visit.
Improving visitor's separate litter collection	Facilitate separate litter collection for visitors How?	Visitors do not provide separate litter collection correctly during their tourist experience Visitors abandon their garbage without putting it in the garbage bins.	Visitors know how to correctly dispose their litter during their stay, and use the separate litter collection facilities in the right way. Visitor do not leave their garbage on the floor or outside the garbage bins.

In the spirit of the 2030 Agenda, changing the personal conduct of many tourists over a medium–long period can significantly affect the entire community regarding sustainability. Therefore, the ability to nudge is related to:

- a) the ability of policymakers and operators (public and private) to explore the cognitive mechanisms of unsustainable tourist decisions in specific contexts and

- b) the ability of policymakers and operators to modify the 'choice architecture' in a situation or context to promote more sustainable tourist decisions that are functional to individual and social well-being.

<div style="background-color:#7ac284;">

BOX 2
Glossary.

"A NUDGE, as we will use the term, is any aspect of the choice architecture that alters people's behavior predictably without forbidding any options or significantly changing their economic incentives. The intervention must be easy and cheap to avoid counting as a mere nudge. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not." –
(Thaler & Sunstein 2008, p. 6)

</div>

A more precise and mechanistic definition of nudging by Pelle Guldborg Hansen is added to Thaler & Sunstein's original definition:

Mechanistic definition

"A nudge is a function of any attempt at influencing people's judgment, choice or behavior in a predictable way (1) that is made possible because of cognitive boundaries, biases, routines and habits in individual and social decision-making posing barriers for people to perform rationally in their own declared self-interests and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such attempts" (Hansen, 2016).

In addition, nudging is the systematic development, testing, and implementation of evidence-based nudges, where practitioners rely on psychological theories, such as dual and triple process theories, and use experimental methods for effect-and-policy evaluation.

Sources

OECD (2019), Tools and Ethics for Applied Behavioural Insights: The BASIC Toolkit, OECD Publishing, Paris, https://doi.org/10.1787/9ea76a8f-en.

Thaler, R. and C. Sunstein (2008), Nudge: Improving Decisions about Health, Wealth, and Happiness, Yale University Press;

Hansen, P.G. (2016), "The definition of nudge and libertarian paternalism: Does the hand fit the glove?", European Journal of Risk Regulation, Vol. 7(1), pp. 155-174.

As outlined in the B-phase of BASIC, we need to identify the behavioural problems.   Behavioural Insight and nudging can make the tourist experience more sustainable before, during, and after the destination visit (Fig.1) (OECD, 2023).

Fig. 1 – The tourist experience
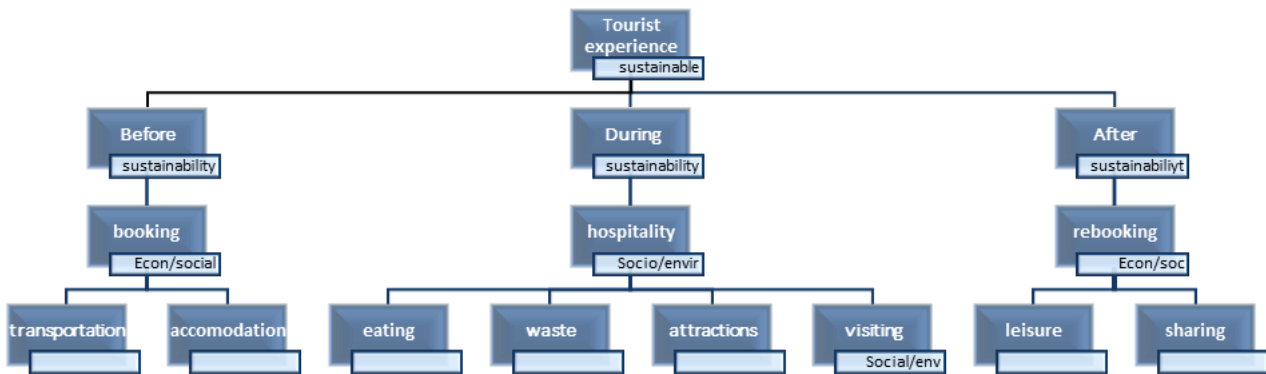
For trainers: according to the type of class composition:

Discuss with students and let them make examples of the sustainable issues met during their personal experience as a tourist. At which moment of this journey do they make decisions impacting the environment or social sustainability?

Discuss with decision-makers and operators and let them make examples of the sustainable issues met during their personal experience at work.

The capacity to design and apply a nudge to increase the sustainability of the tourist experience can be defined as follows:

> BOX 3
> Nudge capacity in sustainable tourism.
>
> It is the ability to determine the change in tourist policy decisions and tourist judgment. It refers to the (public and private) policymakers' skills and commitment to design a context that impacts the individual tourist's experience and judgments to do or not do something, driving behaviors towards sustainability in specific tourist destinations.

The primary goal of choise architects in the context of tourism is to enable tourists to behave differently in a critical situation, producing benefits not consistently for themselves but for the community and the planet.

For trainers: illustrate a nudge example where information is crucial. (Show and discuss Slide n. 12 – The Arizona Petrified Conservation Case)

let students and practitioners discuss and decide which of the two, in their opinion, is the sign that has influenced the tourists' behavior, boosting the Petrified Forest's conservation capacity (Use an interactive digital tool to collect and discuss opinions).

1. Billboard one - Please do not remove pieces of petrified wood to preserve the natural state of the petrified forest' (positive and more effective communication)

2. Billboard two - Many visitors in the past have removed pieces of petrified wood from the park, changing the natural state of the petrified forest' (negative and less effective communication)

For the instructor: Billboard 1 is more effective. Underline the role of POSITIVE information design!

The conservation of the petrified forest in Arizona illustrates how, in this context, nudging using 'positive' communication can have greater influence than 'negative' in influencing tourist behaviors and making them more sustainable (Thaler and Sustain, 2009, pp.76-77).

Nevertheless, positive information may only sometimes be the most effective. Highlighting the costs of a choice or using other more negative 'perspectives' might be even more effective (see Ch.3).

The example shows how the nudge capacity of policymakers aims to create shared value by obtaining satisfaction from the tourist experience without compromising the future well-being of the community and the planet (public value).

> **BOX 4**
> **Public value.**
>
> It means sharing priorities, garnering resources, and triggering the daily action that creates and sustains communities' well-being. (Moore,1995)[1].

For trainers: In its original conceptualization, the public value is primarily a theory for renewing management and policies by including stakeholders' and citizens' perspectives and values in policymaking. In addition, the view looks at how to manage the complexity of challenges and problems more effectively, starting from the diversity and limits of actors involved in decision-making processes. The public value approach aims to improve management by understanding what they can do for sustainability and the community.

The scope of the public value approach can enlarge from the public manager-centric approach toward a broader range of actors, public and private decision-makers, citizens, users, and consumers involved in tourism destination management.

> **BOX 5**
> **Sustainable tourism as a public value.**
>
> It means policymakers and operators share priorities, garner resources, and experiment with changes in tourists' daily actions to enhance environmental or social sustainability without compromising tourist satisfaction today and for future tourists.

For trainers: To enable tourists to behave differently, producing benefits not consistently for themselves but for the community and the planet, we need to focus on the context and its

complexity. The Next section will address the behavioral architect's idea to examine the 'destination architecture' where tourists make unsustainable decisions.

Modules B (for student and practitioners)

Tourist behaviour and destination architecture.

The context where a decision takes place is a focal point of analysis to apply nudging because it is characterized by certain features that the choice architect can influence.

The individual behaviors/decisions occur on a stage that can influence how psychological triggers work. The stages of a tourist experience may present obstacles, ambiguities, or pitfalls that can be modified to trigger more sustainable behaviors.

For trainer: Start with the Parable of ants on the beach to make the class aware of the crucial relevance of the context and venues where the tourist experience occurs.

> BOX 6
> The parable of 'ants on the beach'.
>
> The parable of '*ants on the beach*' (Herbert Simon) helps understand why *the architecture* of tourist decisions (venue characteristics in which tourists decide to do or not do something) is relevant to drive tourists towards more sustainable behaviors:
>
> Imagine an ant. It is walking on a beach. Now let's say you wanted to understand why the ant is walking in the path that it is.
>
> You can't understand the ant's behavior just by looking at the ant.
>
> Viewed as a geometric figure, the ant's path is irregular, complex, and hard to describe. But its complexity is a complexity in the beach's surface, not a complexity in the ant.
>
> In other words, to predict the ant's path, we must consider the beach's effects–the context in which the ant is operating. And this brings us back to the user/visitor analysis problem.
>
> Sometimes we can't analyze what users/tourists want, need, or value detached from the context of the environment that they are in. That environment shapes and influences their behavior.

Simon's parable can be summarized as follows: the complexity of the tourist's behavior reflects the complexity of the context/environment in which the tourist's behavior takes place. By modifying the context/environment, simplifying, and modifying the trajectories, we can direct the behavior in the desired direction, reducing the friction for tourists to make more sustainable choices.

To understand how behavior-smart thinking can work, we need to understand the contributions made by the venue characteristics where visitors make decisions. Therefore, analyzing the situation context, and find the most appropriate changes (nudge strategy), and testing it is possible only in a specific venue (Nik olova, 2021). Testing a nudge helps to determine if it should be

implemented and scaled afterwards. A copy-paste strategy, replicating a nudge from one context to the other without testing it, won't be as effective. (see Ch.3 paragraph at the end of Compilation of Nudges).

Many kinds of gaps exist between visitors' behavior and touristic venues:

- Gap between resident's lifestyle and visitors' behavior
- Gap between the naturalistic venue and visitors' footprint
- Gap between desired growth and undesired impact
- Gap between *safety/preparedness and visitor's inexperience/unpreparedness*

As in the case of the Iceland initiative (Nikolova, 2021).

The trainer can use the Compilation of nudges to apply the parable to specific tourist behaviors and decisions.

Individuals and groups of tourists may be informed about avoiding non-preferred behaviors in advance and during the visit. Defining a 'non-preferred' behavior' is a central issue that policymakers and operators must address when designing a behavioral intervention. They cannot take it for granted. Such a definition is a place-based and cultural-based one. Therefore, policymakers should not be the only ones to decide what is the preferred behavior. For example, you cannot determine that a preferred behavior should be for every tourist to wear a pink hat because the policymakers think that would be a good idea (see Ch. 3 - Basic).

(Trainer may use local testimonials for identifying the case study if available and to focus, define and discuss the architecture of 'non-preferred behaviors')

The situation context is the specific space/venue where tourists' decision generates a sustainability problem. The context/venue can be physical but also a cognitive choice environment or a digital one (formation of belief: i.e., What is the best place to eat). Tourists make decisions that could be beneficial or harmful, by choosing among diverse options throughout the touristic experience. For example: they choose whether or not to reuse their towels in the hotel room, they choose how much food to put in their dishes at the restaurant buffet, they choose if they separate their waste, they choose whether or not they are going to take out their litter from the beach. The choice architect (hotel manager, restaurant owner, destination manager, etc.) has the opportunity to act on this situation context, through nudges and other behavioral interventions, helping the tourist choose the most sustainable option.

Module C (for students)

explain to students how the characteristics of tourist destinations can affect tourist decisions:

Example: Outline the destination architecture, the level of complexity and the several tourists' activities related to sustainability in each specific context (Trisic et al., 2022).

The current degree of structuring of the tourist destination may vary considering the following elements:

- How do tourists get to the destination and return? (Spontaneously or by an organized trip);
- How long does it take to get to the destination (it is a short way or it takes a long and complex trip)?
- What activities are carried out by tourists during the visit (freely and unstructured or organized)? (see also B-phase of BASIC)

Examples of structured and unstructured tourist destinations:

Cinque Terre (Five Lands - Italy): This is a coastal case of an overstructured and internationally well-known tourist destination where the way tourism is managed is sometimes harmful. One of the effects of poorly managed destination is the high presence of cigarette butts on the coastal beach and rocks.

"We found an abandoned cigarette butt for every two beach towels. […] These are famous beaches, often crowded and overlooking a protected marine area. The result is worrying and reminds us how vital environmental education and a correct and civic lifestyle are. Unfortunately, there is still much to do to raise public awareness." President of the Association - Legambiente Liguria- Italy

Sorapis Lake (Dolomiti Mountains – Italy): It is a poorly structured naturalistic destination where the unsustainable behaviour of some tourists is associated with the local authorities' scarcity of awareness and lack of tourist destination policy and services.

How can the contexts be modified to avoid tourists' predatory and harmful behaviors in both structured and unstructured destinations?

Class exercise.

The characteristics of the diverse contexts/venues where tourists decide and behave are not under tourists' 'control' but may significantly influence their decision.

Tab. 2 Tourism venues/contexts were to design and apply nudge.
Hotels
Restaurants and canteens
Cafeterias
Shops
Cruise boat
Equipped or unequipped beaches
Tourist offices
Camping
Open air discos
Ticket offices
Airports
Train stations
City parks
Tour operator webpages
Museum box offices
Waste collection (ecological venue)
Natural parks or trails
Resorts (sea, mountain, lake, desert, countryside, river)
Farmhouses
Local agencies (planning and designing tourism policies and activities)

Each venue (Tab.3) can be considered a potential situation context to investigate sustainability problems defined as behavioral problems and ascertain the characteristics of the context influencing the harmful behavior.

Exercise: Couple two of the places in Tab. 2 and think about possible behavioral problems that have an impact on sustainability.

FIND A VENUE/CONTEXT WITH A BEHAVIORAL PROBLEM TO APPLY A NUDGE.

The question to answer is as follows: In which context/conditions do the tourist decide harmfully for environmental sustainability?

What are psychological mechanisms at work for behaviors/decisions that have an harmful impact? How can we modify some characteristics of the context where these behaviours/decisions take place, in order to act on those psychological mechanisms and turn the unsustainable behaviour into a positive and sustainable one? (BASIC)

Who are the potential choice architects in the context situation? Who can change the context variables of tourist decisions and mitigate (reduce negative impact) or prevent harmful behaviors (avoid negative impact from occurring)?

Whether well-trained, the potential choice architects are destination managers, facility managers (hotels, restaurants, etc.), local policymakers, policy workers, citizens, and stakeholders.

MODULE D (for students and practitioners)

Nudge capacity building in the tourism sector

For trainers. Explain why the behavioural approach can reach a more significant impact than the traditional managerial approach (see Ch. 2) and at what level this can occur.

Most of the policies and administrative activities, public and private (of companies), have the purpose of soliciting, encouraging, or discouraging, more generally modifying, the behavior of categories of subjects, consumers, clients, and users. Still, they need help achieving real impact (Viale, 2021).

This is also true for the tourist sector. We may list and discuss in class some limitations of the traditional managerial or policy approach in achieving sustainability impact:

a) Local governments and policymakers often consider enterprises' problems and interests (tourist operators, companies, associations) more relevant than tourists as potential targets to address sustainability problems.

b) The tourist service offer does not include investigations on the demand side and the sensitivity of tourists on what concerns sustainability.

c) Traditional customer quality surveys do not include systematic data collection about customer behavior.

Behavioral policy tools (for example, nudging) differ from traditional policy tools (guidelines, economic incentives, command-and-control measures, persuasive techniques) but can be integrated with them.

Nudging capabilities directly concern modifying some elements of the decision-making contexts of tourists during the tourist experience or the visit. The nudge skill covers the ability to plan, manage and evaluate a nudge to change tourist behavior, and to integrate nudging with other more traditional policy tools (such as rules and economic incentives). If nudging is combined with other measures, such as bans, it cannot really be called a nudge anymore. It is a fine line when nudging can be combined with these measures, but of course, it can sometimes!

The behavioral tourism management and Behavioral tourism policy indicate how decision-makers can impact individual and collective behaviors in critical situations. The Nudging activity deploys in specific and complex environmental, urban, and cultural decision contexts.

For trainers. This section explains how the behavioral approach to tourism may bridge the gap between the intention to be sustainable and the implementation of concretely sustainable decision-making mechanisms. It introduces the 3 levels through which building and improving nudge capacity.

Use Tab. 1 to illustrate how to build Nudge capacity we need to intervene at three distinct levels.

How do Behavioural Insights fill this gap?

The most appropriate way to fill the gap and to favor tourists' pro-environmental behaviors is to develop nudge capacity along three levels (Tab.1).

TAB. 3 - Three levels to develop Nudge capacity in the Tourism sector according to the BASIC report.
A. Macro – Policy level. Identify destination and define sustainability-related behavioral problem. Verify enabling conditions for nudge design at the policy level. Local authorities and operators should raise awareness of the sustainability problem and accept a nudge experiment Nudge skills. Therefore, they should make data available for testing and assessing its effects in the medium-long term.
B. Meso - strategic organizational level. Highlights the characteristics of the destination to organize an appropriate nudge. It must be decided who assumes the initiative's leadership and coordination, which are the relevant subjects or operators (authorities, agencies, operators, and tourist organizations) already involved or to be newly engaged in reaching tourists, collecting, and sharing data.
C. Micro – Nudge in action to shape tourist choice architecture and their judgment to do or not to do something in a specific destination: managers' and operators' skills to shape the context help to modify tourist behaviors in situation contexts (BASIC).

Our elaboration from BASIC REPORT and Ewert, Thomann, 2022[3]

For instructors: Use the Compilation of nudges to highlight the various opportunities of incorporating nudges into policies. However, when monitoring and evaluation activities deploy, more sustainable behaviors will likely be pursued in the medium to long term.

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[3] Ewert, B., Loer, K., & Thomann, E. (2021). Beyond nudge: advancing the state-of-the-art of behavioral public policy and administration. *Policy & Politics*, *49*(1), 3-23.

At the end of this section, the trainer goes deeper into nudge capacity building at the three levels (macro, meso, micro) using some examples.

MODULE E (for students and practitioners)

Going deeper into Behavioral Insight capacity-building

<u>For trainers</u>. This section goes deeper into the previous dimensions of Behavioral Insight capacity building.

First, the Macro level identifies how policymakers and operators can use the behavioral approach to sustainability in every stage of the tourism experience. For example, to sustainably improve the tourist's experience to ameliorate policies and services.

1. At the macro /policy level

At the macro /policy level, the first task is identifying the sustainability problem to be addressed. This means that public and private actors are jointly aware of the problem and accept collaboration to raise public awareness toward more sustainable tourism goals, targets, and destinations using a nudge. The initiative can be taken at all institutional levels of governance (Hall, 2011), State, Regional, and Local levels.

Behavioral and structural policy interventions often work in different silos of government and do not interact with each other. Nudge can ease policy integration if agents from different organizations sit at the same table to develop a comprehensive policy approach based on Behavioural Insights.

E.g., Evidence of people's food preferences and shopping habits is a good starting point for designing behaviorally informed interventions. That works in combination with conventional policy tools, such as providing regulations to food producers and retailers or subsidies to ensure healthy food.

Therefore, behavioral tourism policies and management go beyond nudging, and a nudge is a tool in the behavioral toolbox. They are about understanding how people think, behave, work, and decide to improve the sustainability of tourism in the medium-long term.

Policy responses to complex problems should require a mix of policy tools to be implemented and effective (Howlett, 2018). The appeal to the complexity of the matter is not an argument to rule out the thrusts. Policymakers and practitioners feel more reassured by the tools they know best, even if they do not work correctly and do not produce behavior change. Favoring nudge skills diffusion may favor the inclusion of nudges in the "toolbox" of decision-makers and managers.

Extending the Behavioral public policy scope means making nudging more attractive, understandable, and managed as an integrated policy tool.

From a policy perspective, nudge is not a stand-alone tool, it usually inserts into national, regional, or local policy legacy.

The nudge instrument can work better if integrated with other policy or organizational tools. Particularly with evaluation.

<u>For the Instructor, policymakers, and practitioners:</u>

BOX 8
Nudge is not a stand-alone tool: the instrument of nudge can work better if mixed and integrated with other policies or organizational tools such as.

Certification is a process that can result in a critical dialogue and policy-making process. However, it can conflict with the type of tourism development a country or local community wishes to pursue (town twinning, cultural route, trekking initiatives, etc.). E.i., environmental certification aims to achieve commitment and greater awareness in the bureaucratic and business community of the needs and contributions of the local communities and a shift in attitudes across sectors and generations (Bowman, 2011). How can we facilitate the certification process using a nudge?

The paradox of certification. The 'UNESCO Site certification is incorrectly used as a brand for economic and market development rather than a tool to increase sustainability.

Consultation and involvement of local stakeholders in strategy development definitions highlight new perspectives about local problems. Inclusive nudge-making ensures that different actors' priorities and opinions about possible intervention measures are relevant in designing the Nudge strategy for local development.

Coordination and comprehensive planning among diverse actors and stakeholders are essential to sustainable tourism, which requires a comprehensive approach in both urban and rural settings worldwide (Pearce, 1995). So how do nudge stakeholders   increase their participation in nudge design?

Evaluation of the nudge's middle-long term impact on tourist behaviors and sustainability problems helps to institutionalize and diffuse the nudge approach.

Regulation, a policy based on rules, sanctions, and incentives to change policy target and beneficiary behavior, can be integrated with a nudge.

Guidelines, informal rules, or instruction that shows or tells how something should be done.

Communication design, it refers to a systematic approach in which the totality of media and messages within a context or organization are designed as a single integrated process through a variety of communication channels that aim to elicit the attention of individuals.

Investments and infrastructure improvements. Sometimes, the lack of infrastructure, or the inaccessibility of a facility can be the core cause of a sustainability-related problem, and therefore a behavioural intervention will not be sufficient to solve this problem. For example, we may decide to design a nudge to convince people to bike more, but if we do not provide access to biking lanes this nudge will become ineffective, or even counterproductive.

<u>For trainers</u>: To test if the class correctly understood the complementarity of a nudge with other policy tools, use a FAQ.

FAQ to answer: is the nudge an instrument of soft regulation?

For trainers: To answer the FAQ, trainers should first define hard and soft regulations.

Hard regulation – an official rule or the act of controlling something with binding effects through sanctions

Soft regulation is a regulatory tool characterized by the production of rules without a direct binding effect. E.g., agreements, and guidelines, which do not create legal obligations between the contracting parties.

Then trainers test if the student can answer the following question.

Is the nudge an instrument of soft regulation in the tourism sector?

(Right answer: No, it is not, but nudge can combine with hard and soft regulation in a policy or program to achieve more sustainability)

Many of the nudges applied to tourism refer to the 2030 Agenda targets (see Ch. 1 and 2): the reduction of CO_2 emissions, food waste and loss reduction, energy transition, and energy saving (See Compilation of nudge).

2. At a meso-organizational level

Organizational preconditions allow nudge design and implementation to impact tourists' behavior (BASIC, 2019):

- Organizational leadership: who takes the initiative and manages to drag other colleagues into nudge design.
- Cooperation in data collection for nudge design
- Human resource skilled in designing nudges to ameliorate tourism sustainability, who knows how to design a nudge
- Collaborative design involving all crucial stakeholders
- Office or employees and managers are free from their day-to-day tasks and time devoted to planning change.

Although nudging has gone mainstream, behavioral policy-making remain a tentative concept that is still in the making. One of the effects of this is that we often stop experimentation without making nudge a stable policy tool for sustainability in the tourism sector.

Various scenarios can configure at the organizational level:

a) Public policymakers and operators get involved in a nudge design and test process.
b) Public policymakers and operators involved in a nudge design and test process decide to adopt stable monitoring and evaluation strategies to assess the nudge effects in the medium-long term.
c) Governmental authorities and operators involved in a nudge design and test process incorporate the nudge in a stable policy strategy and set up a Nudge Unit.

The tourism industry and local public agencies adopting a behavioural approach to sustainable development ensure that firms and tourism public agencies integrate social, environmental, and economic information into managerial decision-making. Firms must achieve sustainability using nudges in their human resources management and operations (Dwyer, Edwards, Mistilis, Roman, & Scott, 2009).

In nudging that aims to develop pro-environmental behaviors, a strategic figure is that of the *mediator*. (Advertising agencies - tour operators, tourist organizations - local operators, local associations who seek to balance the logic of economic development with engagement for sustainability).

Mediators are those who, in some context situations, guarantee the practical implementation of the nudge. With their involvement, the nudge impact is guaranteed and can be very limited.[4]. Regarding tourism policies or enterprises, mediators are, i.e., managers, technical staff, tour operators, and local public or private agencies (See Compilation of nudge, agency travel in choice for Carbon offset).

3. At a micro-individual level

What are the nudge skills to design a Nudge for sustainable tourism behavior?

For trainers. In the destination context considered, the trainer should draw the class's attention to the ABCD wheel to define the target behavior. The trainer illustrates which cognitive factors influence tourist behavior. Attention, Belief Formation, Choice and Determination are the four domains that help find the rationale of unsustainable-unwanted- tourist-behavior.

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[4] Estefanya Vasquez-Casaubon, Aysegul Kanay et Denid Hilton, Nudge efficacia a favore dell'ambiente, in Viale R. at Macchi L. (2021), *Analisi comportamentale delle politiche pubbliche*, Il Mulino, Bologna.

Please refer to Chapter 3, paragraph 3.5, for more information about the ABCD wheel and its features.
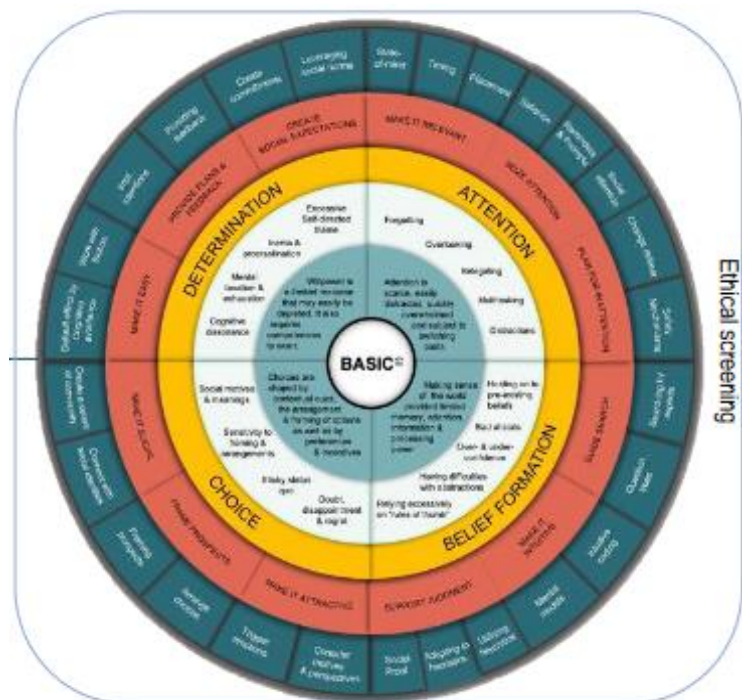
Attention. The window of the mind. Human attention is *scarce*, *easily distracted*, and *quickly overwhelmed*. *Several factors* seriously affect our ability to spot what is important and bias our rational processing of whatever is in focus. Attention is scarce due to our cognition and the dual/triple system (see Ch. 3). Forgetting, overlooking, relegating, multitasking, and distraction are the products of these cognitive boundaries (see BASIC).

Addressing these behavioral problems require policymakers and nudge designers to make the desired choice *relevant*, to *seize attention*, and to *plan for inattention*.

Belief-formation – making sense of the world. Belief formation is what we do all the time to make sense of the world. But because of cognitive boundaries etc., we sometimes fail to do it rationally; that is where the 'wrong' worldview occurs. This causes us to: Ignore relevant information, Erroneous sampling, Confusion, Under/over-estimation, Relying excessively on 'rules-of-thumb.'

Choice. making the best of opportunities. It relates to how preferences are constructed or influenced when making choices. Decisions may be influenced by doubt, disappointment, and regret due to complexity or confusing sets of options; Sticky status quo favored by energy invested in past projects or decisions; Sensitivity to framing and arrangements due to weak presences of uncertainty; Social motives, meanings and norms (conformism).

Determination – sticking to choices over time. Problems are caused by: Inertia and procrastination; Excessive self-directed blame: When challenges lead to failure, the person may blame themselves and their experience; people search for ways to reconcile immediate gratification with their long-term goals.

Source: the BASIC report

MODULE F (students and practitioners)

BASIC applied to tourists' behaviors for better sustainability

<u>For trainer</u>: This section illustrates how the BASIC framework can be applied to tourism policies and destination/tourism service management. It gives an example of how to apply the BASIC Protocol using a case study (see slide n. 26 of the Compilation of nudges).

<table>
<tr><td>

BOX 11
BASIC Protocol for Tourism sustainability.

The procedure or sequence of activities to explore and define the harmful behaviors, designing and applying the visitors' experience in specific services and tourism destinations.

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Apply nudge in individual tourist decisions, tourism decision-making, and organizations.
(From Basic, 2013 and Souza-Neto et al., 2022)

</td></tr>
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TAB 4 – Reducing room cleaning in hotels – To clean or not to clean? Reducing Daily Routine Hotel Room Cleaningby Letting Tourists Answer This Question for Themselves.

The BASIC Protocol develops in five steps:

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<tr><td colspan="2">

1.   BEHAVIORAL PROBLEM

Exploratory step – identify the sustainability problem in the actual tourist or operator behaviors and the desired outcome in the specific context

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1.1.   Interviewing the actors involved (managers, operators) and tourists on the sustainability behavioral problem perceived (or not perceived) in the situation context could help in the absence of data

</td></tr>
<tr><td colspan="2">

1.2.   Identify reasons for harmful or unsustainable tourist or operator behavior, i.e.,

</td></tr>
<tr><td>a)</td><td>The majority of Hotels present daily room cleaning as the default option</td></tr>
<tr><td>b)</td><td>The guests do not pay attention to water and energy use for room cleaning and do not claim for a different option</td></tr>
<tr><td>c)</td><td>The preferred option (behavior) is that guests choose not to have their room cleaned everyday to let the hotel be more sustainable</td></tr>
<tr><td>d)</td><td>Some low cost hotel have stopped cleaning room every day by defaut, asking guests the possibility to pay an additional fee if they want room cleaned</td></tr>
<tr><td colspan="2">

Trainers can use other examples, always starting with defining the sustainability problems in behavioral terms. For this purpose, the trainer can use Chapter 1 and the introduction of Chapter 4.

</td></tr>
</table>

2. ANALYSIS **Of the psychological factors that are influencing guests' behaviour**
a) Default option is defined as a behaviour that does not require any action when and individual is asked to make a choice
b) Default option are effective because they requires less physical, cognitive and emotional effort and because may be perceived as the recommended.
c) To choose the default option: – bypassing both previous types of thinking: unintentional but less environmental friendly behaviors
3. STRATEGY **Design the solution**
a) To ease behavioral change, design a default option towards more sustainable guests' decision.
b) Modifying the cleaning room option: from a daily cleaning option(with the option of opting out, to a no daily cleaning option (with the option of opting in) in requesting a room cleaning every day.

c) Design two types of room signals:
   i) Please do not clean my room
   ii) Please clean my room today
 	
And distribute them in the target rooms of the hotel, where guests where also informed of the new cleaning program implementation and therefore the room would not be automatically cleanse every day, even if they can chose the opt-in option.

d) Use a third type of signals providing the same information as tne previous one but adding environmental argument not for cleaning the room when not necessary.
4. INTERVENTION **Testing step: how it has been carried out**
a) Choose the hotel and the period where to apply the nudge
b) Make an experimental design. i) Calculate the room cleaning rates (number of rooms divided by the length of stay) in three different conditions: ii) group 1 (the control group) room where authonatically cleaned every day and guest could opt out bu using "please do not clean mu room"; group 2 the room were not cleaned every day and guest were given the choice to opt-in by displaying the "Please do not clean my room today"; group 3 the same procedure as group 2 but in addition guest where also added an ebìnvironmental argument. iii) Select the type of guests to include in the test (i.e. the study concerns only leisure and business guests staying for at least two nights.

The testing phase answers the following question: Does a given nudge produce the desired effects on some pre-established harmful behaviors?

*You have different methods to test a nudge: all of them aim to assess and distinguish the voluntary from the involuntary variations in the exposure of a population to a nudge, the so-called *net effect*.

5. CHANGE
The result of the testing and the behavioral change achieved

a) Measure the net-effect[*] : variation of cleaning rates in group 2 and group 3 minus the variation of the cleaning rates of group 1, in the same period (see the Compilation of nudge for details).   i) The nudge using the default option reduces the frequency of room cleaning, respectively 80% (group 2) and 70% (group 3).
b) Assuring the stability of successful change achieved through experiments, and scaling sustainable behaviors to the whole structure (hotel)

Experiment (definition). It aims to compare tourist groups and quantify the nudge effects using the randomized control trial (RCT) (BASIC) to select a target population and control group to evaluate the nudge's impact on individuals' behaviors.

Quasi-experiment (definition). It aims to make groups of tourist comparable differently and quantify the nudge effect without using randomization to select the target population for the test. (See: European Commission, EVALSED, 2013, to learn more about the methods).

Who does make the nudge experiment o quasi-experiment? Policy workers (public and private) can test a nudge, with an external advisor, within public and private organizations or offices and on the ground for tourist service delivery.

An experiment can be conducted in the laboratory, by expert consultants, and on the ground by policy workers. Any methodology you apply must be appropriate to the situation context and data availability. Appropriate means 'accepted' by the individuals belonging to the organizations and public agencies involved and lead by someone who can guarantee its feasibility (BASIC, 2019).

Evaluation step: consider assessing the nudge validity and impact in the mid-long term.
a) Assessment of the customer satisfaction with the service received
b) Measure quantitatively the likely tourists' perception of nudge intervention, and understand correctly feedback for boosting the sustainability policy
c) Assessing the opinion of operators (hotel workers) to identify nudge limitations and weaknesses
d) Considering the mid-long-term impact of nudge, intervention thinks if nudge redesign is necessary

Nudge costs for tourists, policymakers, and operators.

As the nudge accepts human nature, instead of trying to change it, policymakers and managers should use behavioral insights as an additional tool that could help achieving bigger and more sustainable change than traditional policy instruments.

Designing a nudge may be perceived as a low cost activity. However, even if the production of the nudge itself may have a smaller economic cost than other types of investments, other types of cost need to be taken into account if we want to effectively adopt a behavioural approach to tourism policies:

1) Legitimacy costs: policymakers should agree and trust this policy instrument. Potential users need to know the ethical and practical implications.
2) Gratification costs, how satisfied I feel from the holiday
3) Information costs: as the nudge is based on field experiments, it needs availability and access to data sets of the administrations/organizations involved in the nudge design.
4) Evaluation costs: field experiment is a creative 'try and test approach' based on evaluation techniques (counterfactual), not so diffuse and standard to apply. Nudge design needs expert assistance or specific formation of the policymakers.

To all these costs, we may add that designing and evaluating a nudge is time-consuming. Therefore, we should not take for granted that a nudge is a 'low-cost' measure.

What we do not know yet:

- Interaction effects of two or more nudges
- Effects of a nudge to enhance the sustainability of employees in tourism sectors
- Relationship between nudge and technologies/digitalization/smart working
- The replication of nudge – different conditions and contextual factors make the difference in nudge effects (see the Compilation of Nudge).
- Spotlight on results of a nudge for social, environmental, and economic sustainability (food consumption – energy saving – emissions- waste collection- safety - biodiversity (use of cell phones, electric bikes)

The following infographics from the Informative Toolkit can help you illustrate some of the key messages of this chapter:

BOOSTING NUDGING CAPACITY IN TOURISM

AT EVERY STAGE OF THE TOURIST'S USER JOURNEY THERE ARE DECISIONS THAT IMPACT THE SUSTAINABILITY OF THE TRIP.

THESE DECISIONS ARE MADE BY THE TOURIST, BUT THEY CAN BE INFLUENCED BY THE DESTINATION MANAGER, TOURISM PROFESSIONAL OR POLICY MAKER.

INSPIRATION & ANTICIPATION

PLANNING

TRAVELING

TOURIST ACTIVITY

RECOLLECTION, REFLECTION & SHARING
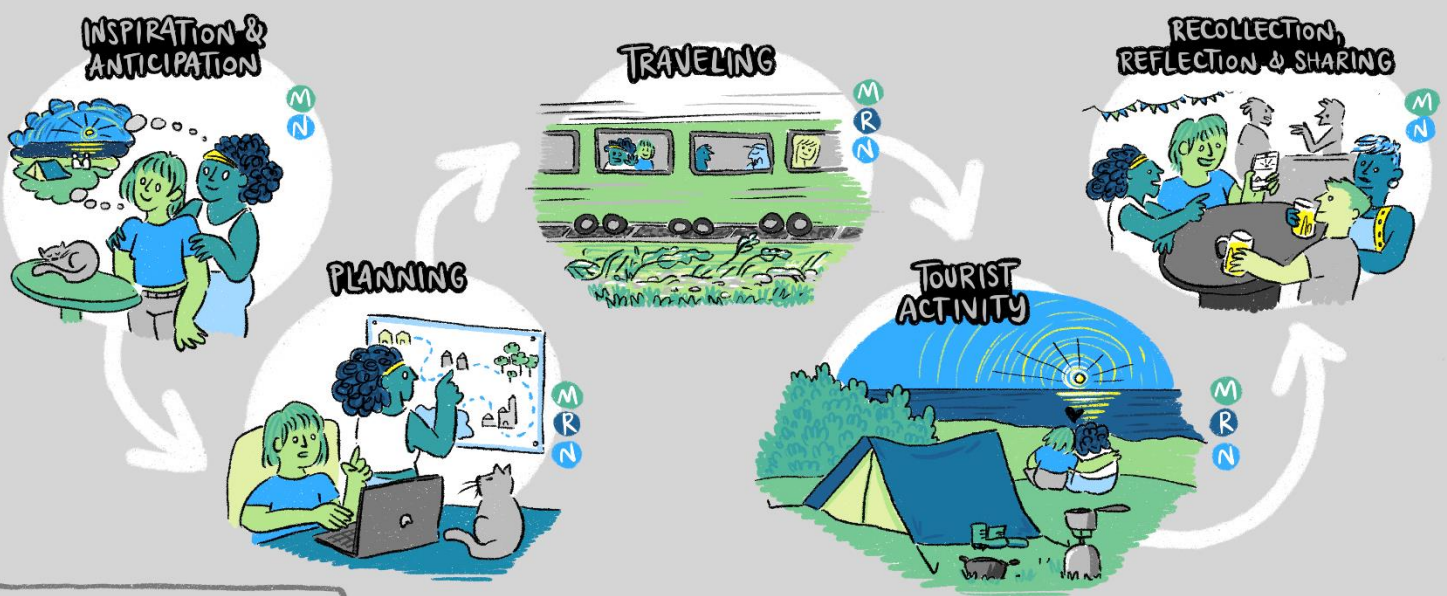
M MARKETING, INCENTIVES
R REGULATION
N NUDGES & BEHAVIOURAL INTERVENTIONS

IN ADDITION TO MARKETING, INCENTIVES OR REGULATION, NUDGING CAN BE AN ADDITIONAL STRATEGY TO ENABLE SUSTAINABLE BEHAVIOUR.

GIULIADAVID.NET

For trainers: Lesson learned

At the end of this chapter, awareness of the usefulness of the behavioral approach should be raised with the participants.

It should be easier to look at the change in people's innate behaviors to increase the sustainability of tourism and focus the attention of policymakers and tour operators on intervention design that focuses on such behaviors. Furthermore, trainers can ask for a reflection on the   'context,' a term often misused, which instead, in this approach, plays a decisive role in the design of the intervention and in generating positive effects on the tourists' decisions.

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NUDGE MY TOUR METHODOLOGY:
Conclusive practical exercice

Once you have completed the teaching sessions and you have guided your classroom through the discovery of behavioural insights applied to tourism sustainability, it is time to propose the participants to consolidate their knowledge through a practical exercise.

The objectives of the practical exercise are the following:

- Consolidate the learnings from the teaching session;
- Experience first-hand the analysis of a sustainability problem using a behavioural lens;
- Experience first-hand the design of a behavioural intervention and its testing

This chapter aims to illustrate two ways you can organise this practical exercise at the end of the teaching session, based on the time available but also on the profile of the participants.

Scenario 1: practical exercise in the classroom

This type of exercise can be done directly in the classroom and is suitable in training sessions where there is no time to carry out some homework and to gather back for a restitution session.

Description: starting from a case study describing a sustainability-related issue in a tourism destination, the participants will be asked to undergo the first three steps of the BASIC framework. This will consist in: identifying the behavioural problem (BEHAVIOUR), detecting why it occurs (ANALYSIS) and identifying a possible behavioural strategy to solve the issue (STRATEGY).

Duration of the whole exercise: 2h30' (+ a 15' break)

Part 1 – CASE STUDIES PRESENTATION

Duration: 20'

Material needed: a screen, a flipchart, markers

If you work with a group of tourism practitioners, you can ask them to share with the group a situation that they encounter in their context/destination, where there is an issue related to sustainability.

As an alternative, and especially if you work with students, you can propose case studies taken from the experience of tourism destinations or businesses, which you will have collected from news articles or from the literature.

In both cases, and in order to describe the situation in the most exhaustive way, you can present the case study answering to the "5 WH questions":

- What happens?
- Where does it happen?
- When does it happen?
- Why does it happen?
- How does it happen?
- Who is involved in the situation?

You will then divide the classroom into smaller groups, composed of 2 to 6 people (according to the number of participants). Each group will be attributed to one of the situations described.

As an alternative, you can also decide that all groups will work on the same case study, and then compare their analysis.

Part 2 – GROUP WORK

Duration: 1h30' (30' for each of the three steps)

Material needed for each group:

- Flipchart and markers
- ABCD wheel
- Description of the BASIC framework (in particular the B.A.S. stages)

Each group will work on the case study, using the BASIC framework.

B – BEHAVIOUR

As a first step, they will be asked to identify *what* the behavioural problem is, which corresponds to the "B - BEHAVIOUR" phase of the BASIC framework.

For this purpose, you can ask the group to identify the behavioural pattern, by answering the following questions:

- Preferred behaviour: What behaviour do you want to achieve, and what is the current rate of compliance?
- Non-preferred behaviour: What behaviour is the one you would like to change, and what is the current rate of non-compliance?
- Who: Whose behaviour do you want to change? How many people does the target group contain?
- Context: In what context does the behaviour occur? Where and when is the action performed?

When the group is finished with the BEHAVIOUR mapping (with help from the tools available in the methodology) it should be able to answer the following questions, related to the behaviour:

- Who is performing the action?
- What are these people doing, and what do we want them to do instead?
- Where and when is the action performed?

A – ANALYSIS

As a second step, the group will undergo the "A – ANALYSIS" phase of the BASIC framework, aimed to understand *why* people behave as they do.

The behavioural problem will be examined through the lens of behavioural insights, to understand which psychological and cognitive factors are causing the targeted behaviours. The aim is to understand why people act as they do.

In this phase, the group will use the inner cycles ABCD wheel, a tool developed within the BASIC framework to help analysing a problem through the lens of behavioural insights. These inner circles will help to identify which aspects of the behavioural problem we need to address.

The ABCD wheel (inner cycles)
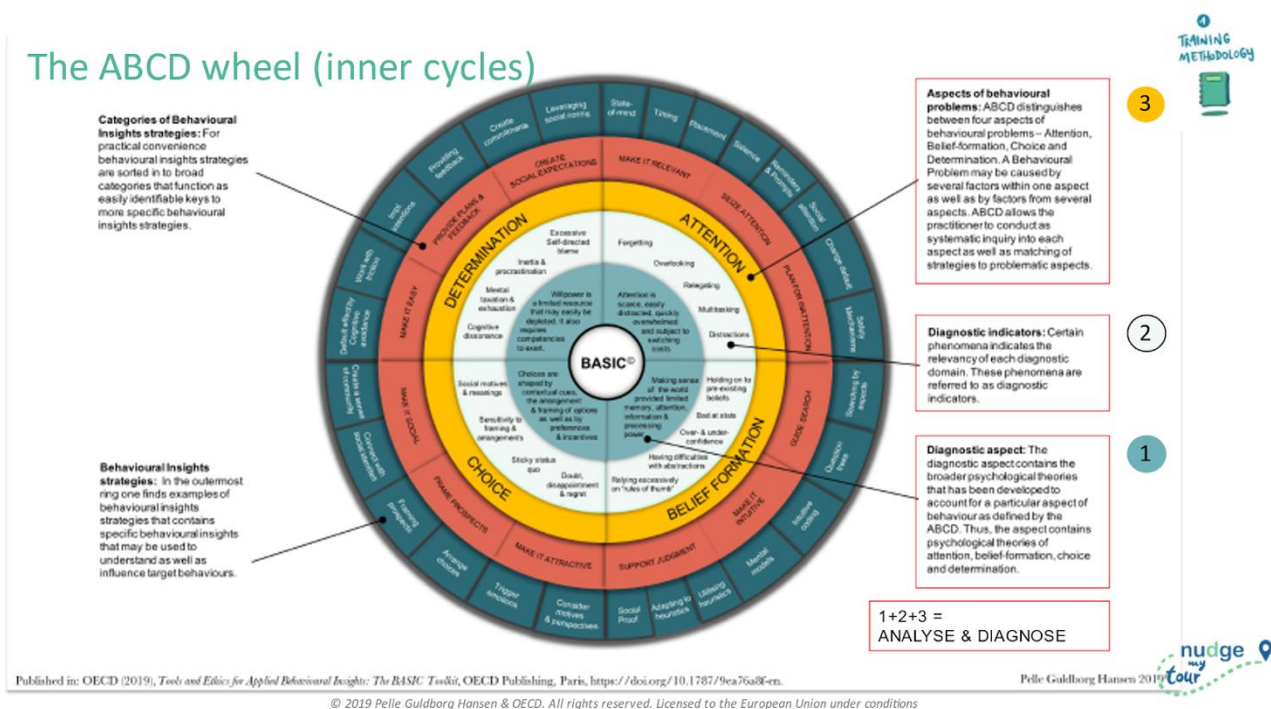
(Look at chapter 3.5 – page 109 for reference about the ABCD wheel)

When the group is done with the ANALYSIS of the problem, it should be able to answer the following question:
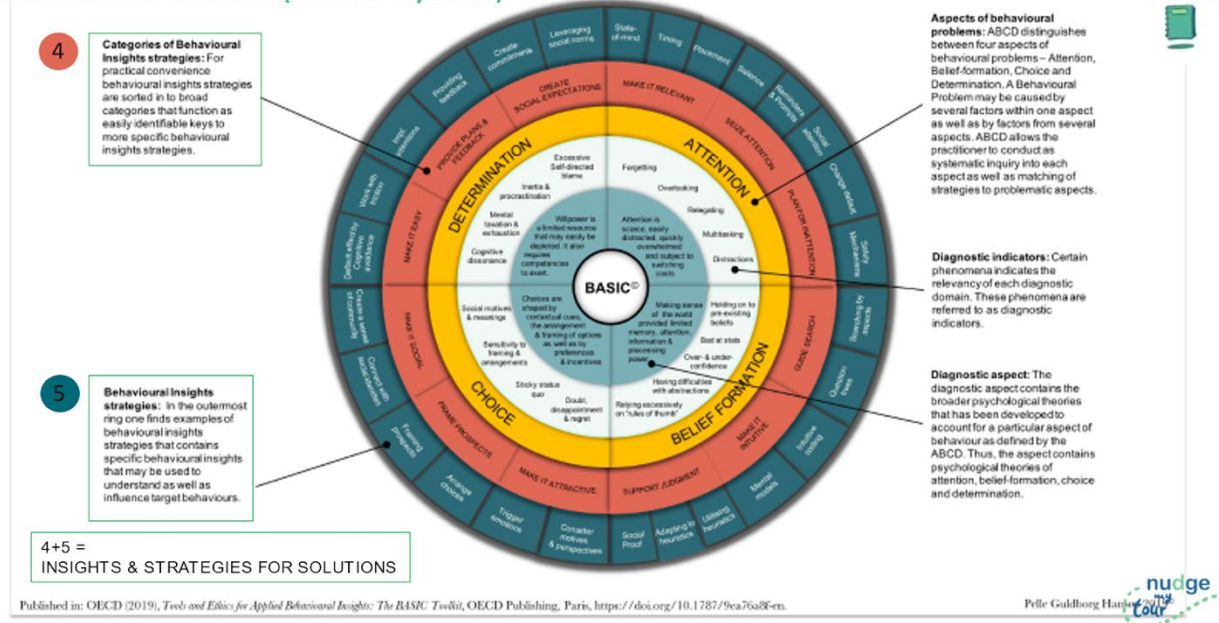
- Why does the problem occur?

S – STRATEGY

As a third and last step of the group work, the participants will be asked to identify the first elements of a behavioural strategy to tackle the problem identified and analysed in the first two steps. This is the "S – STRATEGY" phase of the BASIC framework.

The groups will therefore use the outer cycles of the ABCD wheel to identify classes of strategies and behavioural insights that match the analysis of the behavioural problem(s) carried out using the inner cycles of the wheel.

This part of the exercise is aimed at helping the group to first identify a broad category of strategies, and then narrow down to a more specific set of strategies, that may be used to understand and influence target behaviours.

The ABCD wheel (outer cycles)

4 — **Categories of Behavioural Insights strategies:** For practical convenience behavioural insights strategies are sorted in to broad categories that function as easily identifiable keys to more specific behavioural insights strategies.

5 — **Behavioural Insights strategies:** In the outermost ring one finds examples of behavioural insights strategies that contains specific behavioural insights that may be used to understand as well as influence target behaviours.

4+5 = INSIGHTS & STRATEGIES FOR SOLUTIONS
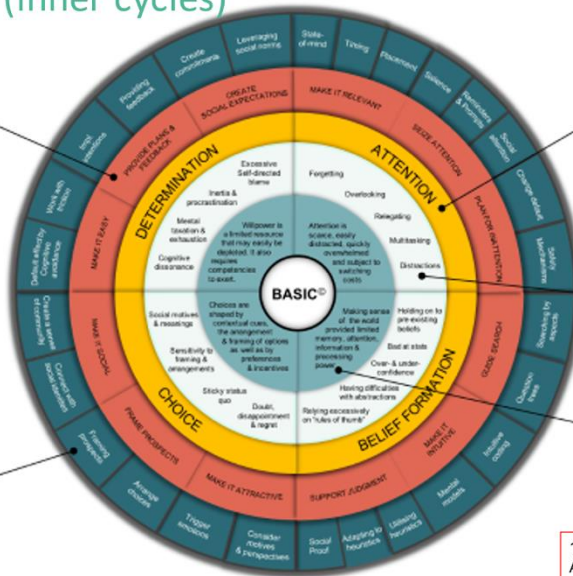
Aspects of behavioural problems: ABCD distinguishes between four aspects of behavioural problems – Attention, Belief-formation, Choice and Determination. A Behavioural Problem may be caused by several factors within one aspect as well as by factors from several aspects. ABCD allows the practitioner to conduct as systematic inquiry into each aspect as well as matching of strategies to problematic aspects.

Diagnostic indicators: Certain phenomena indicates the relevancy of each diagnostic domain. These phenomena are referred to as diagnostic indicators.

Diagnostic aspect: The diagnostic aspect contains the broader psychological theories that has been developed to account for a particular aspect of behaviour as defined by the ABCD. Thus, the aspect contains psychological theories of attention, belief-formation, choice and determination.

When the group is done with the identification of the behavioural STRATEGY, it should be able to answer the following question:

- How do we solve the problem?

Part 3 – RESTITUTION

Duration: 40'

At the end of the group work, the participants gather to share their work with the rest of the group.

In this phase, it will be important to plan enough time to allow the group to share its feedback on the work done: what did they find interesting? What did they find challenging? Also make sure to allow the other participants to share their own feedback with the group.

At the end of the session, provide a printed or digital copy of the ABCD wheel along with the course slides, so that the participants can take some time after the session to go back to the knowledge they acquired during the exercise and get inspired to apply a behavioural lens to other sustainability issues they encounter in their work.

Scenario 2: project work with homework and restitution session

This scenario combines a presentation in the classroom, autonomous group work and a restitution session back in the classroom or online. This type of exercise allows for a more in-depth work on

the behavioural analysis of the case study, and therefore allows for a more effective learning experience. This scenario is suitable where there is the possibility and enough time for the participants to work on their own with their group after the training, and to gather back for a restitution session. It is particularly suitable for Master level students' assignments.

Description: starting from a case study describing a sustainability-related issue in a tourism destination, the participants will be asked to address the issue using all the five steps of the BASIC framework. This includes proposing an intervention to test the behavioural strategy identified and a methodology to collect data about its effectiveness.

Duration of the whole exercise: 2-3 weeks

Part 1 – CASE STUDY PRESENTATION (IN CLASSROOM)

Like in the first scenario, you can either ask the participants to propose case studies coming from their own experience (especially if you work with tourism practitioners) or propose ready-made case studies taken from different tourism destinations.

To describe the situation in the most exhaustive way, make sure the case studies are presented answering to the following "5 WH questions":

- What happens?
- Where does it happen?
- When does it happen?
- Why does it happen?
- How does it happen?
- Who is involved in the situation?

You will then divide the classroom into groups, and you can decide if all work on the same case study or if each group works on a different one.

You will then describe the assignment to the group, and hand it out in a written version, along with the presentation template for the restitution session.

Part 2 – GROUP WORK (FROM HOME)

The groups will organise their work autonomously, to analyse the sustainability issue presented in the case study through a behavioural lens, and to suggest an intervention based on behavioural insights.

Like in the first scenario, the working framework to be used will be BASIC, however in this case the participants will go through all five stages of the process.

The duration of this phase of the project work can vary depending on the time available for the participants. However, we recommend giving at least two weeks to the groups to undertake all the steps required and to prepare a presentation for the restitution session.

At the end of this phase, the groups will present their work to the rest of the participants. For this purpose, they will prepare a presentation of their work using a template that you will have provided.

Material needed for each group:

- ABCD wheel
- Description of the BASIC framework
- A presentation template for the restitution session

B – BEHAVIOUR

As a first step, each group will be asked to identify *what* the behavioural problem is, which corresponds to the "B - BEHAVIOUR" phase of the BASIC framework.

For this purpose, you can ask the group to identify the behavioural pattern, by answering the following questions:

- Preferred behaviour: What behaviour do you want to achieve, and what is the current rate of compliance?
- Non-preferred behaviour: What behaviour is the one you would like to change, and what is the current rate of non-compliance?
- Who: Whose behaviour do you want to change? How many people does the target group contain?
- Context: In what context does the behaviour occur? Where and when is the action performed?

When the group is finished with the BEHAVIOUR mapping (with help from the tools available in the methodology) it should be able to answer the following questions, related to the behaviour:

- Who is performing the action?
- What are these people doing, and what do we want them to do instead?
- Where and when is the action performed?

A – ANALYSIS

As a second step, the group will undergo the "A – ANALYSIS" phase of the BASIC framework, aimed to understand *why* people behave as they do.

The behavioural problem will be examined through the lens of behavioural insights, to understand which psychological and cognitive factors are causing the targeted behaviours. The aim is to understand why people act as they do.

In this phase, the group will use the inner cycles of the ABCD wheel, a tool developed within the BASIC framework to help analysing a problem through the lens of behavioural insights. These inner circles will help to identify which aspects of the behavioural problem we need to address.

The ABCD wheel (inner cycles)

(Look at chapter 3.5 – page 109 for reference about the ABCD wheel)

When the group is done with the ANALYSIS of the problem, it should be able to answer the following question:

- Why does the problem occur?

S – STRATEGY

As a third step of the group work, the participants will be asked to identify a behavioural strategy to tackle the problem identified and analysed in the first two steps. This is the "S – STRATEGY" phase of the BASIC framework.

The groups will therefore use the outer cycles of the ABCD wheel to identify classes of strategies and behavioural insights that match the analysis of the behavioural problem(s) carried out using the inner cycles of the wheel.

The use of the ABCD wheel will help the group to first identify a broad category of strategies, and then narrow down to a more specific set of strategies, that may be used to understand and influence target behaviours.

The ABCD wheel (outer cycles)
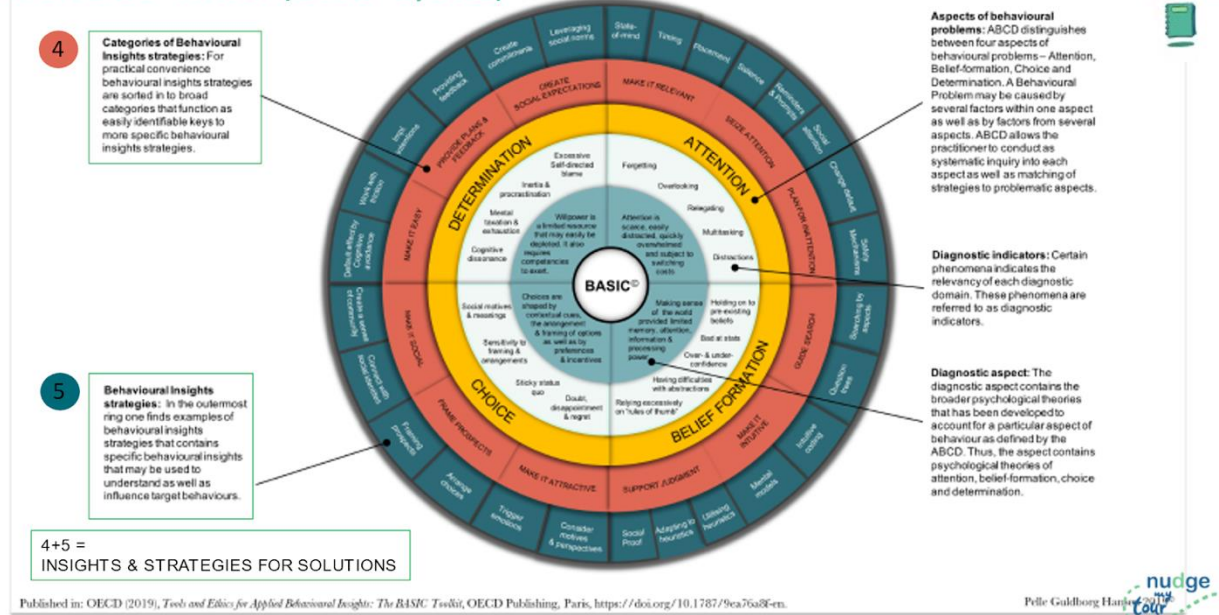
Based on the behavioural levers and strategies identified with the help of the ABCD wheel, the group will now imagine a concrete measure or a nudge to bring this strategy to life. This is the creative part of the work. The participants will be invited to think about as many ideas as possible, first on their own in order not to be influenced by the others. Then they will put their ideas together, cluster them and choose their preferred one.

The group will then prototype the chosen measure, estimate its cost and screen it for ethical considerations. This will prepare the ground for the following stage, where they will be asked to design an I – INTERVENTION to test the strategy.

When the group is done with the identification of the behavioural STRATEGY, it should be able to answer the following question:

- How do we solve the problem?

I – INTERVENTION

A fourth stage of the project wok will be to design an intervention to test the effectiveness of the strategy.

Based on what they learned in class about the "I – INTERVENTION" stage of the BASIC framework, the groups will be asked to define a testing method. This will consist in describing the actions to undertake, the duration of the testing and the resources (human, financial, material) needed.

Based on the prototype designed in the S – STRATEGY phase, the group will define how they intend to experiment it in the real world. This will consist in describing the experimentation modalities, the sample, the duration, and the ways to collect and analyse data about the experimentation's results.

To help them in this phase, the group will be invited to refer to the paragraph about experiments in Chapter 3 of the methodology (page 114).

When the group is done with this phase, it should be able to answer the following question:

- How do we test the feasibility and effectiveness of the strategy to solve the problem?

C – CHANGE

As a final stage of the exercise, the group will be asked to step back and reflect on how the whole behavioural intervention designed using the first four stages of BASIC can inform the public policies related to the sustainability issue identified in the case study.

To do this, the groups will be asked to propose a list of actions to ensure that the behavioural strategy and intervention developed will be duly disseminated and used to inform public policies. In this phase, they will also identify the opportunities that will enable this, and the barriers that could make this more difficult.

This part of the exercise can be based on the five-point milestone proposed in the BASIC framework (page 118).

When the group is done with this phase, it should be able to answer the following question:

- How do we ensure that behavioural strategy becomes part of existing policy mechanisms?

Part 3 – RESTITUTION SESSION (IN CLASSROOM OR REMOTE)

At the end of the group work, you will gather the participants back in the classroom (or in a virtual classroom, if this is not possible), to give them the chance to present their work to the rest of the class, to provide their feedback on the project work and to receive yours.

The duration of this restitution session can be of about 2 hours, but this will depend on the modality chosen (you can give more time if the session happens in a real classroom) and the number of groups (more groups = more time needed).

You can organise the restitution session as follows:

- Short (5') introduction to remind the participants the context of their project work, and the objectives of the training;
- Group works presentations and feedback (about 30' per group):

    o The group presents their work, answering the guiding questions related to each step of the BASIC framework;

    o The other participants and the instructor ask questions and share their feedback on the work done by the group;

    o The group replies to the comments and shares their own feedback on the work

- Conclusive discussion (15', 20'): what are the participants going to bring home after this training? How are they going to apply this knowledge to their own work?
- You can ask the participants to fill an evaluation questionnaire to share this feedback in writing, before they leave the classroom.
- You can also provide them useful resources to go a step further and to remain in touch.

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