



# NUDGING FOR SUSTAINABILITY: INNOVATIVE PRACTICES IN SUSTAINABLE TOURISM AND PUBLIC POLICY

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**Abstract.** This study delves into the dynamic intersection of behavioral economics and sustainable tourism, focusing on the innovative use of nudging techniques to promote responsible and eco-friendly behaviors among travelers. Nudging, a concept rooted in behavioral science, is harnessed to design interventions that gently steer tourists toward more sustainable choices, without imposing restrictions or heavy-handed regulations. This research explores a spectrum of creative nudging strategies, from digital applications to environmental messaging all tailored to the unique demands of the tourism industry. These innovative practices not only enhance the visitor experience but also contribute to the preservation of natural and cultural assets. This paper demonstrates the real-world impact of nudging in public policies of governments especially through their Behavioural Insight Teams (BIT) called nudge units and the sustainable nudging practices in the tourism sector with a few cases of tourist destinations. These innovative nudging practices can inspire new approaches which can help in both environmental conservation and instill a sense of social responsibility amongst tourists.

**Keywords:** Key words: Nudge theory, sustainable tourism, Nudge Units, Sustainable Development Goals (SDG)

## 1 Background to the study

Humanity has enjoyed greater riches, security, or health with the help of the Industrial Revolution. But it has harmed our natural ecosystem beyond repair. Since environmental problems and human advancement are closely related, the globe is currently dealing with a wide range of problems from air pollution, climate change, biodiversity loss, animal welfare, coral bleaching and many more.

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United Nations has identified these issues and has adopted Sustainable Development Agenda in 2015 which includes 17 SDGs and emphasizes a holistic approach to achieving Sustainable development to all. These new goals also called as Global goals. In addressing environmental protection and climate change, these goals also look for solutions to different social needs like health care, employment opportunities, social protection, education, etc., they also acknowledge that strategies to build economic growth and ending poverty must go hand in hand with addressing poverty and environmental protection. All countries, rich or poor, are called upon to take action to promote prosperity while protecting the planet. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs [7].

The countries bear the major duty of monitoring and evaluating the advancements achieved in achieving the Goals, even though the SDGs are not legally obligatory. It becomes challenging for the governments to implement them because they are not legally enforceable. But according to Behavioural science, a small prod towards making greener decisions on a daily basis can significantly increase the likelihood that citizens would take environmental action (United Nations Environment Programme, 2020). In collaboration with the Behavioural Insights Team, the United Nations Environment Programme (UNEP) has used nudging as a tactic to assist in achieving the Sustainable Development Goals (SDGs) and safeguarding the environment globally. This paper attempts to provide a qualitative insight on the role and contribution of Nudge Units, in government policy making and how it is used as an effective tool in decreasing the social and governmental costs. Small cases of are presented to show how certain nudge interventions which are pro environmental, have influenced the behavior of tourists at holiday destinations and have helped in the achievement of SDGs 3, 6, 11, 12 & 13.

## 2 Nudge theory & Public Policy

Nudge theory is a contemporary and adaptable idea in behavioural sciences to comprehend human thought, decision-making, and behaviour. Nudge is any small feature in the environment that attracts our attention and influences the behavior we make [24]. Richard H. Thaler was awarded the Nobel Memorial Prize (2017) in recognition of his contributions to behavioural economics, The world-renowned best-seller, [Nudge (2008), co-written by Thaler and Cass R. Sunstein, applies behavioural economics principles to address a number of the main issues facing society. Abhijit Banerjee, a renowned economist of Indian origin, was recently granted the Nobel Prize in recognition of his revolutionary work in the area of reducing world poverty. Especially noteworthy is the deft use of nudge theory concepts to his work, which demonstrates a sophisticated grasp of behavioral economics in tackling intricate socio-economic issues.

In Nudges (2008), [24] define nudging as: ‘soft’ interventions, that prompt Humans toward choices that are good for them, as judged by themselves. Nudging is done by a choice architect- anyone who influences the choices you make [24]. A nudge, as we will use the term, is any aspect of the choice architecture that alters people’s behaviour

in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid [24] Nudges are not mandate, do not block options and do not change incentives. For example, citizens are nudged to green (green bills) their electricity consumption by letting them know about their neighbours' consumption [8]. In the same way supermarkets steer clients toward the use of paper bags by informing people about what others do.

"Nudge Units," also known as Behavioral Insights Teams (BIT), are organizations dedicated to generating and providing behavioral insights to policymakers and various entities, aiming to shape public thinking and decision-making based on Nudge Theory. Often likened to social consultancy firms, BIT originated in the UK Cabinet Office in 2010, focusing on implementing nudge theory within the British government. Notably, in 2014, BIT transitioned into a limited company and is presently wholly owned by the UK-based charity Nesta, also recognized as the Innovation Foundation.

Operating globally, BIT has undertaken over 750 projects, with 400 employing randomized controlled trials (RCTs). This experience has catalyzed the establishment of numerous national behavioral units in countries such as the US, Japan, India, Indonesia, Peru, Singapore, Australia, the Netherlands, Austria, France, Germany, and Italy. The Organization for Economic Cooperation and Development (OECD) reports that 202 institutions worldwide have utilized behavioral insights to shape public policy.

In response to the growing significance of behavioral economics, many companies have formed their own Behavioral Insight Teams, often referred to as Behavioral Insights Units (BIUs) or colloquially as "Nudge Units." Notable examples include:

- The official "Nudge Unit" of the Australian Government, known as the Behavioral Economics Team of the Australian Government (BETA).
- The Behavioral Insights Group BC BIG within the Government of British Columbia.
- Harvard University's Behavioral Insights Group (BIG) in the United States.
- NITI Aayog's Behavioral Insights Unit in India.
- Behavioral Economics in Action at Rotman (BEAR) at the Rotman School of Management in Canada.
- Decision Insights for Business and Society (DIBS) at UBC Sauder School of Business in Canada.
- Cambridge University Behavioral Insights Team (CUBIT) at the University of Cambridge in the UK.

Furthermore, The Mind, Behavior, and Development Unit (eMBeD) at the World Bank employs behaviorally based research to enhance the effectiveness of development initiatives. During the COVID-19 pandemic, social nudging techniques were utilized to mitigate vaccine hesitancy and promote public health measures.

### **3 Tourism Industry And Sustainability Practices Using Nudges**

The global Tourism Industry stands as the third-largest export industry, contributing 6.1 percent to the GDP. However, it also leaves a considerable environmental footprint,

accounting for 5% of global carbon emissions, with 4% attributed to transportation, nearly 1% to accommodation, and a smaller fraction to other tourism activities [26]. A tourist's water consumption varies widely, ranging from 84 to 2,000 liters per day, influenced by factors such as length of stay, hotel amenities, food consumption, and other variables [22]. Despite the significant environmental costs associated with tourism activities, research indicates that pro-environmental behaviors often observed in daily life, such as water reduction and energy conservation, do not consistently extend to tourism activities, leading to unsustainable practices, including food waste [27].

Sustainable Tourism, defined by the World Tourism Organization, involves considering current and future economic, social, and environmental impacts while addressing the needs of visitors, the industry, the environment, and host communities. However, a persistent challenge in promoting sustainable tourism is the 'intention-behavior gap,' where positive sentiments towards sustainable behavior often do not translate into actual environmentally friendly actions [29].

Recognizing this challenge, the UN Environment Programme (UNEP) has collaborated with the Behavioural Insights Team to incorporate nudging as a strategy to advance the Sustainable Development Goals (SDGs) and safeguard the global environment. Specifically, they employ "green nudges" - small, positive influences designed to shape tourist behavior and instill lasting environmental principles. These nudges adhere to principles such as making the behavior easy, attractive, social, and timely, aiming to effectively address climate change and reduce the carbon footprint of the tourism industry (United Nations Environment Programme, 2020).

#### 4 A brief review of the earlier studies on sustainable nudges

[27] Souza Neto systematically reviews literature on nudge interventions in tourism and sustainability research, emphasizing the dominance of Anglo-Saxon countries in green nudges. The study categorizes interventions through thematic analysis, highlighting the preference for low-cost treatments. Social norms emerge as primary motivators, and the research contributes a model for developing nudges in the tourism sector.

"Empowering Tribal Communities: A Case Study of Swachh Bharat Mission" [2] Adlakha focuses on the Swachh Bharat Mission's impact on tribal communities in West Bengal and Chhattisgarh. Using a hybrid model combining TAM (Technology assistance model) and TPB (Theory of Planned Behaviour), the study evaluates perceptions, problems, and post-implementation benefits. The findings underscore the mission's positive influence on improved sanitation and hygiene practices in these communities.

"Framing Effects on Environmental Behavior" [10]. Nelson conducts two natural field experiments exploring framing effects on environmental behavior in Gili Traangan, Indonesia. The study reveals that any intervention, regardless of framing, combined with asking customers about their preferences, is effective and cost-efficient in reducing plastic bag use. Notably, framing did not significantly impact plastic bag refusal.

[16] addresses climate change's connection to tourism emissions, focusing on behavior change through nudging. Nijhuis tests three types of nudges—default, norm, and

moral—revealing partial effectiveness for default nudging in generating sustainable behavior. While nudging may not be a panacea, it successfully increases interest in sustainable choices.

[3] Anderson explores creating digital nudges to promote sustainable choices on travel websites. Insights from workshops, user research, and testing reveal the high potential of digital nudges to influence consumers. However, explicit highlighting is crucial for optimal impact, emphasizing the need for clear communication.

[1] demonstrated the successful implementation of nudges for water conservation in Chennai, employing RCT with school children and adults. The study showcases nudges like postcards and positive peer group actions as effective bridges between intention and action, illustrating their impact on sustainable behavior.

#### 4.1 Types Of Green Nudges

Social Nudge (Maedche.A, 2019; White, 2019; R., 2019)

Nudges encourage people to engage in desired activities by making them easier and more appealing [13]. They've been proved to be useful tools for changing people's behaviour in a variety of areas, including sustainability. Informing people, for example, that the social norm among their peers is to consume less energy [21]. Using social connections and peer pressure helps in influencing desired behaviour (Little Book on Green Nudges). This nudge supports in achieving SDG 11 – Sustainable cities and communities. Example: A message about how to help others raised the number of persons signing up to be organ donors in the United Kingdom by 35%. Furthermore, when conducting sustainability events, creating support and participation by offering guests a small incentive if they bring a friend would encourage sustainable behaviour. (Little Book on Green Nudges)

Using opt-out default option on Carbon Offsetting [3]. Carbon offsetting is a voluntary method of compensating for the environmental impact of air travel. Offsetting is defined as a financial exchange between two parties for personal or ethical reasons or for business social responsibility [6]. Climate change mitigation is insufficient in and of itself (Hooper et al., 2008). Nonetheless, it is an essential second-best option via which individuals and institutions might begin to accept the challenge.

Using Reciprocity-by-proxy strategy [17].

Why not emphasize the number of employees who complied and the amount of money they helped the company save instead of disciplining those who break travel policies? A real-world study conducted in 2012 looked into ways that hoteliers may encourage customers to reuse their towels more often. Three distinct signs urging guests to reuse towels were presented to them: the first said, "Help save the environment," the second, "Partner with us to help save the environment," and the third, "We're doing our part to save the environment." "Can we rely on you?" The third sign, which is an illustration of reciprocity-by-proxy—a phenomenon in which people feel obligated to repay others when they observe when someone has—was by far the most effective of the three.

In travelling, advance booking is an example of reciprocity-by-proxy. Many internet travel agencies take advantage of this to market leisure flights. How many people can

say they haven't felt a rush to book a flight when there are only two seats left at a reasonable price? This knowledge can also be used to encourage optimal behaviour in business travel programmes. For example, warn travellers that just one hotel room with complimentary breakfast and WiFi is available at the desired hotel; hotels booked later may not offer those amenities. Using traffic -light labels [9]. Results indicate that, at least temporarily, using posters and traffic-light labeling together can increase the environmental friendliness of patrons' food selections in a cafeteria context.

Three distinct labeling schemes were tested in a cafeteria at Oslo University on hot food. In the first system, there were three different traffic light symbols: red, yellow, and green. In the second system, there was a single green label that only identified the meal that was the greenest, and in the third, there was a single red label that only identified the least green option. In the cafeteria, there were posters describing the labeling procedures and the effects of different food categories on the climate. The outcomes were the sales share of vegetarian, fish, and meat dishes. To determine whether the effects of the labels varied when they were first introduced and after a few months, the intervention period was split into two parts: period 1, which lasted for 20 days, and period 2, which lasted for 22 days.

Result: Sales of beef meals were impacted by the traffic-light labels by 9% in period 1 (p0.1), but not in period 2. There was no change in the sales share of fish or vegetarian dishes. The percentage of sales of meat, fish, and vegetarian dishes was unaffected by the application of a single green or red label. This prod helps achieve Sustainable Development Goal 12: Responsible Production and Consumption.

## 4.2 Remove or Add frictions

Removing small barriers to sustainable behaviour, and adding barriers to unsustainable behaviour. Example. If a hotel has a charging point for electric vehicles, then all the electrical vehicles would be stationed near your hotel and the tourist would be using the same for sightseeing You will promote sustainable behavior by doing this. (WEBINAR). Installing shower timers and push-button taps in sinks that turn off after 30 seconds are two more examples. Additionally, using tiny plates rather than large ones and declining to provide trays might assist reduce food waste in cafeteria (SDG 12).

## 4.3 The attraction effect (Lundström, 2018)

The Attraction impact has a beneficial effect on sustainable consumption behaviour, but the default choice has a limited effect. Attract attention to a sustainable choice by employing personalised or relevant messaging for your unique target group. Using visual clues, make sustainable acts or infrastructure stand out. For example, use design and physical cues to direct people's attention to recycling bins, such as painting them bright colours or installing footstep markers leading up to them. (LBGN) At Oslo University in Norway, traffic-light labels and posters were utilised to increase the environmental friendliness of customers' food choices in a cafeteria setting. (Supports SDG 11).

#### **4.4 Use of Default ( (Nielsen, et al., 2016; Pichert & Katsikopoulos, 2008)**

In a natural experiment carried out in Germany in 1999, customers of an energy firm were offered three new energy tariffs: a green middle-priced tariff, a green highly priced tariff, and a non-green low-priced tariff. If customers desired to change their tariffs, they were instructed to get in touch with the energy provider; by default, the middle-cost green tariff was offered. Ninety-five percent of clients were still utilizing the default choice after two months. When it came to influencing the customer's decision to purchase green electricity, the default option in the aforementioned case proved to be a useful tool. (SDG 11&12)

#### **4.5 Highlight other's sustainable behaviour (Rabison, 2019) (Sparkman, 2017).**

According to [20], high-consuming power customers in the US cut back on their usage after receiving reports that compared them to more energy-efficient neighbours. Conversely, low-consuming customers continued to consume power when they received positive feedback in the form of a smiling face. Hearing that more and more people have started cutting back on their meat intake piqued people's curiosity in doing the same [23].

Households have the ability to compare their energy usage both nationally and with other households in the same neighborhood [15]. The idea of encouraging sustainable behavior through societal standards has also been applied by Swedish food retailers. Customers can compare their ecological footprint from four grocery store trips to that of the average Swedish citizen and the climate goals of the European Commission by downloading the mobile application "Mitt klimatmål," which translates to "My Climate Goal." The application's goal is to increase consumer awareness of their consumption habits (ICA, mitt klimatmål).

#### **4.6 Few Illustrations of Hotel destinations that have been successful in using nudges discussed above.**

##### **1. Jade Mountain & Anse Chastanet Resorts –**

The only resort area in St. Lucia with the famous vista of the Gros and Piti mountains floating in the Caribbean Sea is called JADE MOUNTAIN

Nudge: They provided knowledge, tips and information about energy position of their island and how important its to use energy efficiently and using the various utilities at home and also the consumption cost of these utilities, to the employees. After a period of three months the employees, in these three-month regular updates and discussion were held to exchange the successful ideas and actions taken by the employees to decrease the energy consumption at home. They focused on human behavior and invest time on them. They adopted in making behavioral change linked to something personally identifiable rather than making compulsory. The employees were given knowledge

on phantom power consumption and helped them in understanding home environment. By doing this majority of the employees had inculcated the actions of conserving energy at home. This whole process was used as nudge to the employees were told to follow the same simple inculcated actions at the work place – resort too.

Outcome: led to 27% less water consumption, 15% overall electrical reduction and 7% less LPG consumption at the work place. They contribute towards achievement of SDG 11 and 12.

They made the employees focus more on turning off, turning down and using less. The USGBC has awarded Jade Mountain resort the certification status of LEED GOLD.

## 2. Bucuti & TARA – Beach Resort – ARUBA

Aruba is a model for a low-carbon, sustainable and prosperous economy that can be replicated in other island nations. Few of the nudge interventions used to nudge the tourists by them are:

Conducting energy audit, Ongoing training programme given to employees, Every tv in the room shows the sustainability programs conducted by the resort for 3 min, No single use plastic on property, 95% paperless – online registration, pre-arrival surveys, Water Refill Stations at important places, Digital Menu, Green Stay Incentives, Dedicated Vegan Menus, Reduced Beef on the menu, electric vehicle situated outside the resort as they have a charging unit outside, Prevent shipping by using locally sourced/produced toiletry dispensers, Dividing wastage, Monthly beach clean-up by friends, family guests & school groups, let's plant aruba and many more. By following these interventions, it created a win win situation for both the customer and the employees since both benefitted from this. It bought a lot of pride to all the tourists and employees and all of them adopted it as an habit. They contribute towards achievement of many SDG out of the 17 sustainable goals mentioned by UN.

Bucuti & Tara have received worldwide awards including Destination Leadership, Earth Check seal, LEED, Green Globe Platinum and also recently has won the United Nations Climate Action Award2020.

## 3. ITC Grand Chola, Luxury Collection Hotel

The ITC Grand Chola hotel is LEED Platinum and LEED Zero Carbon certified. ITC HOTELS is one of the world's first, largest, and greenest hotel chains, having received the prestigious LEED Platinum Certification for all hotels.

It presently meets all of its electrical energy needs with self-owned wind and solar projects. It also accomplishes nearly total trash recycling from hotel operations. Other initiatives in the road for a bright tomorrow include sourcing consumables locally, eco-sensitive architecture, and design norms.

4. A study in India [14] point out various nudges used to achieve the SDGs aiming at Environmental Protection:

1. SDG 13(Climate Action) and SDG 2(Zero Hunger) – The first Grabage Café opened in Ambikapur, Chattisgarh, where customers bring plastic waste and receive food in exchange. In Gujarat, the Dahod Café serves tea and snacks made from plastic garbage

2. SDG 13(Climate Action), SDG 4(Quality Education) and SDG 2(Zero Hunger) – Nudging is used to encourage education among the least fortunate. In Assam, a school



has begun taking plastic waste as school fees. Mid-day lunches, which serve healthy meals to children in government schools, strive to achieve zero hunger, health, and education. In addition, a restaurant in Chennai charges Rs.100 for 10 grammes of food wasted by clients, with the penalty amount being donated. As a result, the number of waste containers collected daily decreased from 14 to 2. The eatery benefited from an upgrade in its public image.

3. SDG 13(Climate Action) and SDG 14(Life Below Water) – Jessica Nguyen (2019) An article in the Vietnam Economic Times describes the Goby fish-shaped garbage containers for plastic disposal at Da Nang Beach in Indonesia. It not only enticed tourists to use it for tossing plastic rubbish, but it also demonstrated that the waste would be devoured by marine life if tossed in water. The same is employed in Mangalore's Malpe Beach.

4. SDG 6(Clean water and Sanitation) and SDG 3(Good Health and Well Being) – The government's Swachh Bharath Mission has used Social Proofing to encourage people to quit using open defecation. The government also used mass media - Amitabh Bachan's TV and radio campaign, as well as interpersonal communication through "triggering" by 580000 grassroots motivators known as Swachhagrahis - to use disgust as a weapon to incentivize the community to avoid defecating in public.

## 5 CONCLUSION

The collaboration between the UN Environment Programme and the Behavioural Insights Team showcases the potential of nudging as a strategy to achieve SDGs and promote environmental sustainability. In conclusion, the paper delves into the significance of nudging in achieving sustainable development goals, particularly in the context of tourism. The global tourism industry, while contributing significantly to the GDP, leaves a considerable environmental footprint. The application of nudges, or "green nudges," emerges as a strategic approach to influence tourist behavior positively and contribute to the attainment of specific SDGs, including goals related to sustainable cities (SDG 11), responsible consumption (SDG 12), and climate action (SDG 13).

The subsequent discussion provides an insightful exploration of various types of green nudges, such as social nudges, opt-out default options on carbon offsetting, reciprocity-by-proxy strategies, traffic-light labels, the attraction effect, use of defaults, and highlighting others' sustainable behavior. Case studies of successful implementation of nudges in renowned hotel destinations further underscore the practical effectiveness of these strategies.

In essence, the paper contributes to the growing body of literature on the intersection of behavioral science, public policy, and sustainable development. By elucidating the role of Nudge Units and examining specific instances of successful nudging interventions, the paper advocates for a nuanced understanding of how behavioral insights can be harnessed to foster sustainable practices, especially in the context of the tourism industry. The examples of hotels adopting nudging strategies not only showcase their commitment to environmental responsibility but also demonstrate the potential for pos-

itive economic outcomes through reduced operational costs and enhanced brand reputation. As nations strive to fulfill their responsibilities towards the SDGs, nudging emerges as a pragmatic and impactful tool in steering collective behavior towards a more sustainable and equitable future.

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