Tourist behaviour change for sustainable consumption (SDG Goal 12): Tourism Agenda 2030 perspective article

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Abstract

Purpose – The purpose of this perspective paper is to draw attention to how the tourism industry can take action to contribute to United Nations Sustainable Development Goal 12 by nudging tourists to behave in more environmentally sustainable ways. Many of the available practical approaches are easy and cheap to implement and therefore can be deployed easily by small and medium-sized tourism businesses.

Design/methodology/approach – This perspective paper reviews past contributions to United Nations Sustainable Development Goal 12 and calls for more future research that develops and empirically tests effective behavioural change interventions.

Findings – Future research must focus on two directions: the development and empirical testing in the field of new behavioural change interventions that entice tourists to behave in more environmentally sustainable ways, and the development and large-scale deployment of affordable instrumentation to automatically and continuously measure the environmental performance of tourism businesses.

Originality/value – This perspective paper synthesizes literature and points to important new future research directions. To the best of the authors’ knowledge, this is the first synthesis of past tourism research that has developed and empirically tested tangible approaches the tourism industry can deploy to contribute to SDG 12.

Keywords Behaviour change, Sustainability, SDG

Paper type Literature review

游客行为改变以实现可持续消费（SDG目标12）：2030年旅游议程前瞻性报告

摘要

目的：这份前瞻性报告回顾了过去对联合国可持续发展之第十二目标有贡献的文章，并呼吁未来应当开展更多有关于开发和实证检验有效行为改变的研究。设计/方法论/方针：这份报告的目的在于吸引更多关注在于旅游业如何采取行动，通过促使游客以更环保的方式行事，为联合国可持续发展之第十二目标作出贡献。其中的许多方法易于实施且成本低廉，中小型旅游企业也可以轻松推广应用。研究结果：未来的研究必须集中在两个方向：(1) 开发和在实地中实证检验新的行为改变干预措施，以吸引游客以更环保的方式行事，以及(2) 开发和大规模推广负担得起的仪器，以自动和持续测量旅游企业的环境绩效。

原创性/价值：这份报告综合了文献，并指出了未来重要的新研究方向。这是对过去旅游研究的首次综合，这些研究开发并实证检验了旅游业可以推广应用的具体方法，以促进联合国可持续发展之第十二目标的发展。

关键词 行为改变，可持续发展，SDG

文章类型 文献综述

Cambiar los comportamientos de turistas para que sean más sostenibles (Objetivo 12 de los ODS): Artículo de la Perspectiva de la Agenda 2030 de Turismo

Resumen

Objetivo: El objetivo de este documento de perspectiva es llamar la atención sobre cómo la industria del turismo puede tomar las medidas necesarias para contribuir al Objetivo de Desarrollo Sostenible 12

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Introduction

At COP27 in 2022, Antonio Guterres, the Secretary-General of the United Nations (UN) warned global leaders that “We are on a highway to climate hell with our foot on the accelerator. Our planet is fast approaching tipping points that will make climate chaos irreversible. We need urgent climate action”. The pathway to climate action is set out in the UN Global Sustainable Development Goals (UN SDGs). Goal 12 calls for ensuring sustainable consumption and production patterns and, as such, is highly relevant to the tourism industry. Particularly pertinent to tourism businesses are targets 12.2 (sustainable use of natural resources), 12.3 (halving per capita food waste by 2030), 12.5 (substantially reducing waste generation through prevention, reduction, recycling and reuse by 2030) and 12.b.1 (monitoring the environmental aspects of tourism).

This perspective paper assesses how much tourism research has done to assist tourism businesses in achieving those targets, and to point to urgent future research directions that will ensure we have our foot on the accelerator of climate change mitigation, rather than climate hell.

Key developments towards Tourism 2030

Already, tourism researchers have contributed significantly by developing and empirically testing practical measures (interventions) that can be deployed to contribute to the achievements of SDG Goal 12. Importantly, these are not only good ideas, and they have not only been tested in survey studies using intended behaviour as dependent variable, which severely limits the ability to draw valid conclusions about how impactful those measures can be in tourism businesses (Vigilia and Dolnicar, 2020). Rather, the interventions that have been developed have been tested in real tourism environments; in the tourism environments where they are planned to be deployed.

In terms of the sustainable use of natural resources (target 12.2), several studies have investigated ways to reduce unnecessary hotel cleaning and the unnecessary replacement of towels in hotels, both extremely resource-intensive service components of the accommodation sector. Towel reuse is the most researched sustainable consumer behaviour in the tourism context, and several interventions have proven effective in increasing it. For example, informing hotel guests that most other guests in the same hotel room reused their towels increased towel reuse by more than 44% (Goldstein et al., 2008). Making the behaviour socially visible further strengthens the impact of the intervention: giving guests who commit to reusing towels and are given a pin to publicly signal their
commitment leads to the highest comparative reuse rate (40%) in the study by Baca-Motes \textit{et al.} (2013).

Another key target behaviour in hotels is (usually unnecessary) daily room cleaning of hotel rooms. Every room clean in a four-star hotel uses some 35 L of water, 1.5 kWh of electricity and 100 mL of chemicals for cleaning (Dolnicar \textit{et al.}, 2019a). This resource use could easily be avoided if hotel rooms were only cleaned when necessary. Hotels have already widely adopted various schemes to entice their guests to forfeit room cleans, but the effectiveness of those measures is not known. In the academic literature, at least two interventions have proven to be highly effective: communicating to guests explicitly that waiving a daily room clean saves money and that this money will be shared between hotel and guest (via a drinks voucher to be consumed at the hotel), leads to a reduction of 42% in daily rooms cleaned (Dolnicar \textit{et al.}, 2019a). Even more effective, and easier to implement, is to change the default operating procedure implemented at a hotel. Typically, hotels clean the room daily, unless the guest requests for the room not to be cleaned. Changing the procedure to offering no default daily room cleaning, but rather cleaning only (at no extra cost) when the guest requests a clean can substantially reduce cleaning; by 60% in a city-based business hotel (Knežević Cvelbar \textit{et al.}, 2021).

Water use in hotel showers has also been targeted with several interventions. For example, Tiefenbeck \textit{et al.} (2019) provided feedback to hotel guests on how much water they were using while they were showering. This intervention reduced – by more than 11% – the electricity required to provide hot water for showers in guest rooms. Another resource-intensive component associated with food service provision in tourism and hospitality businesses is the use of large, thick, typically white serviettes. The value to tourists of such serviettes is not known, but its environmental burden is three times that of recycled paper serviettes because cotton serviettes must be washed and ironed after each use and are discarded after about 70 uses. Replacing them with recycled paper serviettes and explaining on a table sign why recycled paper serviettes are being provided, as well as giving guests the option to get a cotton serviette from the buffet if it is important to them, reduces the use of cotton serviettes by 95% without negative affecting guest satisfaction (Dolnicar \textit{et al.}, 2019b).

To date, only one intervention study has been conducted that achieved behavioural change that reduced carbon emissions of the entire vacation, as opposed to specific components linked directly to behaviour. In the context of seniors booking their holidays using a specific online booking interface designed for that segment, a video triggering empathy for the next generation – shown before the booking decision was made – significantly increased the proportion of vacations with lower carbon emissions being booked (Araña and León, 2016).

In alignment with target 12.3 (halving food waste), several studies have developed and then tested in the field the effectiveness of interventions encouraging tourists to eat up everything they have taken from a buffet. The simplest and least intrusive of those interventions was the reduction of the plate size by three centimetres, which reduces plate waste by 20% (Kallbekken and Sælen, 2013). In the same study, a table sign normalising going back to the buffet many times (as opposed to taking too much food in one go) achieved a 21% reduction. A stamp collection game at a family hotel increased the proportion of families leaving no uneaten food behind by a third (Dolnicar \textit{et al.}, 2020). Moving from tourists in the dining room to the cooks in the kitchen, replacing large intransparent food waste bins with smaller, transparent ones led to a 73% reduction in food waste (Chawla \textit{et al.}, 2020), representing yet another highly effective practical measure that is simple to implement and can contribute materially to the collective achievement of target 12.3 by the tourism industry.
Waste reduction has attracted surprisingly little attention in tourism to date, possibly because measurement is more complicated. A study by Obersteiner et al. (2021) identifies several practical measures that have been implemented by tourism businesses to reduce different types of waste, including replacing single use toiletries with dispensers, and introducing waste separation and on-site composting.

Some contribution has also been made towards target 12.b.1, the monitoring of the environmental performance of the tourism industry. Traditionally, eco-certification programs assessed performance manually, but increasingly new options are becoming available that allow tourism businesses to take control of monitoring their performance, in view of improving it. One example is systems that can automatically measure water use in hotel showers, like the technology used by Tiefenbeck et al. (2019). Similarly, food waste systems (such as Winnow) are now commercially available and, more recently, being developed by researchers to enable food service businesses in tourism and hospitality to monitor and reduce the food waste they generate (Dolnicar et al., 2022).

Contribution to Sustainable Development Goals

Figure 1 summarizes the progress made in tourism research towards helping the industry achieve targets under SDG 12. A recent review (Demeter et al., 2023) summarizes all field studies in tourism aiming to improve sustainable behaviours among tourists, determining substantial gaps. Much more such work is needed urgently to enable the step change required in sustainable consumption and production to make a material contribution to climate change mitigation.

Figure 1   Tourism research contributions to Goal 12 – past achievements and future research needs

- Increasing towel reuse, waiving hotel room cleans, offering recycled paper serviettes by default
- Reducing plate size, using effective table signs, introducing games, changing bins
- Reducing plastic waste
- Automatically measure: water use in showers, food waste, plate waste

Many more behavioural change interventions needed to target the same and other behaviours.

Target 12.2 Natural resources
Target 12.3 Food waste
Target 12.5 Waste
Target 12.b.1 Monitor

We are on a highway to climate hell with our feet on the accelerator. Our planet is in a fast approaching tipping point "that will make climate change irreversible." (Antonio Guterres, 2020)
More specifically, what is urgently needed into the future is:

- continuous and automatic monitoring of environmental performance using systems that are affordable to a sector characterised by small and medium enterprises;
- development, testing in the field (for a proposed process see Dolnicar, 2020) and large-scale deployment of behavioural change interventions to improve environmental performance; and
- monitoring the improvements achieved to demonstrate and celebrate the contribution of the tourism industry to Goal 12, as well as identifying the most effective interventions for further large-scale adoption within the tourism sector and beyond.

Tourism researchers can contribute materially to each one of those actions points now and into the future.

Conclusions

Despite the significant disruption caused by the COVID pandemic, the tourism industry must urgently implement operational changes that will ensure the sustainable provision and consumption of tourism services into the future, in line with UN SDG 12. This perspective article identifies which specific targets the industry can focus on achieving and highlights practical measures that have already been developed and tested in quasi-experimental field studies by researchers. These existing practical measures can easily and immediately be deployed by tourism businesses to improve their environmental performance. Many more such practical measures are urgently needed to target a much wider range of environmentally significant behaviour in the tourism context. Also urgently needed is an affordable automated monitoring system that can provide a detailed environmental profile of tourism businesses and enable monitoring of improvement.

References


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