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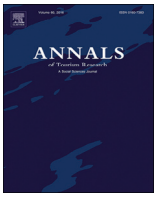

Full Length Article

Self-defence against carbon footprint evidence: How employees of destination management and marketing organisations cope with conflicting environmental and economic data

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ABSTRACT

We use motivational theories of self-defence to explain how employees of destination management and marketing organisations experience carbon footprint data as a threat. A three-stage study, with a total of 186 employees of destination management and marketing organisations, shows few instances of consonant evaluation of sustainability data that lead to conceptual or instrumental use of indicators. Instead, dissonant cognitive evaluations result in the symbolic engagement and misuse of data to justify previous decisions, promote incremental change and delay sustainability actions. Greater levels of identification with the industry explain cognitive dissonance resulting in moral disengagement, through advantageous comparison, moral justification, and the downplaying, discrediting and disregarding of data.

Introduction

Sustainable tourism indicators are evaluation tools to measure the triple bottom line costs and benefits of tourism for society and the planet. Indicators make tangible the fuzzy concept of "sustainability" for managers and policymakers by communicating complex issues in simple, understandable manners (Martínez & Dopheide, 2014). While indicators raise awareness about sustainability and offer factual evidence about tourism impacts, their contributions to evidence-based policies are limited (Adam et al., 2018; Gasparini & Mariotti, 2023). Tourism policy is characterised by an abundance of sustainability initiatives juxtaposed with a lack of pro-sustainability governance (Crabolu, Font, & Eker, 2023; Font et al., 2023). This phenomenon is evident in the limited carbon footprint data informing tourism strategies and plans from Destination Marketing and Management Organisations (Scott, 2021).

We aim to make sense of this well documented data-action gap in policy sciences by using social psychology literature that explains how individuals cope with data that is perceived at threatening. We extend the boundary conditions of motivational theories of self-defence to explain how employees of destination orgnisations (mis)adapt to carbon footprint information that threatens their positive views of themselves, their employers and the sector in which they work (Festinger, 1957; Stone & Cooper, 2001). We argue that sustainability data can be experienced as a threat to a destination organisation's identity as it contravenes the growth mindset

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underpinning most tourism strategies (Scott, 2021). Knowledge brokers and decision-makers within a destination organisation play a crucial role in data evaluation use. Their decisions are influenced both by their personal and their organisation's interests, values and ideologies. Employees that feel strongly identified with their employers and the tourism industry will perceive any criticism as a threat to their personal identity (Deng et al., 2022; Petriglieri, 2011), and will respond with deviant behaviours and resistance to change (Murtagh et al., 2012). Hence, we argue that the sustainability data-action gap in tourism is not a consequence of technical challenges pertaining to the measurement of carbon footprints, but a reaction to the identity threat to responsible individuals of acknowledging the need for a fundamental change in their livelihoods.

We expand the boundary conditions of motivational theories of self-defence by explaining interactions between context and condition (Johns, 2006). We design a three-stage study that explores how employees at destination organisations respond to a visualisation of the expenditure of tourists together with their corresponding carbon footprint. The study has three specific objectives: 1) to explore how the addition of carbon data to their business-as-usual data is experienced and the mechanisms mediating self-integrity threat and data evaluation use, 2) to assess dissonance according to the level of change (fundamental vs incremental) and novelty (emerging vs established) required to implement carbon reduction actions, and 3) to explain personal and professional characteristics that influence the dissonance between self-integrity and new data.

Literature review

The principles of evidence-based policy are based on a linear, rational use of data. However, this use is considered a myth that does not reflect the complex nature of decision-making (Crabolu, Font, & Eker, 2023). The evaluation of sustainability data is influenced by heuristics to process information in contexts of limited time and resources (Bundi & Trein, 2022). This leads to reactive strategies for salient issues rather than well considered strategies for systemic transformation (Koens et al., 2022).

When stakeholders evaluate sustainability indicators positively, this is followed by either conceptual or instrumental uses of the indicators; in contrast, the literature to date has shown that negative evaluations result in purely symbolic uses (Gasparini & Mariotti, 2023). *Instrumental* use is allocative, meaning a direct use of indicators to inform decisions. Critics say this oversimplifies policymaking and assumes that decision-makers are value-free (Bauler, 2012; Hezri & Dovers, 2006). However, *conceptual* use precedes, and paves the way for, any instrumental use by first improving communication, information sharing, collaboration and learning to ensure a better understanding of, and new insights into, the issue (Crabolu, Font, & Miller, 2023). Stimulating debate, and delivering changes in mindsets, can help to pivot indicator initiatives from mechanistic-objective approaches towards critical-inclusive approaches (Martínez & Dopheide, 2014).

Conversely, decision-makers who perceive that sustainability indicators may negatively influence their interests may *symbolically* participate in the process of selecting and deploying indicators while having an underhand purpose to manipulate the process (Alkin & King, 2017). Their reasons may be to shine a good light on the industry overall, to benefit themselves or specific organisations with power (Alkin & Taut, 2003; Schlaufer et al., 2018), or to legitimise certain decisions already taken that are not threatening to their interests (Gudmundsson, 2003). Symbolic uses of sustainability indicators deliberately aim to protect the status quo, delaying actions or avoiding taking responsibility (Gudmundsson, 2003). However, we suggest that it is possible to dig deeper into the reasons behind these behaviours to also understand why organisations do not even entertain the idea of using sustainability indicators, and how they handle growing evidence and pressures contradicting their business models.

Motivational theories of self-defence can help us explain the reasons why sustainability indicators are seldom used to inform tourism policy. These theories explain and predict how an individual responds when newly available or salient information contradicts established cognitions, such as attitudes, beliefs, or knowledge of one's own behaviour. Conflicting cognitions create a threatening state that an individual will typically aim to restore quickly (Festinger, 1957). More than 60 years after Festinger first published the cognitive dissonance theory, numerous academics have tested and refined it. The self-standards model of cognitive dissonance (Stone & Cooper, 2001) is of particular interest to this study because it combines arguments on how self-knowledge mediates dissonance from three adaptations of Festinger's work (see Harmon-Jones & Mills, 2019): 1) Self-consistency theory argues that an individual's positive cognition about the self makes them more vulnerable to perceiving dissonance (Thibodeau & Aronson, 1992), while 2) Self-affirmation theory says that cognition about the self serves as a resource for dissonance reduction (Steele, 1988). A key difference is that self-consistency theory suggests that consonance is achieved by rescuing the specific self-image threatened by discrepant behaviour, while self-affirmation theory argues that consonance is achieved elsewhere in the overall self-system, to compensate for such discrepancy. Lastly, 3) the New Look model explains dissonance because of an individual's behaviour violating societal or normative standards (Cooper & Fazio, 1984).

Any of these three cognitions about the self, based on personal or normative self-standards of behaviour, influence the process of dissonance arousal and reduction (Stone & Cooper, 2001). Which of these three theories applies depends on the contextual conditions. Hence, we need to better understand which personal or normative standards are situationally or chronically accessible in memory, to explain interactions between context and condition (Johns, 2006). Much has been said about how personal standards affect a sense of self-worth (Harmon-Jones & Mills, 2019; Steele, 1988; Thibodeau & Aronson, 1992), and as we are studying an organisational context, we shall focus on explaining organisational and sectoral normative standards.

Organisational identification influences an employee's self-identity and by extension, self-esteem, by mediating their attachment to the organisation's normative standards (Dutton et al., 1994). Sustainability data can generate cognitive dissonance in employees with strong organisational identification. Where this happens, decision-makers can fall into self-doubt, believing their individual self-identity is threatened. Under these circumstances, mechanisms to alleviate anxiety and reduce personal responsibility for any harm are actioned (Deng et al., 2022; Petriglieri, 2011). Thus, strong organisational identification can result in unethical, pro-organisational behaviour (Chen et al., 2016). This self-regulation of morality is also influenced by interaction with others (Johnson

& Buckley, 2015) and by the ethical climate and culture of the destination organisation (Martin et al., 2014). Therefore, organisational identity and the power exerted by its leaders may induce normalisation of unsustainable actions through a process of social contagion.

Several components influence someone's organisational identification. First, the organisation's narratives, institutional norms and practices frame the organisation's identity. A destination organisation is a reference group to which employees compare themselves, to develop their own knowledge and behaviours, and their sense of self (Ashforth & Schinoff, 2016). Second, an employee's belief in the worthiness of their organisation, as well as social validation from their colleagues and others, regulates their self-approval and can eliminate self-censure (Bandura, 2007). Ethical conflict and emotional exhaustion in the workplace occur when employees are asked to act inconsistently with their own sense of moral right (Kammeyer-Mueller et al., 2012). Third, the characteristics of someone's job position impact on their emotional attachment and sense of ownership (Ashforth & Schinoff, 2016). The higher the level of authority and seniority within an organisation, the more influential the organisation identity is on that person's self-identity (Dutton et al., 1994). Effort/behavioural commitment and responsibility of choice explain that those individuals that are more deeply committed to an organisation, either through their level of seniority, years in employment or sense of dependency on that organisation, will be more motivated to restore their cognitive consonance, usually by an escalation of commitment (Bobocel & Meyer, 1994).

Discrepancy reduction can be adaptive, for example by framing past errors as a learning opportunity. Alternatively, responses can be defensive and maladaptive, for example dismissing, denying, avoiding or selectively processing the dissonant information, escalating the commitment and trivialising the original behaviour. Moral disengagement explains maladaptive discrepancy reduction as an identity-protection response (Bandura, 2007). Moral disengagement explains how individuals excuse their harmful behaviour by reconstructing it into morally acceptable behaviour. Moreover, how they disregard the consequences, and minimise their responsibility, of the behaviour (Bandura, 1999; Moore et al., 2012; Tenbrunsel & Messick, 2004) leading to weak self-condemnation and a likelihood of further deviant behaviour (Deng et al., 2022; Murtagh et al., 2012).

We can illustrate the points raised by the literature, by using some of the mechanisms developed by Bandura (1999, 2007) that invest harmful practices with worthy purposes. First, exonerative comparisons exploit the contrast principle by framing harmful practices as more advantageous than possible alternatives. Destination organisations might argue an advantageous comparison by swapping low spending short-haul tourists for long-haul, sustainability-minded, high spending tourists. Second, moral justification sanctifies harmful practices by selective information processing leading to confirmation bias of the choices made (Schultze et al., 2012). The economic benefits of tourism are one well-established moral justification argued by decision-makers to downplay tourism's environmental impacts. Third, when individuals engage in activities that are aligned with their interests but produce harmful effects, they tend to downplay, ignore or minimise those effects. Destination organisations deliberately under-communication of the climate change emergency and exaggeration of the benefits of low-effort behaviours is a clear example of this moral disengagement mechanism (Vespestad et al., 2023). Fourth, as downplaying is increasingly proving ineffective, disputing consequences by discrediting the scientific evidence is more frequently being activated. Senior staff are more likely to escalate their commitment to their current decisions when negative new information that conflicts with their position comes from someone with less power (Greer & Stephens, 2001). Also, sceptics disregard the harmful effects of climate change, for example by arguing that global warming will make cold regions more attractive or promote low-season tourism and new types of tourism (Nicholls, 2014).

This study

We designed a three-stage, mixed methods protocol conducted with a total of 186 employees of European destination organisations at city and region level to explore their responses to a visualisation of data that enabled a cost-benefit analysis of tourism. We deliberately made the cognitive discrepancy salient, by showing two conflicting cognitions. The visualisation showed, and cross-referenced, carbon footprint and expenditure by tourist markets. We used this to trigger discussions on how such data can inform decision-making. The exercises were designed to encourage participants to process the information to reduce the discrepancy and restore cognitive consonance. For illustration purposes, we requested four destination organisations (those responsible for the cities of Barcelona, Belfast, Ljubljana and Seville) to provide us with their own data on expenditure, length of stay, group size, modal distribution of transport and type of accommodation used, for each nationality of visitors. We then used this information to estimate the carbon footprint of each market, by assigning specific impact factors extracted from public sources for transport (DEFRA, 2022), hotels (Greenview, 2023), apartments (Rico et al., 2019) and campsites (Bergk et al., 2020). Working with destination organisations allowed us to learn how to adapt the data system to the typology, quantity and quality of data that is most commonly available at destinations. We used the data from these four destination organisations for illustration purposes at subsequent workshops.

The scope of the assessment was intentionally limited to the carbon footprint of the tourists' transport (between their countries of origin and the destination) and accommodation. Published studies indicate that transport and accommodation are the two main emission focuses, ahead of internal mobility or activities that tourists undertake at the destination (Gössling et al., 2023; Rico et al., 2019). With respect to transport, the carbon footprint of aviation to short-stay international destinations is frequently over 70 % of the total footprint of that visit. Also, the main variation between markets is the distance travelled by its visitors (Peeters & Schouten, 2006; Rico et al., 2019).

Aiming to promote positive societal change and learning, our research was implemented in realistic settings in accordance with the living labs framework (Ståhlbröst & Holst, 2012). Thus, we simulated a real-life environment and adopted a practice-based approach by delivering participatory workshops to decision-makers of destination organisations from around Europe. This approach helped us to uncover how practitioners perform daily activities and face dilemmas, promoting the acquirement of new competencies (Pantuffi et al., 2021). We intentionally selected destination organisations from European cities already committed to sustainable tourism to gain a deeper understanding of the challenges of making evidence-informed decisions despite willingness and available data.

The main data set came from a series of focus groups where participants were given data and then asked to brainstorm and discuss actions that could be informed by the data to advance sustainability in their destinations (Stage 1). The focus groups enabled us to facilitate an organised discussion to obtain comprehensive information (Gibbs, 1997) about views, perceptions and experiences regarding the use of sustainability data for policymaking. Furthermore, this method replicated real-life environments where decisions in organisational contexts are influenced by social interactions. Participants voted on the relevance and feasibility of ten agreed actions that could deliver change in tourism sustainability (Stage 2), and reflected on their experience in using sustainability data to inform decisions in their day-to-day job through a short survey (Stage 3). The results were triangulated, later, to overcome the potential weaknesses of a single method and to achieve a more nuanced data analysis. The study received a positive opinion from the University of Surrey's Research Integrity & Governance Office, filed under reference number FASS 21–22,030 EGA.

Motivational theories of self-defence explain the relationship between identity and carbon data evaluation (stage 1)

We created an environment for destination organisation employees to discuss how carbon footprint data can influence policymaking to make their destinations more sustainable. The research objective was to understand how sustainability data is experienced, and what mechanisms explain the relationship between a person's self-identity and their evaluation of how feasible it is to use sustainability data. We adopted an axis format to deliberately emphasise data relationships and facilitate perceptual processes (Fig. 1). The design choices behind these representations relied on the rationale that when a phenomenon is highly complex, such as in sustainability management, a cost-benefit display is a cohesive way of organising knowledge to minimise decision-making effort (Vessey, 1994).

We gathered qualitative data from discussions in focus groups to enable participants to express their thoughts in a detailed, and often spontaneous, manner in response to open-ended questions (as per Krueger & Casey, 2000). This approach is suited to research exploring how participants experience specific stimuli, such as data, and when gathering elaborate opinions (Robinson & Mendelson, 2012). Five focus groups with a total of 42 participants were conducted; we first had a focus group with ten representatives of different European destination organisations participating in the DMOcracy project (September 2022), followed by one focus group for each of four destination organisations (Barcelona-October 2022, Ljubljana-November 2022, Seville-December 2022 and Belfast-January 2023). Tourism destination managers were included, alongside civil servants and policymakers, who were invited because sustainability data could be necessary, or useful, for their roles. The selection process was sensitive to the need to balance representatives according to their gender, age, years of service and seniority. The focus group protocol (duration, tasks, language…) was adapted to accommodate individuals with non-academic backgrounds.

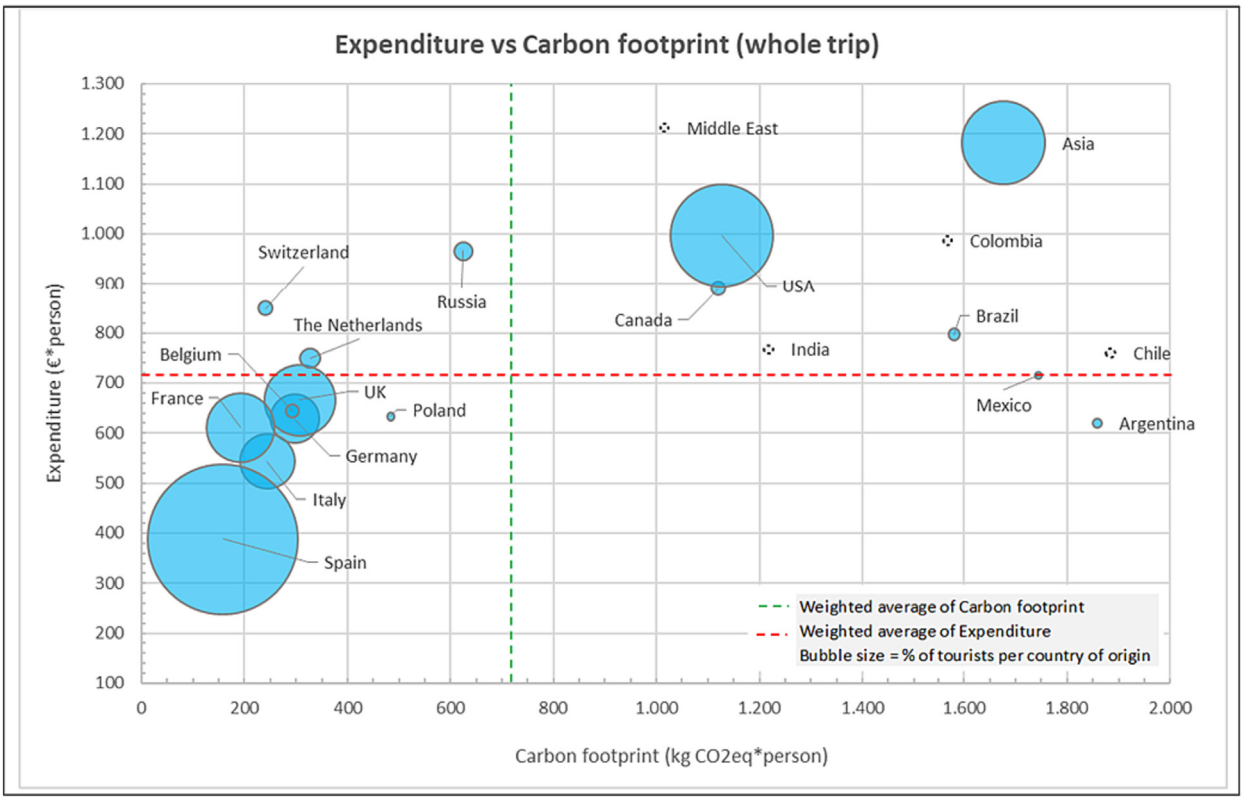

Fig. 1. Example of tourist expenditure vs carbon footprint axis introduced to participants during workshops
Source: authors.

Table 1
Conceptual frame and implementation steps – Stage 1.

Aim	Rationale	Implementation	Time
Understand the data	To understand how participants experience sustainability data.	Introduce the cost-benefit display on carbon footprint and encourage initial discussion on its meaning and implications.	15'
Discuss its meaning and its implications for policymaking	To bring clarity and focus to the design space by defining the challenges to address.	Sharpen key questions that must be addressed regarding carbon footprint.	5'
Ideate solutions	To unpack the mechanisms mediating decision-making and how these lead to different uses of sustainability data.	Brainstorm actions to advance sustainability in destinations.	20'

Source: authors.

Each focus group started by randomly splitting participants into groups of 4–6 people, with each group given a cost-benefit display of carbon footprint data (see Fig. 1). Participants were given 40 min to understand the data provided, discuss its meaning and its implications for policymaking, and brainstorm/ideate solutions to advance sustainable tourism in their destination (see Table 1). Four workshops were conducted online, with Microsoft Teams and the digital collaborative platform Mural (see Fig. 2), except the workshop in Seville that took place in person. The focus groups were recorded and transcribed for later codification on NVivo, which enabled thematic analysis of the content.

Participants recognised that cross-referencing carbon footprint data and expenditure allowed them to think differently about sustainability. For some, our focus group was their first touchpoint with carbon footprint meanings and measures, thus, it delivered hands-on learning and led them to face some contradictions in their current policies. The events raised awareness about the need to include carbon footprint in decision-making. However, the participants were clearly conflicted, as they acknowledged that the narratives of the destination organisations they are employed by revolve around tourism being an agent for good that brings about wealth and prosperity to local communities. These narratives clearly influenced the identity of the destination organisations' employees and provided a moral justification that sanctifies or exonerates their actions. Carbon data threatened this identity; thus, within the focus groups, we witnessed several identity-protection responses operating in concert, as discussed next.

A common defence mechanism was to question the source and accuracy of the data. The participants did not question the data based on their own prior knowledge of climate change, but based on a mistrust of data that they were not familiar with. Also, out of a palpable desire to find a fault somewhere – a 'get out of jail' card that would allow them to justify their actions. Participants wanted more nuance on the data (such as segmentation) and other complementary data (beyond carbon footprint and expenditure) to make more accurate decisions. This perceived lack of data accuracy resulted in minimum instrumental use of the carbon footprint

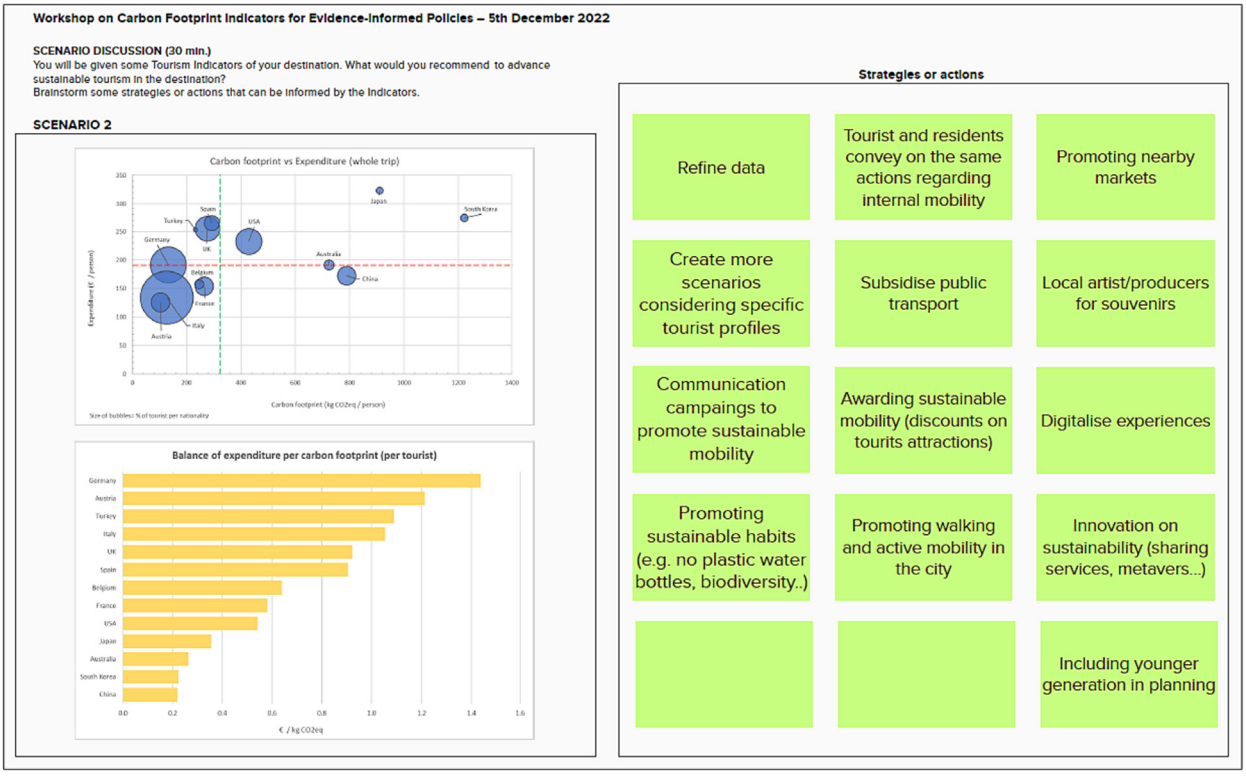

Fig. 2. Example of actions brainstormed in Mural – Stage 1
Source: authors.

measures and led participants to discuss them in figurative terms. This finding was articulated by a participant who said, "It is obviously initial data, but we would need to delve much deeper to develop more focused strategies", despite our research being built on their own destination organisations' data. These arguments allowed participants to reduce their identity threat by ignoring or misconstruing the carbon footprint data, or just using it symbolically, to propose established actions that would deliver incremental change. By doing so, the participants absolved themselves of personal responsibility for any harm and justified keeping business as usual. As a participant illustrated, "we are doing the best we can".

Sustainability actions were framed in terms of revenue neutrality or green growth, so that any change in destination organisations' behaviour would not contradict its identity or sense of purpose. The green growth framing is exemplified by the quote that, "every decision we're going to take to remove somebody who spends a lot of money but has a high carbon footprint, we need to somehow compensate it". Therefore, solutions were rarely suggested in terms of decreasing tourism activity but, instead, as means to improve efficiency of the current business models. This was illustrated by a participant who said, "having a carbon budget […] you can travel by train and perhaps you can then that year attend two conferences instead of just one". Additionally, the critical attributes articulated by the participants mainly related to destination positioning of morally justified, yet unsustainable, decisions because the latter were understood to serve a greater purpose. This point was illustrated by a participant who said, "our city is an international reference [in conferences] and it wants to retain it. Therefore, demarketing long-haul business travellers is not an option".

Accordingly, mitigation measures for carbon-intensive markets (such as carbon offsetting or promoting tourist products to increase lengths of stay and expenditure) were the common responses used to justify business as usual responses. As a participant articulated, "if we create the right sort of content for the right [long haul market], we could actually make them stay longer, make them spend more, and kind of mitigate the negatives". However, destinations also (mis)used carbon data to comparatively justify their promotions to key long-haul markets; one participant stated, "we focus on the long-haul flights with the lowest impact". Future tech advancements were also suggested as an argument to delay decisions and not change the current model. In addition, when a disruptive strategy was presented, its credibility was questioned, so that its positive impact was minimised. Also, the representatives of destination organisations in island destinations claimed to be an exception due to their dependency on flights and cruise ships. Therefore, exonerative comparison allowed them to morally justify taking fewer actions to reduce the carbon footprint of round-trip transportation, focusing instead on destination-based mitigating measures.

Participants often complained that socio-environmental responsibilities were out of scope for their organisations, with other destination-based organisations being responsible, for example, for transport (e.g., port and airport authorities being operated by independent organisations) and that their destination organisations were not included in decisions from other departments in their regional or local authorities, that impacted on tourism (e.g., mobility, urbanism, culture, waste). Participants also protested that their own destination organisations' efforts and good work are not always recognised or supported enough, which hampers the potential for a sustainability transition. For example, the participants suggested that there is little destination organisations can do in the face of tourists' low sustainability awareness and limited demand for sustainable services. Conversely, any discussion on residents contesting tourism was quickly placated by blaming it on their lack of awareness of the benefits of tourism. The private sectors, although being recognised as pioneers in sustainability innovations in some instances, were often referred to as lobbying for activities aimed at tourism growth or as greenwashing. And even the European Union was disputed as having poor tourism policies to support the sustainability transition of destination organisations. Fingers pointed in any direction, except towards themselves.

The participants' dilution of their own responsibility was reinforced by framing destination organisations as being powerless, thus, limiting their moral obligations. Participants claimed that destination organisations are just one component of a bigger system where multiple stakeholders with different interests play too. Thus, even the greatest sustainability efforts from destination organisations would be watered down because so many other agents operate, and, equally, not acting for sustainability would not be noticeable because so many others could take the lead. This last point was exemplified by the destination organisations' employees suggesting that demarketing to long haul tourists would have no impact as the airlines would continue to do so, but they were then affronted by questions such as, "so why have a destination organisation's office in a long-haul market, if the private sector will just do the same without us?", as it challenged their core purpose.

The perceived relevance and feasibility of actions that can be triggered by carbon data influences stakeholders' decision-making (stage 2)

In Stage 2, we challenged 105 participants to prioritise actions to advance sustainability in their destinations by scoring them according to their *relevance* (how effective would this action be in reducing your destination's carbon footprint) and *feasibility* (how likely is it that your destination's stakeholders would implement the action). The research objective behind this was to conduct a reality check to explore the actual potential for change of the actions informed by the carbon footprint data.

In addition to a further four city-specific focus groups (Barcelona, Belfast, Ljubljana and Seville) in 2022–23, we also collected data at two events; first, from attendees of a 90-min, in person workshop at the Green Destinations conference (Athens, Greece- September 2022) and, second, from attendees at a one-day, in person masterclass on evidence-informed policy for NECSTouR members (Lanzarote, Spain- March 2023). All those who participated were asked to vote on the relevance and feasibility of up to ten carbon reduction actions that they themselves had defined and agreed on, as follows.

Participants were shown a cost-benefit display of tourist expenditure vs carbon footprint (equivalent to Fig. 1) and given 30 min to agree on up to ten priority actions. Our aim was to collect a sufficient, and varied, list of actions informed by the shared carbon footprint data. While the participants were brainstorming actions, the research team entered the agreed actions in the interactive polling platform Mentimeter. Once ten actions were agreed, the participants were given a QR code that directed them to Mentimeter (on their

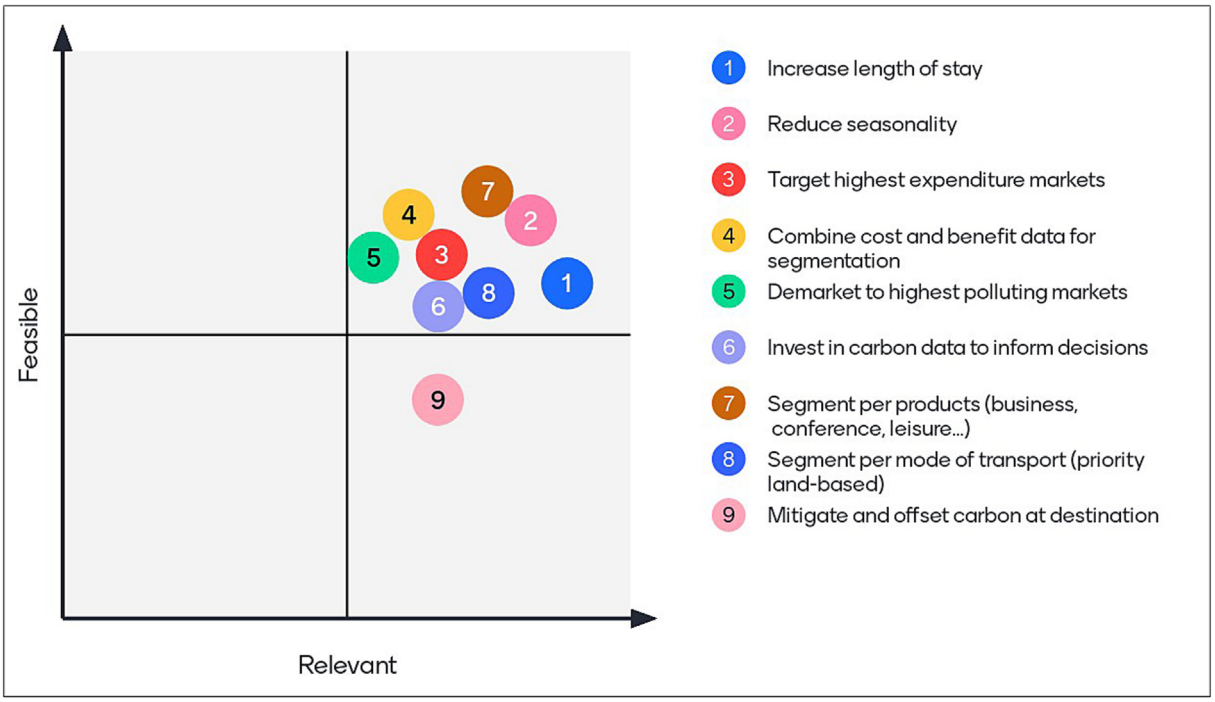

Fig. 3. Example of the results collected during the voting – Stage 2
Source: authors.

mobile devices) where they were asked to vote on the relevance and the feasibility of each action on a 10-point scale (see Fig. 3). Mentimeter systematically collected the answers and provided the researchers with the raw data, as well as a first measurement of the average and standard deviation of relevance and feasibility of each scored action. These results were exported to Microsoft Excel for further analysis. The actions were clustered and categorised, and a correlation analysis was conducted.

The six data collection events provided a comprehensive list of actions. The voting scores highlighted the most/least relevant and feasible actions. Promoting green hotels and targeting nearby markets were the two actions that had the highest consensus about both their relevance and feasibility ($M \geq 9$, $SD < 1$). Conversely, the consensus was lower in the least relevant and feasible actions, which were carbon offsetting and demarketing long-haul markets ($M \leq 6$, $SD < 3$). Clustering the actions resulted in 13 overall topics (see Table 2), and Pearson's correlation coefficient shows a high positive linear correlation between relevance and feasibility ($r = 0.93$). Therefore, the participants considered the actions most feasible to be implemented were also the most relevant ones to reduce a destination's carbon footprint.

We further classified the 13 actions in Table 2 according to the level of change that they would deliver (fundamental vs incremental) and their level of novelty (emerging vs established). Actions aiming to transform the traditional tourism model in a significant way,

Table 2
Thematic clustering of the actions gathered – Stage 2.

Overall topic	% of actions	Relevance	Feasibility
		M (SD)	M (SD)
1. Segmenting and targeting low carbon markets	17.33	7.96 (0.90)	6.62 (1.22)
2. Encouraging sustainable mobility	13.33	8.11 (0.93)	6.04 (1.64)
3. Working with sustainability-certified businesses	10.67	8.33 (0.96)	6.00 (1.85)
4. Increasing length of stay	10.67	7.93 (1.11)	5.92 (1.88)
5. Improving data quality	6.67	8.16 (1.26)	6.27 (1.87)
6. Promoting local markets	6.67	8.14 (1.29)	7.61 (1.71)
7. Raising communication and awareness	6.67	8.09 (1.23)	7.07 (1.63)
8. Reducing demand (demarketing)	6.67	7.10 (1.30)	4.79 (1.04)
9. Incorporating tourism into city's sustainability strategy	5.33	9.08 (0.80)	7.91 (0.93)
10. Managing seasonality	5.33	8.00 (0.92)	7.16 (0.26)
11. Offsetting carbon footprint	5.33	6.94 (1.11)	5.59 (1.62)
12. Increasing/introducing tourist taxes	2.67	7.76 (0.91)	4.27 (2.73)
13. Introducing new technology and innovation	2.67	6.92 (1.30)	5.25 (0.12)

Source: authors.

Table 3
Classification by level of change delivery and novelty of sustainability actions.

Type of actions	% of actions	Relevance	Feasibility
		Avg. score (std)	Avg. score (std)
Level of change delivery			
Incremental change	90.67	8.04 (1.05)	6.44 (1.64)
Fundamental change	9.33	7.32 (1.17)	4.88 (1.07)
Level of novelty			
Emerging actions	53.33	7.75 (1.07)	5.77 (1.36)
Established actions	46.67	8.22 (0.97)	6.90 (1.95)

Source: authors.

challenging and rethinking its underlying assumptions and principles, were classified as *fundamental* changes, while actions delivering minor adjustments that built upon the current tourism model, aiming to improve it over time, were classed as *incremental*. Innovative actions that might lead to a break with traditional patterns were labelled as *emerging*, while well-known actions that are widely used were labelled as *established*. Proposing incremental and established actions are cognitive responses to protect the identity of the destination organisation, according to the logic outlined by Bandura (1999). While intuitively we might expect that fundamental actions may also be emerging, and incremental may also be established, this is not necessarily the case. The analysis identified that about 90 % of the proposed actions might, at best, deliver incremental changes, while actions that could potentially deliver fundamental change were considered both less feasible and less relevant. Emerging and established actions were proposed in equal measure (53 % and 47 %, respectively), but established actions were considered more relevant and feasible than emerging actions (see Table 3).

Employees' personal and professional characteristics influence their evaluation of carbon data (stage 3)

In the final stage of the study, we surveyed employees from destination organisations with the objective to determine the impact of a decision-maker's profile on their evaluation of sustainability data. Data was collected from attendees at seven events – a DMOcracy online workshop (September 2022), four focus groups (Barcelona-October 2022, Ljubljana-November 2022, Seville-December 2022 and Belfast-January 2023), and two one-day in-person events delivered within NECSTouR meetings (Lanzarote, Spain-March 2023, and Paris, France-June 2023). The short survey was answered by 84 attendees, using the online survey platform Qualtrics. Three close-ended questions ascertained the survey responders' demographics (Table 4) and a further four asked them about their use of sustainability data (Table 5).

The respondents were mainly senior decision-makers (with more than five years in the organisation) with the authority to either: i) act after approval (41.67 %), or ii) decide by themselves but they must inform before acting (42.86 %). Most respondents had multiple roles within their organisations, primarily sustainability (41.67 %) and development and innovation (34.52 %) because the events where the survey was distributed were specifically targeting this profile of staff.

Table 4
Participant demographics – Stage 3.

Participant profile	Distribution % (n = 84)
Q1. Seniority	
Under 1 year	3.57
1–5 yeas	33.33
5–10 years	17.86
>10 years	45.24
Q2. Authority	
Act on instruction	8.33
Act after approval	41.67
Decide, inform and act	42.86
Decide and act	7.14
Q3. Role within the organisation[a]	
Sustainability	41.67
Development & innovation	34.52
Tourism research and data	27.38
Marketing	23.81
Event organiser	7.14
Project manager	7.14
Tourism policy	7.14
Tourist information	5.95
Tourism governance	4.76
Other	4.76

Source: authors.
[a] Note: Multiple answers were allowed, the sum exceeds 100.

Table 5
Sustainability data usage- Stage 3.

Question	Distribution % (n = 84)
Q4. Frequency in working with sustainability indicators/data	
Never / Rarely	21.43
Occasionally	45.24
Often / Always	33.33
Q5. Barriers to implement strategies/actions informed by sustainability data[a]	
The prevalence of a growth-based mindset	52.38
The lack of monitoring on the success of the actions/strategies	45.24
The poor training in sustainability issues	40.48
The lack of political willingness	39.29
The lack of human resources	36.90
They fall out of the intervention area of the DMO	33.33
The low budget for promoting sustainable actions	22.62
Other	7.14
Q6. Use of sustainability indicators/data evaluation[b]	
Yes, to better understand an issue or to gain new perspectives on the topic	34.52
Yes, as a basis for decisions or actions	21.43
Yes, to benefit political views and actions	10.71
Don't know / No, not measured or used	33.33
Q7. The most valuable quality of the data displayed (as per Fig. 1)	
Providing a carbon footprint measurement	30.61
Visualising a cost-benefit of tourism	24.49
Improving understanding of carbon footprints	24.49
Facilitating informed decisions	20.41

Source: authors.
[a] Note: Multiple answers were allowed, the sum exceeds 100.
[b] Note: Percentages do not add up to 100 due to rounding values to two decimal places.

Specifically, we sought to identify, first, whether a decision-maker's familiarity with sustainability data influences their interpretation, perceived value and use, of sustainability data. Second, whether perceived barriers in the use of sustainability data in decision-making in the workplace mediate a decision-maker's data evaluation and use (Deng et al., 2022; Petriglieri, 2011). For the responders to our survey, we also wanted to see if their proposed use of carbon data resulted in different outcomes, and if their perceived values of sustainability data representation influenced their perceptions of carbon data (Robinson & Mendelson, 2012) and the decisions taken (Vessey, 1994). Moreover, we wanted to test whether the responders' answers differed according to their seniority, authority, and job role, which are all factors known to influence an individual's organisational identity and cognitive dissonance (Bobocel & Meyer, 1994; Dutton et al., 1994).

Regarding their sustainability data usage (Table 5), the respondents worked with sustainability indicators quite often/always (33.33 % average, 38.10 % for decision-makers with high authority), and 45.24 % occasionally. They responded that the main barrier to implementing strategies/actions informed by sustainability data is the prevalence of a growth-based mindset (52.38 %), which contravenes sustainability principles and influences the overall sector, thus, preventing coordinated and resolute action towards a paradigm change. This obstacle was highlighted by 65.71 % of respondents with a sustainability job role, who also highlighted lack of political willingness as a relevant barrier (51.43 %). A lack of monitoring or feedback on the success of sustainability strategies/actions (45.24 % average) is also a critical issue that hampers efforts to quantify the benefits of using sustainability indicators. Intervention capability (33.33 %) and budget constraints (22.62 %) were identified as second tier barriers.

Most respondents acknowledged using sustainability data to better understand an issue or to gain new perspectives on a topic (34.52 %). As expected, this conceptual use of data is higher for respondents with a sustainability job role (40 %), low seniority (38.71 %) and low authority (42.85 %) who may not have the means to act on data. Instrumental use of sustainability data (as a basis for decisions or actions) was reported by 22.86 % of respondents holding sustainability job roles (vs 20.41 % of other job roles) and by 26.19 % of high authority respondents (vs 16.67 % in low authority). We appreciate the candid responses that acknowledged making symbolic use of data to benefit political views and actions (8.57 % with a sustainability job role, 12.24 % with other job roles, 6.45 % for low seniority, 13.21 % for high seniority). It is concerning that many respondents do not use sustainability indicators at all to inform their decisions (33.33 %). Among those with a sustainability job role, 28.57 % reported not using sustainability indicators, while the proportion was even higher, 36.73 %, among respondents with other job roles. Moreover, 28.57 % of individuals with low authority roles and, concerningly, 38.10 % with high authority roles, acknowledged not using sustainability indicators in their decision-making. Finally, respondents mainly valued the carbon data presented to them for measurement and cost-benefit visualisation purposes, and to improve understanding of carbon footprints, but they thought it least likely that the destination organisations they work for would use such data to facilitate informed decisions.

Discussion

The theoretical contribution from our study comes from modelling behavioural responses towards carbon footprint data (see Fig. 4), based on motivational theories of self-defence. We show how threats to self-integrity resulted from perceived failures to

Cognitive evaluations and uses of carbon footprint data

Identity	(Mis)use of sustainability data and -> consequences
Consonant evaluation -> Reinforcing, adapting	*Conceptual*: Better understanding -> Change way of thinking *Instrumental*: Allocation of resources-> Inform decision-making
Dissonant evaluation -> Threatening, maladapting	*Symbolic*: Justification of previous decisions, incremental change, delay in decisions-> Misuse of data *Disengagement*: Advantageous comparison, moral justification, downplaying, discrediting and disregarding data-> Ignoring data

Fig. 4. Cognitive evaluations and uses of carbon footprint data
Source: authors.

meet personally or socially significant standards represented by the carbon data, that required employees of destination organisations to self-affirm. We also show how these employees aimed to restore their self-integrity by claiming that the actions they were taking were much more effective than they could realistically be.

In the few instances when carbon footprint data was consonant with a destination organisation's actions and its employees' identity, participants evaluated the data positively as validating their worldviews. *Conceptual* use of the data created opportunities to consider how different tourism strategies would be if these had to acknowledge carbon footprint data. Many destination organisations staff were initially prepared to analyse the data with an open mind, to better understand what the data had to offer, something we had expected as they had chosen to attend a sustainability workshop. However, it was in terms of measurement, visualisation and understanding of tourism carbon footprints that our axis was valued, and less for its usefulness to inform decisions, because participants felt frustratingly powerless to spark change. Our results confirm previous research showing that the prevalent use of indicators is conceptual and gradual, by raising awareness, gaining knowledge and understanding of sustainability (Crabolu, Font, & Miller, 2023; Torres-Delgado et al., 2023).

While we do not discard eventual adaptive behaviours, we could not expect those to manifest instantaneously from a single event. Similarly, few brainstormed actions to advance carbon neutrality in their destinations were based on the sustainability data presented (instrumental use), but instead were based on previous experiences, which confirmed heuristic processing of information (Bundi & Trein, 2022). These findings reinforce the argument that sustainability data needs time to sediment and its value cannot be judged based on linear thinking (Crabolu, Font, & Eker, 2023), and why we cannot expect it to instrumentally inform policy (Adam et al., 2018; Gasparini & Mariotti, 2023). Seldomly participants responded as if the data gave them fuel to propose instrumental uses of such data to other participants (Stryker & Serpe, 1994). This only happened with employees holding sustainability roles who perceived this cost-benefit display as validating their personal identities within their organisations (Stryker & Serpe, 1994) and who felt secure within the friendship ties and support mechanisms of sustainability networks (Schulte et al., 2012).

Conversely, we had much more evidence of dissonant evaluation of data, leading to maladaptive behaviours. We separate maladaptive behaviours as symbolic or disengaged and suggest that participants found it less threatening to their self-esteem if they could identify a potential symbolic use for data. This *symbolic* use of data acknowledges but ultimately misuses data, protecting the identity of the destination organisations and its employees. We report three examples. First, hand-picking those bits of evidence that legitimise pre-conceived ideas (Gudmundsson, 2003), such as evidence confirming that the organisation's current activities have a sustainability by-product. Second, justifying that established actions delivering incremental change are sufficient, or all that is within their power, with revenue neutrality or green growth as the barrier. Participants candidly hoped that incremental decisions would give them the radical transformations needed to bring about systemic change to decarbonise tourism (Becken, 2019). Third, delaying decisions (Gudmundsson, 2003) by setting decarbonisation deadlines in the distance, justified based on poor-quality data, a lack of sustainability training or power to act, and future technological advancements.

Making a symbolic use of carbon data was a mechanism to restore their sense of self-worth, exaggerating the potential benefits of the actions taken as if they were instrumental uses of data (Becken, 2019; Deng et al., 2022; Gudmundsson, 2003). Instead, openly disengaging with data was a last resort. Although symbolic use was evidenced during collective discussions (Stage 1), and when brainstorming and voting on actions to advance sustainability (Stage 2), very few participants acknowledged symbolic use in the survey (Stage 3). Nobody acknowledged moral disengagement, despite the multitude of examples in our dataset because this would mean openly acknowledging lack of integrity in the workplace. Instead, when participants were asked how they used sustainability data in their daily work, they offered conceptual or instrumental uses of data, claiming a consonant evaluation of data. Such moral justification reflects an implicit social desirability bias (Bergen & Labonté, 2019) but also self-deception bias as an esteem-restorative action (Steele, 1988; Thibodeau & Aronson, 1992).

When this symbolic use was not readily available, we recorded many cases of *moral disengagement* where participants ignored the carbon data altogether. The most common form of moral disengagement was moral justification (Bandura, 2007) of the participants' job that is consistent with their self-representation, that is, seeing themselves as agents for good. This belief in the worthiness of their job, and by extension of their organisation, regulated their self-censure (Bandura, 2007; Martin et al., 2014) particularly when

respondents were asked to write down their thoughts (they were franker in conversations, as seen in Stage 1). We also witnessed avoidance of information increasing as the research participants became more aware of the number, and importance, of dissonant cognitions, or as their status was more threatened by the new information (Ashforth & Schinoff, 2016; Bobocel & Meyer, 1994; Festinger, 1957). For example, there were examples of exonerative comparisons that exploited the contrast principle (Bandura, 1999) by framing having tourism as beneficial to the economy as more advantageous than the alternative of not having tourists, as experienced during COVID, or that having the current types of tourists was better than what would come if those left. When sustainability data contradicted one's self-representation, individuals downplayed their personal responsibility for any harm by blaming others for the sector's poor track record or by claiming a lack of power or recognition (Bandura, 2007). Participants also discredited the source and accuracy of carbon footprint data out of a desire to find a fault somewhere.

We also saw how those participants whose job was to market a destination, who had low organisational status were more likely to acknowledge dissonance than those individuals who had higher statuses, who relied on confirmation bias, selective information processing and trivialisation of data to protect their self-identities. We confirmed how level of authority, seniority and job role partly define an individual's attachment to an organisation and contribute to their self-identity, creating a greater need to escalate commitment due to their responsibility for the choices made (Ashforth & Schinoff, 2016; Bobocel & Meyer, 1994; Dutton et al., 1994). Senior participants also downplayed the relevance of conflicting information based on their higher organisational status and superior knowledge of "how things work". The resistance to change in cognitions was more acute for those that would experience pain or loss from changing their cognition, in comparison to the comfort of maintaining the current cognition (Festinger, 1957; Harmon-Jones & Mills, 2019).

Finally, some participants saw themselves as deviant agents of change, pointing out that they were doing "the best they can" in a hostile environment, and contesting their organisation's identity as a mechanism to redefine and restore one's self-esteem (Dutton et al., 1994). This happened more often among those individuals with a greater environmental concern (and a sustainability job role), who blamed their context (prevalence of a growth-based mindset) or their superiors (lack of political willingness) for diminishing their power to change their organisations' behaviour. We saw evidence that when people perceive ethical conflict between their personal and organisational values, they *dis*identify with their employers (Elsbach & Bhattacharya, 2001; Kammeyer-Mueller et al., 2012). Instead, they seek new organisational groups to identify with, in a different domain, that affirm their perception of self-integrity (Steele, 1988), such as by participating in sustainability networks like Green Destinations, DMOcracy and NECSTouR, through which we collected this data. This confirmed that organisational identification of an individual influences their moral disengagement to unsustainable organisational behaviour (Lee et al., 2017), but that individuals can self-affirm their identity by circumventing the espoused values of their organisation (Steele, 1988). Identity negotiation strategy, based on self-esteem and social approval (Deaux, 1993), may contribute to identity gain and growth (Petriglieri, 2011) and to a fairer evaluation of the sustainability data.

Conclusions

Our study provides a novel explanation for the underlying reasons for the data-action gap on sustainability in policymaking (Crabolu, Font, & Eker, 2023; Font et al., 2023; Gasparini & Mariotti, 2023). We shed light on how sustainability data is perceived by employees of destination organisations, evidencing that this depends on how it may threaten their self-esteem and organisational identification, and we show how this perception influences their evaluation, and use, of the data (Ashforth & Schinoff, 2016; Cooper & Fazio, 1984; Steele, 1988; Thibodeau & Aronson, 1992). This perception results in a dissonant data evaluation, manifested through a misuse or neglect of the data to inform decision-making (Objective 1). The potential for change in actions informed by our carbon data was low, as the most relevant and feasible actions identified were established actions that might, at best, deliver incremental change (Objective 2). It is only those employees with a high environmental concern that can perceive carbon data as reinforcing their self-identity and conduct a consonant data evaluation. This creates the opportunity for behaviour change, within their role and organisational limitations and may additionally lead to identification with peers outside their own organisation. Seniority and authority explain higher than average disengagement (Objective 3).

We make a theoretical contribution by using motivational theories of self-defence to explain the misuse of sustainability data for policymaking, which we explained by the cognitive dissonance between self-identity, organisational identification, and new conflicting data. The perception of threat depends largely in the self-representation of destination organisations' employees. The ethical climate and culture within a destination organisation significantly influence its employees' self-identity configuration (Cooper & Fazio, 1984; Martin et al., 2014). Our study confirms the possibility of adaptive responses to threats to self-integrity, e.g. learning from previous tourism policy mistakes. However, most behaviours were maladaptive as they impeded learning from newly acquired information, but were also naïvely aspirational in the sense that they hoped that incremental actions would result in transformative change. We show how carbon footprint data is often perceived as a threat to one's self-esteem, conflicting with prevalent growth mindsets (Scott, 2021). We show how, confronted with data on the (un)sustainability of tourism, employees of destination organisations use the data symbolically because this is a less taxing method to re-establish consonance, and when that is not possible, they escalate their response to morally disengage altogether.

There are some patterns between job role and organisational identification, although, generally, all employees of destination organisations find themselves incapable of escaping the worldview that asserts that tourism brings economic benefits and fosters social development, thus, its growth is desirable. This confirms the importance of normative self-standards of behaviour in the workplace (Cooper & Fazio, 1984; Stone & Cooper, 2001). When the self-identity and the newly acquired data are consonant, and it's the organisational identity that is dissonant, employees *dis*identify with their employers (Elsbach & Bhattacharya, 2001; Steele, 1988) and *re*identify with a likeminded peer group (Steele, 1988) to preserve their self-integrity.

A further contribution of our research is methodological, by designing and testing a cost-benefit display. We build an axis that cross-references expenditure and carbon footprint to facilitate perceptual processes, which is preferable when the complexity of a phenomenon is high (Vessey, 1994), such as in sustainability management. In doing so, we demonstrate that the way carbon data is presented influences decision-making, as proposed by Vessey (1994) and Robinson and Mendelson (2012). We show how a cost-benefit display provides a realistic evaluation instrument of how employees of destination organisations face dilemmas when dealing with sustainability data. We experienced first-hand how displaying data using a cost-benefit format gave participants the space to question and negotiate their identities (as seen in Deaux, 1993; Petriglieri, 2011). We demonstrate that cross-referencing data that can be perceived as dissonant and in doing so, contribute to disrupt traditional thinking and provide new perspectives.

The study has clear managerial implications. We demonstrate how framing sustainability data to challenge worldviews can be used to gradually shift perspectives, and how reflexive episodes can be used to pave the way for employees of destination organisations to envision the possibility of transformative tourism strategies. But we should be careful to not expect change quick systemic transformation (Koens et al., 2022), as it would be naïve to think that a single instance of displaying data in a cost-benefit format is enough to fundamentally challenge the prevailing growth mindset that shapes destination organisations' identities and influences their employees' self-identities. Pro-sustainability interventions ought to help progressively introduce data that is seen as relevant to the job descriptions and framed in ways that is not seen as threatening to their self-identity. Framing sustainability data based on benefits consonant to the individual and their organisational environment may be more successful.

We acknowledge three limitations of the study. First, although we incorporated the concept of unconscious bias in the analysis of the data, we acknowledge that participation in a social context may have created social desirability bias and self-deception bias that needs to be further studied, as self-regulation of morality is influenced by interaction with others (Johnson & Buckley, 2015). Second, given that destination organisations rarely have data on their own impact factors (e.g., kg CO_2 equivalent/overnight stay in a two-star hotel), using generic factors can serve as an approximation to the calculation, but this limitation must be considered when interpreting the results. Although the use of generic emission factors is a common practice in carbon footprint assessments, due to a lack of local data, this means that destination organisations are assuming that the emissions of their transport systems or accommodation facilities are the same regardless of their efficiencies, energy mixes or climate conditions. Furthermore, any improvements that might be made in the introduction of renewable energy sources, energy-efficient buildings or sustainable transportation, will not be accounted for in this methodology. Third, the unit of analysis of our study is the individual employee of the destination organisation, and we acknowledge that it is necessary to contextualise our findings with further research of organisation and system-level factors.

In addition to research addressing the limitations above, we briefly make three further suggestions for research. First, it would be important to study under which circumstances staff perceive greater cognitive dissonance and which restoring mechanisms they deploy (see Festinger, 1957; Harmon-Jones & Mills, 2019). Second, our study presents a cross-sectional view of cognitive dissonance regarding sustainability data, and further research should look at changes over time. Third, we would suggest that a wider range of variables beyond expenditure and carbon are used, to mimic more realistic segmentation criteria used by destination organisations.

CRediT authorship contribution statement

Anna Torres-Delgado: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization. **Xavier Font:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Funding acquisition, Conceptualization. **Jordi Oliver-Solà:** Writing – review & editing, Writing – original draft, Visualization, Methodology.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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