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Exploring Tourist Behaviour Towards the Circular Economy: A Quantitative Analysis

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Abstract

Purpose: This study aims to integrate the theory of planned behaviour (TPB) and value-belief-norm (VBN) theory to investigate tourists' intention to select tourism destination in the Mediterranean area according to circular criteria.

Methodology: A survey-based questionnaire has been developed and administered to a sample of citizens, from 18 to 70 years old, living in France, Germany, Italy and Spain. A total of 4053 usable questionnaires have been collected. The structural equation modelling (SEM) technique was used to assess the study framework and the hypothesised relationship.

Findings: The study reveals that both biospheric and altruistic values significantly influence tourists' ascription of responsibility, which in turn strongly affects their personal norms. Additionally, subjective norms also play a significant role in shaping personal norms. Personal norms are crucial in driving the decision-making process towards selecting tourism destinations that adopt circular economy practices. Specifically, tourists who value environmental responsibility and sustainability are more likely to choose destinations that implement circular practices.

Research limitations/implications: The research is limited by its cross-sectional design and sample, which includes tourists from only four European countries. This may not fully capture the diversity of global tourist preferences. Future research should consider a longitudinal approach and include a more diverse sample to enhance the generalizability of the findings. Practically, the results suggest that policymakers and tourism managers should focus on promoting and implementing circular economy practices to meet the growing demand for sustainable tourism.

Originality/Value: This study is innovative in its integration of the Theory of Planned Behaviour (TPB) and the Value-Belief-Norm (VBN) Theory within the context of circular tourism. It provides a comprehensive framework for understanding the determinants of circular tourist behaviour, bridging a gap in existing literature. The creation of a tailored survey instrument to measure tourists' preferences for Circular Economy practices is a significant methodological advancement. The findings offer valuable insights for destination managers and policymakers, highlighting the importance of developing strategies that align with the values and norms of circular tourists.

Keywords: Tourists; Value Belief Norm Theory; Theory of Planned Behaviour; Circular Economy; Tourism destinations.

Paper type: Research Paper

1. Introduction

In recent decades, the tourism industry has experienced a strong growth, becoming one of the most important and dynamic economic sectors worldwide. However, this growth has been accompanied by several challenges, including those related to the environment, sustainability and, more recently, the devastating impact of the Covid-19 pandemic. The health emergency has amplified the need to reconsider the future of tourism and has made the adoption of new approaches and development models even more pressing (Škare et al., 2021). We are currently facing what has been called the 'Triple Planetary Crisis', a convergence of global challenges that refers specifically to three main interlinked issues that humanity currently faces: climate change, pollution, and biodiversity loss. The increasingly frequent waves of wildfires are concrete examples of this which, fuelled by rising temperatures and drought, have devastated vast areas of forest and countryside threatening the lives of people, local flora and fauna, and contributing to the accumulation of carbon emissions in the atmosphere. As we approach the dreaded 'Boiling Era', it is crucial to take concrete measures to address the climate crisis.

Climate change is a phenomenon that is showing its effects in many parts of the world, but the Mediterranean area is particularly vulnerable: its geographical location, the particularity of its climate and the anthropic pressure exerted in this area contribute to accelerating the effects of this crisis, posing a real risk to its unique biodiversity and to human health and safety. These factors can generate a significant negative impact on the Mediterranean tourism industry (Torres et al. 2021). Investigating tourism in Mediterranean destinations is particularly important due to the significant impacts of climate change on the region's attractiveness. Understanding these impacts allows for the development of effective adaptation strategies to sustain the economic and environmental health of the region (Rosselló et al., 2022; Kalimeris et al., 2021).

In this context, the concept of Circular Economy emerges as a key strategy to address the environmental, social and economic challenges plaguing modern tourism, representing an innovative and promising approach for the transformation of the tourism sector (Gusmerotti et al., 2023). The application of the circular economic model in the tourism sector is of paramount importance in addressing new and growing regulatory, environmental, social and economic challenges: from reducing environmental impacts to supporting local economies and adapting to emerging regulations. This model helps to ensure the long-term sustainability of the tourism sector, maintaining its appeal and preserving the natural and cultural resources of tourist destinations (Rodríguez et al. 2020).

However, the implementation of the Circular Economy, both at the level of tourism destination management and at the level of tourism enterprises, entails in many cases numerous changes, and uncertainty regarding the possible reactions of tourists is one of the braking elements to the implementation of a more sustainable tourism model (Kyriakaki et al. 2022). Understanding tourists' preferences is crucial to adopt effective strategies to meet demand and contribute to the preservation of the environment and local communities. The key to minimise environmental problems depends mainly on the number of people who intend to change their consumption behaviours and participate in more sustainable or circular practices. Thus, tourists may play a central role for developing circular economy principles in tourism (Sørensen et al., 2020).

Numerous studies indicate that tourists show interest towards the environment as a key factor in their holiday experience quality (Goodwin and Francis, 2003; Jacobsen, 2007; Lübbert, 2001; Puhakka, 2011 and Horner and Swarbrooke, 2016). Understanding tourists' inclinations and preferences is also a key step to encourage more sustainable and circular patterns of behaviour in tourist destinations and to make informed decisions (Juvan et al., 2016). Indeed, there are many aspects that can help determine tourists' behaviour and choices, such as values, sense of responsibility, social and personal norms, and finally intention to behave. While many scholars have explored tourists' environmental

attitudes (Dolnicar, 2010; Winter, 2007), and endeavoured to determine the causes of tourists' adoption of pro-environmental behaviours (Juvan & Dolnicar, 2014), much work is needed concerning the factors that motivate such actions, and the scope of behaviours conducted by tourists that enhance the sustainability and circularity of the industry, local communities, and environments (Landon et al., 2018). Therefore, this study aims to examine the antecedents of European tourists' intentions to choose Mediterranean tourist destinations under the Circular Economy lens, considering the circular practices implemented by them.

2. Theoretical framework

The theories taken as reference for the present study are the Theory of Planned Behaviour and the Value-Belief-Norm Theory. These theories have been shown to provide good explanations of consumer behavioural intention, using constructs concerning consumer attitudes, values, subjective norms, personal norms and ethical concerns as main predictors of consumption. These two theories have recently been integrated by some scholars to investigate consumer intentions in tourism, although these models are usually employed separately (Gkargkavouzi et al., 2019; Han, 2015; Zhang et al., 2020). The integration of TPB and VBN provides a theoretical foundation from the perspective of planned individual behaviour, supplementing it with the investigation of the influence of values and norms. Moreover, as stated by Loureiro et al.: "only a few scientific studies have been devoted to analysing and understanding the pro-environmental behaviour of those that are on vacation" (Loureiro et al., 2022, abstract).

Despite the significant contributions of TPB and VBN in the realm of sustainable tourism, the application of these theories to the context of circular economy in tourism, and in particular to tourism destinations remains scarce. There is therefore a gap in the scientific literature in this field (Sørensen and Bærenholdt, 2020).

2.1 Circular Economy applied to tourism destinations

Circular Economy represents a strategy for achieving sustainability (Schöggl et al., 2020). The concept of the Circular Economy (CE) and its underlying restorative and regenerative principles for production, distribution, and consumption provides an integrative framework with the potential to encourage the required transformation within tourism sector (Manniche et al., 2020). Academic literature deeply focuses on how the Circular Economy can be integrated into tourism, providing examples of theoretical and concrete applications of its principles (Rodríguez et al., 2020; Niñerola et al., 2019; Girard & Nocca, 2017).

The integration of the concept of Circular Economy has in recent years led to the conceptualisation of a new form of tourism, namely circular tourism, first defined by Girard & Nocca as a model aimed at the creation of closed cycles for the production of goods and services, and in which these cycles are aimed at maximising raw materials, water, and energy (Girard & Nocca, 2017).

Even looking at the literature specifically concerning tourists' behaviours in relation to a more sustainable and circular tourism, it can be observed that this has often focused more on tourism industries, such as hotels and restaurants (Fauzi et al., 2024; Nimri et al., 2020; Olya et al., 2019; Auwalin et al., 2022; Han, 2015), while few studies have focused on destinations and how they manage their tourism offer to foster the sector's transition towards a more sustainable and circular model. However, some more recent work in the field of tourist behaviour studies has ventured into this investigation: Sørensen et al. (2020) highlighted how tourists' practices can support the development of the circular economy in tourism. Landon et al. (2018) studied how pro-sustainable behaviour is reflected in three dimensions of intent related to behaviours that reduce environmental impacts and consumption of local goods and services. Gstaettner et al. (2017) examined this theme from the perspective of risk management in a natural tourism context.

Moreover, numerous studies have investigated the aspects that contribute to making a destination more sustainable and circular, such as circular waste management, water management, sustainable mobility services, supply from renewable energy sources, policies and practices to safeguard the natural environmental heritage, and the level of awareness and engagement of the tourism industries operating within a destination (Torres-Delgado et al., 2014; Manniche et al., 2017; Hanza, 2018; Asmelash & Kumar, 2019; Gusmerotti et al., 2024).

Based on the scientific literature concerning the circular aspects that a tourist destination should consider in the transition to Circular Economy, and with the aim of bridging the gap found in the literature with respect to studies of tourist behaviour and destinations with circular characteristics, this study aims to investigate the tourists' intention to behave by analysing circular criteria for the choice of tourist destinations. The selection criteria examined in this study include: the adoption of environmentally responsible practices, attention to safeguarding natural and cultural heritage, circular waste management, practices to reduce pressure on water resources, supply from renewable energy sources, sustainable mobility, presence of information and awareness campaigns for tourists and the local community regarding circular economy and sustainability practices, the offer of social tourism forms, support for the local economy, promotion and implementation of eco-sustainable activities, and the awareness of economic operators in the region regarding environmental issues.

2.2 The Value Belief Norm Theory

Building on Schwartz's norm activation model, Stern et al. introduced in 1999 the Value-Belief-Norm (VBN) theory. The VBN theory integrates values, beliefs, and norms to provide a comprehensive understanding of pro-environmental behaviour. It incorporates value orientations such as biospheric, altruistic, and egoistic values, alongside an ecological worldview, awareness of adverse consequences, ascription of responsibility, and personal norms (Stern, 2000; Klöckner, 2013). This integration aims to explain the decision-making processes that lead individuals to engage in environmentally responsible behaviour. The VBN theory posits that pro-environmental intention and behaviour are determined by personal norms, which are activated through a sequential process involving values, ecological worldview, awareness of adverse consequences, and ascription of responsibility (Klöckner, 2013; Stern, 2000).

Among these values, biospheric and altruistic values seems to be central to this process in studies concerning tourists. Biospheric values reflect a concern for the biosphere and nature, while altruistic values pertain to the welfare of others (De Groot et al., 2007; Klöckner, 2013). Moreover, studies seem to indicate that individuals with strong biospheric values are more likely to exhibit environmental concern and pro-environmental behaviour (De Groot et al., 2007; Stern, 2000). In contrast, the relationship between altruistic values and ecological worldview has shown inconsistent results in recent literature: for instance, Landon et al. (2018) did not find support for the relationship between them, a finding consistent with previous studies (Stern & Dietz, 1994). Similarly, Van Riper and Kyle (2014), as well as Kiatkawasin and Han (2017) and Han et al. (2017), failed to confirm the hypothesized relationship between egoistic values and the New Ecological Paradigm (NEP). Given these inconsistencies, this study will focus on biospheric and altruistic values while excluding egoistic values.

Ascription of responsibility (AR) is the belief that individuals' actions can prevent or exacerbate negative environmental consequences (Stern et al., 1999). It serves as a crucial mediator between values and personal norms. Van Riper and Kyle (2014) found that ascription of responsibility explained 82% of the variance in personal norms, raising concerns about the discriminant validity of these constructs. Additionally, Raymond et al. (2011) and Landon et al. (2017) noted high correlations between AR and personal norms, consistent with Steg and De Groot (2010). Therefore, AR seems to represent a significant predictor of personal norms. Considering this evidence found in the scientific literature, the present study will focus on the study of the relationship between Values, Ascription of Responsibility and Personal Norms.

Personal norms, defined as feelings of moral obligation to perform or refrain from specific actions, are activated by AR and directly influence pro-environmental behaviour (Schwartz, 1977; Stern,

2000). Studies have shown that personal norms are pivotal in determining eco-friendly intentions and behaviours (De Groot & Steg, 2009; Van Riper & Kyle, 2014).

Therefore, Value-Belief-Norm Theory has been pivotal in linking personal values and beliefs to pro-environmental behaviour. Numerous studies have shown that VBN effectively captures the influence of personal norms and environmental values on tourists' decisions to engage in eco-friendly activities. For instance, Kiatkawsin and Han (2017) on young travellers' intention to behave pro-environmentally during trips underscored the significant impact of value-based motivations. Similarly, Lee and Jan (2018) examined ecotourism behaviour among nature-based tourists, finding that personal environmental values and beliefs were crucial predictors of sustainable behaviour.

Given the theoretical background and empirical findings, this study focuses on examining the relationships between biospheric values, altruistic values, ascription of responsibility, and personal norms. The following hypotheses are proposed:

H1. Biospheric value positively affects Responsibility.

H2. Altruistic value positively affects Responsibility.

H3. Responsibility positively affects Personal Norms.

2.3 The Theory of Planned behaviour

The Theory of Planned Behaviour (TPB), developed by Ajzen (1985) provides a robust framework for understanding individual decision-making processes. The TPB posits that behaviour is primarily influenced by one's intention to engage in that behaviour, which is, in turn, shaped by three key factors: attitude toward the behaviour, subjective norm, and perceived behavioural control (Ajzen, 1991; Han et al., 2010).

According to the TPB, attitudes, subjective norms, and perceived behavioural control are derived from underlying behavioural, normative, and control beliefs, respectively (Lee & Back, 2009; Oh & Hsu, 2001; Perugini & Bagozzi, 2001). The theory has been extensively validated across various domains, demonstrating its efficacy in predicting behaviours (Ajzen & Driver, 1991; Han et al., 2010; Lam & Hsu, 2004, 2006; Oh & Hsu, 2001). Its application has been particularly prominent in the hospitality and tourism sectors, explaining behaviours related to leisure participation (Ajzen & Driver, 1991), convention attendance (Lee & Back, 2009), international travel (Lam & Hsu, 2004), and destination choice (Lam & Hsu, 2006).

Empirical research consistently supports the positive relationships among attitude, subjective norm, perceived behavioural control, and intention. For instance, Chan and Bishop (2013) found that these variables significantly influenced recycling intentions, which subsequently led to actual recycling behaviours. In tourism studies, Lam and Hsu (2006) demonstrated that tourists' attitudes, subjective norms, and perceived control significantly affected their choice of destination.

Subjective norms, in particular, have been identified as one of the strongest predictors of behavioural intention. Han (2015) emphasized this finding, which was corroborated by Nimri et al. (2020) and Fauzi et al. (2022) in their investigations into tourists' intentions to stay at green hotels. This underscores the significant impact of social pressures and expectations on individual decision-making within the tourism context.

The TPB has been adapted and extended in various studies to capture the complexity of behaviours related to environmental issues, also to study the behavioural intentions of tourists in the context of sustainability and tourism destinations. For example, Goh et al. (2017) integrated pro-environmental values into the TPB to explain the behaviours of national park visitors. Such adaptations highlight the theory's flexibility and relevance in addressing the dynamic and multifaceted nature of human decision-making in environmental contexts (Lezak & Thibodeau, 2016; Olya & Akhshik, 2018). Grilli et al. (2019) elicited preferences of the tourists for alternative options of natural resource management in Italy, demonstrating how attitudes and perceived behavioural control influence decision-making. Similarly, Gstaettner et al. (2017) explored individual and situational aspects of visitor behaviour in risky situations in Australia, highlighting the role of subjective norms in shaping tourists' responses. Another example is the study by Ibrahim et al. (2022), who investigated behavioural intentions to purchase local products and services for wildlife conservation in Penang National Park, emphasizing the importance of ethical concerns and personal norms.

In this study, we focus on the role of social norms within the TPB framework, particularly their influence on personal norms. Social norms, which refer to the perceived social pressure to perform or avoid certain behaviours (Ajzen, 1991), are pivotal in shaping personal norms. These personal norms, or moral obligations to engage in specific actions, directly influence pro-environmental behaviour.

Based on this theoretical foundation, we propose the following hypotheses:

H4. Social norms positively affect Personal Norms.

H5. Personal norms positively affect Circular criteria in Tourism Destinations selection.

These hypotheses aim to clarify the pathways through which social influences and personal moral obligations affect the selection of environmentally sustainable tourism destinations. By incorporating insights from the TPB, this study seeks to deepen our understanding of the determinants of decision-making in the context of the selection of circular tourism destinations.

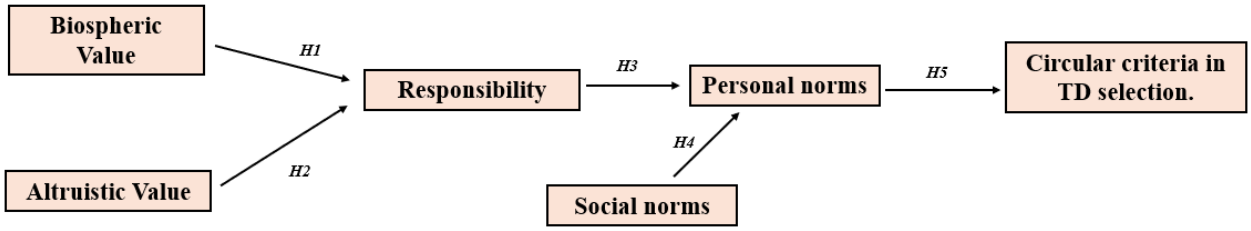

Figure 1: The proposed research model

3. Methodology

A survey-based questionnaire has been developed and launched online with the help of an independent research institute, chosen due to time and cost effectiveness, reduced error and reported comparability with mail, face-to-face or phone-based surveys (Aguilar and Cai, 2010; Buchanan and Hvizdak, 2009; Dolnicar et al., 2009; Evans and Mathur, 2005; Manfreda and Vehovar, 2002; Mertler, 2002). The questionnaire was administered to a sample of citizens, from 18 to 70 years old, living in France, Germany, Italy and Spain, which are the most representatives in terms of outbound tourist flow to Mediterranean tourism destinations, in the month of June 2022. For the present study, we chose to focus specifically on Mediterranean tourist destinations: Italy, Cyprus, Malta, Albania, Greece, Spain and Croatia. A total of 4053 usable questionnaires have been collected, equally distributed among the four countries selected.

Measurement instruments for study variables were adopted from prior studies described in the scientific literature (Ajzen, 1991; Han et al., 2010; Han, 2015; Rodríguez et al., 2020; Ajzen, 1991; Ajzen & Fishbein, 1980; De Groot & Steg, 2007; Schwartz, 1992; Stern et al., 1999; Han et al., 2016; Kiatkawsin et al., 2017; Landon et al., 2018; Bamberg et al., 2007; Onwezen et al., 2013; Han 2015; Kiatkawsin et al., 2017). The measures used were subsequently modified to make them suitable for the context of the present study. The measuring instruments used have been used extensively in many studies, and the validity of these instruments has been demonstrated several times.

A 5-point Likert Scale has been used. In particular, the scales that have been used for the items related to Values (AV and BV) go from “Extremely irrelevant” (1) to “Extremely important” (5), while the scales for the items related to Personal Norms (PN), Subjective Norms (SN) and Environmental

criteria in tourism destination selection (ECTD) go from “Strongly disagree” (1) to “Strongly agree” (5). Moreover, in the case of Subjective Norms, the box 'Not Applicable' was also applied, since the items referred to friends, children, colleagues, partners, etc.

Table 1. Standardized factor loading and items detail

Variables/ Constructs	Items n°	Items	Standardized Factor Loadings	Min	Max	Item Mean	Item standard deviation	Uniqueness
AV	AV_1	Equality.	.81	1	5	4.25	0.986	0.332
	AV_2	Equal opportunities for all.	.83	1	5	4.32	0.947	0.295
	AV_3	A world free of war and conflict.	.74	1	5	4.49	0.915	0.436
	AV_4	Social justice.	.65	1	5	4.33	0.947	0.349
	AV_5	Caring for the weakest / Attention to the weakest	.65	1	5	4.20	0.964	0.348
	AV_6	Being useful, helping others.	.85	1	5	4.13	0.970	0.425
BV	BV_1	Pollution prevention	.82	1	5	4.22	0.990	0.328
	BV_2	Conservation of natural resources	.84	1	5	4.22	0.976	0.304
	BV_3	Respecting Planet Earth	.83	1	5	4.29	0.980	0.316
	BV_4	Living in harmony with other animal species	.68	1	5	4.04	1.073	0.444
	BV_5	Living in harmony with nature	.74	1	5	4.10	1.031	0.341
	BV_6	Preserving ecosystems	.65	1	5	4.09	1.037	0.301
SN	SN_1	When selecting a tourist destination my partner/ would like me to pay more attention to activities that allow the protection and regeneration of ecosystem services of natural heritage and those that allow the sustainability of social and cultural activities of that place to be enhanced over time.	.71	1	5	3.43	1.45	0.490
	SN_2	When selecting a tourist destination my work colleagues would like me to pay more attention to activities that allow the protection and regeneration of natural heritage ecosystem services and those that allow the sustainability of social and cultural activities to be enhanced over time	.72	1	5	3.17	1.51	0.468
	SN_3	When selecting a tourist destination my children, the youngest in my family, would like me to pay more	.67	1	5	3.21	1.67	0.541

		attention to activities that allow the protection and regeneration of ecosystem services of natural heritage and those that allow the sustainability of social and cultural activities to be enhanced over time						
	SN_4	When selecting a tourist destination my parents would like me to pay more attention to activities that allow the protection and regeneration of natural heritage ecosystem services and those that allow the sustainability of social and cultural activities to be enhanced over time	.74	1	5	3.35	1.46	0.463
	SN_5	When selecting a tourist destination my friends would like me to pay more attention to activities that allow the protection and regeneration of ecosystem services of natural heritage and those that allow the sustainability of social and cultural activities to be enhanced over time	.72	1	5	3.42	1.34	0.474
PN	PN_1	As a tourist, I feel morally obliged to do all I can to protect the natural heritage and respect its culture and the inhabitants of the place I go to	.77	1	5	4.14	0.912	0.362
	PN_2	As a tourist, I would feel guilty if I were responsible for the damage caused to the natural heritage, its culture and the inhabitants of the place I go to	.78	1	5	4.13	0.945	0.415
	PN_3	I feel that minimising my impact on the natural heritage, culture and inhabitants of the place I go is the right thing to do	.70	1	5	3.97	0.953	0.502
	PN_4	As a tourist, I am morally obliged to do my part to minimise my impact on the natural heritage, its culture and the inhabitants of the place I go to	.79	1	5	4.07	0.935	0.355
	PN_5	I feel that people like me should do what I can to minimise my impact on	.76	1	5	4.01	0.921	0.404

		the natural heritage, culture and inhabitants of the place I travel to.						
AR	AR_1	The tourism industry can cause pollution, climate change and depletion of natural resources due to the facilities and infrastructure needed to meet tourist demand	.72	1	5	3.86	0.988	0.461
	AR_2	I believe that every tourist is partly responsible for environmental damage caused by the tourism industry	.67	1	5	3.74	1.033	0.329
	AR_3	I believe that all tourists are co-responsible for the environmental damage caused by travel-related activities	.84	1	5	3.64	1.069	0.424
	AR_4	Every tourist must take responsibility for environmental damage caused during their travels	.74	1	5	4.04	0.965	0.457
Circular criteria in TD selection.	CCTD_1	When choosing a tourist destination, it is important to me that it adopts environmentally responsible practices (e.g. establishment of protected areas, monitoring of marine litter, etc.).	.78	1	5	4.10	0.911	0.385
	CCTD_2	When choosing a tourist destination, it is important to me that it has a natural heritage that is exploited for tourism but pays attention to its preservation (e.g. restricted access to protected oases).	.73	1	5	4.08	0.903	0.461
	CCTD_3	When choosing a tourist destination, it is important to me that it takes measures to prolong the life of its cultural heritage while strengthening the transmission of its significant messages and values.	.74	1	5	4.02	0.917	0.445
	CCTD_4	When choosing a tourist destination, it is important to me that it has a waste management system that is as circular as possible (e.g. presence of waste bins that provide for separate collection, presence of treatment	.74	1	5	4.08	0.931	0.435

		plants that allow waste to be recycled as much as possible, etc.).						
	CCTD_5	When choosing a tourist destination, it is important to me that it adopts practices to reduce pressure on water resources (e.g. facilities that allow for the reuse of rainwater, technologies to reduce consumption, etc.).	.75	1	5	3.99	0.944	0.423
	CCTD_6	When choosing a tourist destination, it is important to me that it obtain supplies from renewable energy sources, through purchase or generation.	.70	1	5	3.96	0.972	0.497
	CCTD_7	When choosing a tourist destination, it is important to me that it engages in information and/or awareness-raising campaigns for tourists and the local community on issues and practices related to the circular economy and sustainability.	.72	1	5	3.88	0.965	0.480
	CCTD_8	When choosing a tourist destination, it is important to me that it offers sustainable and/or circular mobility services (e.g. bicycle hire, charging points for electric vehicles, etc.).	.72	1	5	3.99	0.957	0.466
	CCTD_9	When choosing a tourist destination, it is important to me that it envisages forms of social tourism (e.g. offering accessible forms of tourism also for people with reduced mobility)	.76	1	5	3.99	0.971	0.447
	CCTD_10	... promotes possible eco-sustainable activities that can be carried out in the area (e.g. trekking routes, birdwatching, etc.).	.76	1	5	3.96	0.946	0.471
	CCTD_11	When choosing a tourist destination, it is important to me that it supports the local economy (e.g. by promoting traditional local activities or handicrafts).	.84	1	5	4.10	0.904	0.469
	CCTD_12	When choosing a tourist destination, it is important to me that it economic	.73	1	5	4.01	0.924	0.402

		operators operating in its territory (hotels, campsites, restaurants, etc.) are adequately sensitised and trained on environmental issues (e.g. recycling or food waste).						

The questionnaire included questions concerning gender, age, nationality, frequency of trips in the previous year, occupation, level of education, income class and household size. A section on the respondents' travel attitudes was also included, in which they were asked about the travel frequency with which they travel and with whom they usually travel. Within the survey it was specified that the term 'travel' means moving for more than one night from one's usual place of residence and for a period not exceeding one year and for reasons other than a remunerated activity. Furthermore, respondents were asked about the frequency of travel in the previous five years (not for work), to one of the targeted Mediterranean tourist destinations. Finally, the respondents were asked whether they had planned a trip to one of the targeted Mediterranean tourist destinations in the 6 months following the administration of the survey.

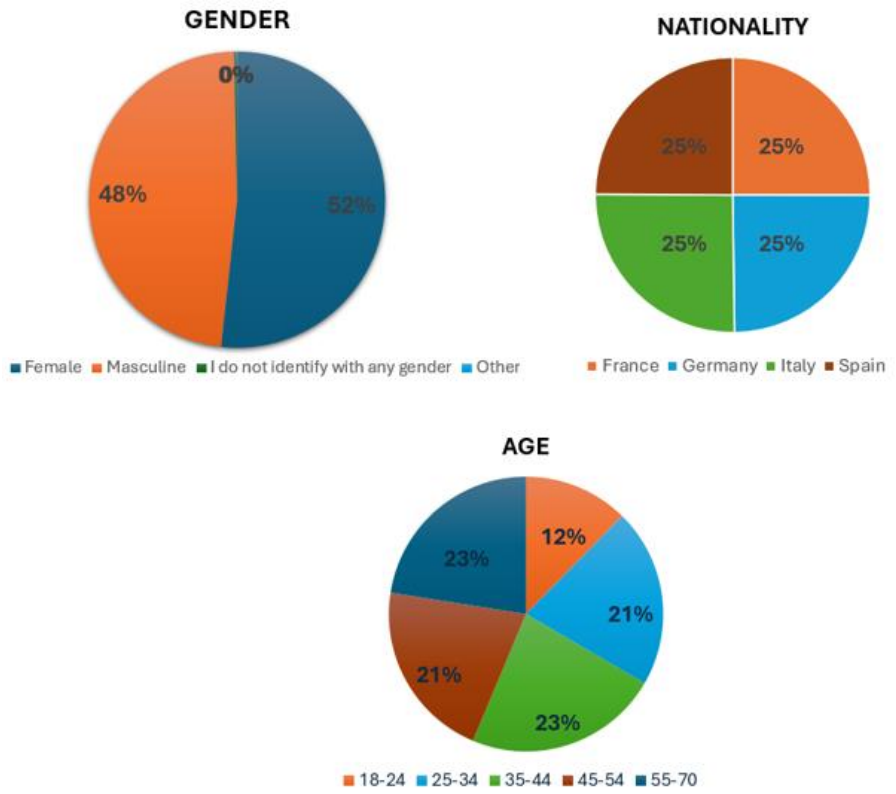

Figure 2: Sample demographic

The collected data were analysed by using SPSS 26 and AMOS 26. Following the method recommended by Anderson and Gerbing (1988), two step technique has been implemented: first the assessment of the measurement model and then the evaluating the structural model as the association of multiple variables with hypotheses which can be measured by using the structural equation model (Hair, Anderson, Tatham, and Black, 1998; Tabachnick and Fidell, 2007). Hair et al., (1998) stated that the analytical method is useful for examining a theoretical framework that assimilates many independent and dependent variable, similar to this research and also endorsed by Tabachnick and Fidell, 2007.

Table 1: KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.973
Bartlett's Test of Sphericity	Approx. Chi-Square	92961.506
	df	703
	Sig.	.000

4. Results

4.1 Confirmatory Factor Analysis

The first step in the two-step methodology proposed by Anderson and Gerbing (1988) involved assessing the measurement model's goodness of fit. Prior to conducting the CFA, data screening was assumed to identify any probable violations of fundamental assumptions. The findings indicated that there were no significant breaches of these assumptions. Additionally, as they are all Likert-type items, they were not considered to violate the assumptions. Moreover, all kurtosis scores were below the recommended threshold of 3.0 (Bagozzi & Yi, 2012). Thus, analyses of multivariate normality and linearity revealed no violations.

The CFA was performed utilizing the most extreme probability assessment strategy, and the results showed a decent model fit, RMSEA = 0.0313 and CFI = 0.972 χ^2/df = 2.9. These results totally supported the acknowledgment of the estimation model. CFI scores above 0.90 are considered acceptable (Hair et al., 2014). Each construct contained several measurement items, and a composite reliability assessment was conducted to evaluate internal consistency. The findings indicated that all values exceeded the widely accredited minimum criterion of 0.70, with recorded scores ranging from 0.858 to 0.902 (Bagozzi & Yi, 2012). Constructs validity was assessed, and they showed the valid

discriminant validity as shown below in the tables where average variance extracted (AVE) also scores ranged from 0.664 to 0.592, greater the established minimum threshold of 0.5 (Hair et al., 2014).

Table 2: Reliably and Validity of the constructs

Constructs	**Cronbach's Alpha**	**Composite reliability**	**Average variance extracted (AVE)**
AR_	0.834	0.858	0.664
CCTD_	0.922	0.923	0.588
AV_	0.911	0.912	0.691
BV_	0.920	0.921	0.714
PN_	0.878	0.879	0.672
SN_	0.838	0.902	0.592

Table 3: Discrimimnant Validity

Constructs	AR_	ECTD_	AV_	BV_	PN_	SN_
AR	**0.815**					
CCTD	0.556	**0.767**				
AV	0.371	0.508	**0.831**			
BV	0.399	0.552	0.718	**0.845**		
PN	0.540	0.687	0.476	0.507	**0.820**	
SN	0.224	0.291	0.139	0.166	0.160	**0.776**

4.2 Testing of Hypotheses

Stage two (Anderson and Gerbing's. 1988) methods involved testing the hypotheses proposed in the model using SEM analysis. According to Kline (2016), the assessment of normal data distribution should involve descriptive statistics like skewness and kurtosis absolute values for each variable. As indicated by Hair et al. (2010), in structural equation modelling (SEM), data are considered normally distributed when skewness values range between ±2 and kurtosis values range between ±7. Our variables' skewness and kurtosis values align with these criteria. Thus, normality and collinearity assumption was assessed through the computation of VIF values for each variable. All variables demonstrate VIF values below 2.5, and the mean of VIF is less than 4, which is confirming adherence to the collinearity assumption.

Primarily, the SEM results reveal a significant and positive relation between biospheric value and the altruistic value (β =0.92, SE = 0.014, $p < 0.001$). Based on these findings, hypothesis 1, positing a positive relationship between biospheric value and the altruistic value, is supported. Conversely,

our analysis indicates that hypothesis 2, which proposes a positive association between altruistic value and responsibility, achieve statistical significance with value (Beta=0.223, S.E=0.014 and P< 0.001). The hypothesis 3, positing a significant positive impact of responsibility on personal norms, is supported by the analysis ($\beta = 0.668$, SE = 0.014, $p < 0.001$). Thus Hypotheses 4, also received statistical support to measure the positive relationship of social norms on personal norms ($\beta = 0.40$, SE = 0.011, $p < 0.001$). Furthermore, the results indicate a significant positive influence of personal norms on circular criteria in TD selection ($\beta = 0.755$, SE = 0.019, $p < 0.001$), thereby confirming Hypothesis 5.

Table 4: Results of the Hypotheses

Paths	Beta Value	S.E.	P	Hypotheses	Status
BV-→ AR	.291	.014	***	H1	Supported
AV-→AR	.223	.014	***	H2	Supported
AR-→PN	.668	.014	***	H3	Supported
SN-→PN	.040	.011	***	H4	Supported
PN-→CCTD	.755	.019	***	H5	Supported

5. Discussion

This study adds to the body of knowledge in the field of tourism in several ways. Firstly, it examines customers' intentions to select tourism destinations according to circular economy aspects. The current study contributes to the literature on tourism by establishing the relationship between values, ascribed responsibility, norms, and intention to behave. Furthermore, the study's model is unique as it includes personal norm as a mediating factor between values and intention. Previous research mostly used Ajzen's (1991) TPB model to predict customers' intentions, focusing on the intention to visit green hotels (Verma and Chandra, 2018; Pan et al., 2022). In contrast, this study integrates values in a chain relationship with personal norm and intention, making a novel theoretical contribution by exploring the tourism destination dimension. Most of the results confirmed Stern's VBN theory, indicating that tourists with strong altruistic and biospheric values display strong pro-environmental personal norms, which can encourage circular behaviour, as also found by Dong et al. (2024). Based on the analysis of the proposed hypotheses, significant relationships were found between the constructs in the model. Biospheric Value (BV) exhibits a positive and significant effect on Ascribed Responsibility (AR), with a beta value of 0.291 and a highly significant p-value ($p < 0.001$). This suggests that individuals with strong biospheric values are more likely to feel a sense of responsibility towards the environment. Similarly, Altruistic Value (AV) positively influences Ascribed

Responsibility (AR) with a beta value of 0.223 and a statistically significant p-value ($p < 0.001$), indicating that altruistic individuals feel accountable for environmental stewardship. Additionally, Ascribed Responsibility (AR) has a strong positive impact on Personal Norms (PN) with a beta value of 0.668 and a p-value of less than 0.001, highlighting the key role of perceived responsibility in shaping personal norms concerning environmental behaviours. Moreover, Social Norms (SN) positively affect Personal Norms (PN), though to a smaller extent, with a beta value of 0.040 and a significant p-value ($p < 0.001$), underscoring the influence of societal expectations on individual normative beliefs. Finally, Personal Norms (PN) significantly influence the intention to select tourism destinations according to Circular Criteria, with a robust beta value of 0.755 and a p-value of less than 0.001, indicating that personal norms are crucial in the decision-making process regarding the intention to select tourism destinations according to Circular Criteria.

These results align with the existing literature but introduce a new element compared to the classical Value Belief Norm Theory: the direct positive correlation between values and Ascribed Responsibility. To the best of our knowledge, only Dong et al. (2024) had previously investigated the direct correlation between Ascribed Responsibility (AR) and Values, specifically in the context of intention to visit green hotels, without considering the broader scope of tourism destinations. Therefore, the analysis provides considerable evidence supporting the hypothesized relationships. The results reveal that both biospheric and altruistic values significantly contribute to the sense of responsibility, which in turn strongly influences personal norms. Social norms also play a role in shaping personal norms.

Moreover, personal norms act as an integrating variable for value and norm-related aspects: they incorporate parts of social norms and partially mediate their influence on intentions. Personal norms add a novel aspect to intentions that is missing in the TPB, aligning with Klockner's (2013) findings that the moral motivations behind environmental behaviour are not sufficiently represented in the classical TPB. Finally, personal norms are a critical factor in driving environmentally responsible decision-making in tourism destination selection.

In fact, a new element of this study is the circular criteria for selecting tourist destinations. The inclusion of this element in the survey not only makes it possible to investigate tourist intentions, but also to determine which circular economy criteria sustainability-conscious tourists actively seek. This construct was created specifically for this study, reconstructing the literature with respect to the characteristics of sustainability and circularity that can characterise a tourist destination. Aspects such as circular waste management, sustainable mobility services, but also attention to the preservation of

cultural heritage and the awareness and training of industries operating in the tourist destination's territory were considered.

Investigating such aspects is of value not only with respect to the investigation of consumer behaviour, helping to delineate the psychological aspects of the circular tourist, but is also of use to tourist destinations that want to embark on or are embarking on a path of transition to the Circular Economy. Knowing what aspects circular tourists are interested in allows destinations to better understand consumer preferences and consequently to develop targeted strategies to attract a specific target group of tourists (Landon et al., 2018). By identifying specific attributes that appeal to sustainability-conscious tourists, this study provides actionable insights for destination managers aiming to enhance their attractiveness while promoting circularity at tourism destination level. Moreover, tourists' attitudes towards sustainability and circularity influence their travel choices and may lead them to actively seek sustainable experiences, or be willing to pay more for them, just as individual values and social norms may determine travel choices and consumer behaviour (Olya et al., 2019).

Therefore, for destination decision makers, knowing tourists' preferences and behaviour in relation to sustainable and circular tourism destinations is a useful tool. Such knowledge can support them in developing strategies to meet both tourists' expectations and the need for a circular transition, implementing measures to reduce impacts while preserving, regenerating, and enhancing the territorial resources (Han 2021). Furthermore, this knowledge can be used to develop communication strategies and tourism offerings that reflect tourists' values and attitudes, encouraging more sustainable and circular behaviour during travel. Knowing tourists' inclinations is an essential step in developing effective sustainable and circular tourism strategies.

Moreover, this study underscores the importance of educating and involving local communities and businesses in the transition towards circular tourism. Supporting change towards sustainable and circular tourism is a process that requires the involvement of different levels of this sector (decision makers, businesses, and tourists and local communities) and can have a significant impact on the tourism industry and the environment (Manniche et al., 2017). By fostering a collective responsibility and enhancing the visibility of circular practices, destinations can not only improve their environmental impact but also strengthen their market positioning in an increasingly competitive tourism industry.

6. Conclusion

In conclusion, this study successfully integrates the Theory of Planned Behaviour (TPB) and the Value-Belief-Norm (VBN) Theory to examine tourist intentions and behaviours concerning the selection of circular tourism destinations. The findings indicate that both biospheric and altruistic values significantly influence the ascription of responsibility, which in turn strongly affects personal norms. These personal norms are crucial in driving the decision-making process towards selecting tourism destinations that adhere to circular economy principles. The study highlights the importance of incorporating circular criteria in the development of tourism destinations, not only to meet the growing demand for sustainable and circular tourism but also to support the long-term sustainability of the tourism sector. Furthermore, the creation of a unique survey instrument tailored to measure tourists' preferences for circular economy practices represents a methodological advancement. This instrument can serve as a valuable tool for future research and for practitioners seeking to gauge and respond to the evolving demands of eco-conscious tourists.

Despite its contributions, the study has several limitations. The sample, though sizeable, is limited to tourists from France, Germany, Italy, and Spain, which may not fully capture the diversity of preferences across different cultural contexts. Future research should consider including a broader range of countries to enhance the generalizability of the findings. Additionally, the cross-sectional nature of the survey limits the ability to observe changes in tourist behaviours and attitudes over time. Longitudinal studies could provide deeper insights into how these behaviours evolve in response to increasing awareness and changing environmental conditions.

Another limitation is the potential self-reporting bias inherent in survey-based research, where respondents may overstate their pro-environmental intentions due to social desirability. Incorporating behavioural observations and experimental designs in future studies could mitigate this bias and provide a more accurate measure of actual tourist behaviour.

References:

Aguilar, F.X., Cai, Z., 2010. Conjoint effect of environmental labeling, disclosure of forest of origin and price on consumer preferences for wood products in the US and UK. Ecological Economics 70, 308–316

Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.

Ajzen, I., & Driver, B. L. (1991). Prediction of leisure participation from behavioral, normative, and control beliefs: An application of the theory of planned behavior. Leisure sciences, 13(3), 185-204.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. Psychological Bulletin, 103(3), 411-423

Asmelash, A. G., & Kumar, S. (2019). Assessing progress of tourism sustainability: Developing and validating sustainability indicators. Tourism Management, 71, 67-83.

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. Journal of the academy of marketing science, 40, 8-34.

Buchanan, E.A., Hvizdak, E.E. 2009. Online survey tools: Ethical and methodological concerns of human research ethics committees. Journal of Empirical Research on Human Research Ethics. 4, 37–48.

Chan, L., & Bishop, B. (2013). A moral basis for recycling: Extending the theory of planned behaviour. Journal of Environmental Psychology, 36, 96-102.

De Groot, J. I. M., Steg, L., & Dicke, M. (2007). "Morality and reducing car use: testing the norm activation model of prosocial behavior". In F. Columbus (Ed.), Transportation research trends. New York, NY: NOVA Publishers.

Dolnicar, S., Laesser, C., Matus, K. 2009. Online versus paper format effects in tourism surveys. J. Travel Research 47, 295–316.

Dong, Z., He, C., Hu, T., & Jiang, T. (2024). Integrating values, ascribed responsibility and environmental concern to predict customers' intention to visit green hotels: The mediating role of personal norm. Frontiers in Psychology, 14, 1340491.

Evans, J.R., Mathur, A., 2005. The value of online surveys. Internet Research 15, 195–219.

Fauzi, M. A., Hanafiah, M. H., & Kunjuraman, V. (2024). Tourists' intention to visit green hotels: building on the theory of planned behaviour and the value-belief-norm theory. Journal of Tourism Futures, 10(2), 255-276.

Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). "Environmental behavior in a private-sphere context: Integrating theories of planned behavior and value belief norm, self-identity and habit". Resources, Conservation and Recycling, 148, 145-156.

Grilli G., Notaro S. (2019). "Exploring the influence of an extended theory of planned behaviour on preferences and willingness to pay for participatory natural resources management". Journal of Environmental Management, 232: 902-909.

Gstaettner A. M., Rodger K., Lee D. (2017). “Visitor perspectives of risk management in a natural tourism setting: An application of the Theory of Planned Behaviour”. Journal of Outdoor Recreation and Tourism 19, 1-10.

Gusmerotti, N. M., Carlesi, S., Iannuzzi, T., & Testa, F. (2024). “The role of tourism in boosting circular transition: a measurement system based on a participatory approach”. Journal of Sustainable Tourism, 32(5), 961-985.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. European business review, 26(2), 106-121.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). Multivariate data analysis. Upper Saddle River, NJ: Pearson

Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). Multivariate data analysis (7th ed.). Essex: Pearson Education.

Hair, J.F. Jr, Anderson, R.E., Tatham, R.L., and Black, W.C. (1998), Multivariate Data Analysis (5th ed.), Englewood Cliffs, NJ: Prentice-Hall.

Han, H., & Hyun, S. S. (2017). Drivers of customer decision to visit an environmentally responsible museum: Merging the theory of planned behavior and norm activation theory. Journal of Travel & Tourism Marketing, 34(9), 1155-1168.

Han, H., & Yoon, H. J. (2015). “Hotel customers’ environmentally responsible behavioral intention: Impact of key constructs on decision in green consumerism”. International Journal of Hospitality Management, 45, 22-33.

Han, H., (2021). “Consumer behavior and environmental sustainability in tourism and hospitality: a review of theories, concepts, and latest research”. Journal of Sustainable Tourism, 29(7), 1021-1042.

Hanza Giurea, R. (2018). Contributions Regarding the Research of the Sustainable Development in Agro-Tourism From a Circular Economy Perspective (Doctoral dissertation).

Ibrahim, H., Mariapan, M., Ai, E., Lim, L., & Bidin, S. (2022). “Theory of planned behaviour to predict responsible ecotourism: Structural equation modelling”. International Journal of Academic Research in Business and Social Sciences, 12(6), 1691-1719.

Kalimeris, A., Founda, D., Giannakopoulos, C., & Pierros, F. (2012). Long-term precipitation variability in the Ionian Islands, Greece (Central Mediterranean): climatic signal analysis and future projections. Theoretical and Applied Climatology, 109, 51-72.

Kiatkawsin, K., & Han, H. (2017). "Young travelers' intention to behave pro-environmentally: Merging the value-belief-norm theory and the expectancy theory". Tourism management, 59, 76-88.

Kline, R.B., (2016). Principles and Practice of Structural Equation Modeling. Guilfordm Publications

Klockner, C. A. (2013). "A comprehensive model of the psychology of environmental behavior e a meta-analysis". Global Environmental Change, 23, 1028-1038.

Kyriakaki, A., & Kleinaki, M. (2022). "Planning a sustainable tourism destination focusing on tourists' expectations, perceptions and experiences". GeoJournal of Tourism and Geosites, 40(1), 225–231.

Lam, T., & Hsu, C. H. (2006). Predicting behavioral intention of choosing a travel destination. Tourism management, 27(4), 589-599.

Lam, T., C. H. C. Hsu (2004). "Theory of planned behavior: Potential travelers from China", Journal of Hospitality and Tourism Research, Vol. 28, No. 4, pp463-482.

Lee, T. H., & Jan, F. H. (2018). "Ecotourism behavior of nature-based tourists: An integrative framework". Journal of Travel Research, 57(6), 792-810.

Lee, Y. K., Back, K. J., & Kim, J. Y. (2009). Family restaurant brand personality and its impact on customer's emotion, satisfaction, and brand loyalty. Journal of hospitality & tourism research, 33(3), 305-328.

Lezak, S. B., & Thibodeau, P. H. (2016). Systems thinking and environmental concern. Journal of Environmental Psychology, 46, 143-153.

Loureiro, S. M. C., Guerreiro, J., & Han, H. (2022). "Past, present, and future of pro-environmental behavior in tourism and hospitality: A text-mining approach". Journal of Sustainable Tourism, 30(1), 258-278.

Manfreda, K.L. Vehovar, V., 2002. Do mail and web surveys provide the same results? Metodološki zvezki 18, 149–169

Manniche, J., Topsø Larsen, K., Brandt Broegaard, R., & Holland, E. (2017). Destination: A circular tourism economy: A handbook for transitioning toward a circular economy within the tourism and hospitality sectors in the South Baltic Region.

Mertler, C. 2002. Demonstrating the potential for web-based survey methodology with a case study. American secondary education journal 30, 49–61.

Nimri, R., Patiar, A., & Jin, X. (2020). The determinants of consumers' intention of purchasing green hotel accommodation: Extending the theory of planned behaviour. Journal of Hospitality and Tourism Management, 45, 535-543.

Oh, H., & Hsu, C. H. (2001). Volitional degrees of gambling behaviors. Annals of Tourism research, 28(3), 618-637.

Olya, H. G., & Akhshik, A. (2019). Tackling the complexity of the pro-environmental behavior intentions of visitors to turtle sites. Journal of Travel Research, 58(2), 313-332.

Pan, J., Teng, Y. M., Wu, K. S., and Wen, T. C. (2022). Anticipating Z-generation tourists' green hotel visit intention utilizing an extended theory of planned behavior. Front. Psychol. 13:1008705.

Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. British journal of social psychology, 40(1), 79-98.

Raymond, C. M., Brown, G., & Robinson, G. M. (2011). The influence of place attachment, and moral and normative concerns on the conservation of native vegetation: A test of two behavioural models. Journal of Environmental Psychology, 31(4), 323-335.

Rodríguez, C.; Florido, C.; Jacob, M. (2020) "Circular Economy Contributions to the Tourism Sector: A Critical Literature Review". Sustainability, 12, 4338.

Rosselló, J., Becken, S., & Santana-Gallego, M. (2020). The effects of natural disasters on international tourism: A global analysis. Tourism management, 79, 104080.

Škare, M., Soriano, D. M., Porada-Rochoń, M. (2021). "Impact of COVID-19 on the travel and tourism industry", Technological Forecasting and Social Change, 163, 120469.

Sørensen, F., & Bærenholdt, J. O. (2020). "Tourist practices in the circular economy". Annals of Tourism Research, 85, 103027.

Steg, L., & De Groot, J. (2010). Explaining prosocial intentions: Testing causal relationships in the norm activation model. British journal of social psychology, 49(4), 725-743.

Stern, P. C. (1999). Information, incentives, and proenvironmental consumer behavior. Journal of consumer Policy, 22(4), 461-478.

Stern, P. C. (2000). “Toward a coherent theory of environmentally significant behavior”. Journal of Social Issues, 56(3), 407-424.

Tabachnick, B. G., & Fidell, L. S. (2007). Experimental designs using ANOVA (Vol. 724). Belmont, CA: Thomson/Brooks/Cole.

etTorres, C., Jordà, G., de Vílchez, P., Vaquer-Sunyer, R., Rita, J., Canals, V., ... & Miranda, M. Á. (2021). Climate change and its impacts in the Balearic Islands: a guide for policy design in Mediterranean regions. Regional Environmental Change, 21(4), 107.

Torres-Delgado, A., & Palomeque, F. L. (2014). Measuring sustainable tourism at the municipal level. Annals of Tourism Research, 49, 122-137.

Van Riper, C. J., & Kyle, G. T. (2014). “Understanding the internal processes of behavioral engagement in a national park: a latent variable path analysis of the value-belief-norm theory”. Journal of Environmental Psychology, 38, 288-297.

Verma, V. K., and Chandra, B. (2018). An application of theory of planned behavior to predict young Indian consumers' green hotel visit intention. J. Clean. Prod. 172, 1152–1162.

Zhang, L., Ruiz-Menjivar, J., Luo, B., Liang, Z., & Swisher, M. E. (2020). “Predicting climate change mitigation and adaptation behaviors in agricultural production: A comparison of the theory of planned behavior and the Value-Belief-Norm Theory”. Journal of Environmental Psychology, 68, 101408.