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Sustainable service ecosystems from the transformative value perspective: A study in tourism destinations

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Abstract

The aim of this study is to examine the relationship between sustainability with customer satisfaction and service experience in service ecosystems, by analyzing the moderated role of business models. A model with four variables is proposed, whereby customer satisfaction is the dependent variable, perceived sustainability of the service ecosystem is the explanatory variable, service experience is the mediator variable, and business models is the moderator variable. The model is applied in a survey of tourists. The results enable comparison of the causal model: perceived sustainability influences customer satisfaction directly and indirectly through service experience; and business model can play a moderator role since significant differences are identified in one of the three types of tourism destinations.

KEYWORDS
business models, environmental policy, S-D logic, service ecosystems, stakeholder engagement, sustainable development, transformative value

1 | INTRODUCTION

Service co-creation is a key element of S-D Logic (Chandler & Lusch, 2015; Ng & Vargo, 2018). Currently, different aspects are causing a review of its scope. On the one hand sustainability has incorporated a transformative perspective to the value provided by a service in such a way that stakeholders well-being must be taken into account (Blocker & Barrios, 2015). On the other hand, many services are provided by ecosystems that adopt different configurations when creating, delivering, and capturing value for the customer (Fehrer et al., 2018; Wieland et al., 2017). Studying sustainable service ecosystems requires researchers to make an effort to integrate diverse concepts and to evolve the new conceptual framework.

A transformative value alters the thinking that defines the reality of consumption and social structures and that seeks the well-being of individuals (Blocker & Barrios, 2015). UN sustainable development goals (SDGs) presuppose a commitment by all public and private organizations to actions aimed at ending poverty and achieving equality, dignity, and prosperity for all people, promoting societies that are more just, peaceable, and inclusive, and protecting the planet for future generations (UN, 2021). Sustainability is undoubtedly a transformative value since it goes beyond the proposals of ordinary values that seek to satisfy customers' habitual needs (Blocker & Barrios, 2015). However, the transformative approach has been little used to address the implications of service sustainability (Galeone & Sebastiani, 2021).

Moreover, today the co-creation of value across a wide range of services is generated within independent but interrelated interfirm networks: service ecosystems (Chandler & Lusch, 2015; Ng & Vargo, 2018). Some examples of service ecosystems are tourism destinations, malls, distribution channels, marketplaces, platform businesses, ports, airports, or urban economies

(Anderson & Ostrom, 2015). Service dominant (S-D) logic has focused on this phenomenon (Becker & Jaakkola, 2020; Ben Letaifa & Reynoso, 2015; Vargo & Lusch, 2016), but few studies have addressed sustainability in the context of service ecosystems (Galeone & Sebastiani, 2021). Moreover, although special issues on S-D logic have appeared in recent years, a call has gone out for further research to apply this theory at a practical level (Chandler & Lusch, 2015; Field et al., 2021; Jaakkola et al., 2015; McColl-Kennedy et al., 2015; Ng & Vargo, 2018; Vargo & Lusch, 2016, 2017).

A final element considered in this research is business models. There is considerable consensus that a business model is the way to create, deliver, and capture value for the customer (DaSilva & Trkman, 2014; Fehrer et al., 2018; Osterwalder & Pigneur, 2010). Therefore, a business model of a service ecosystem is the way to combine resources to co-create value and generate service experiences (Fehrer et al., 2018; Wieland et al., 2017). Despite its close relationship with the value proposition of service ecosystems, few studies have examined the impact of business models in the context of sustainable service ecosystems (Basile et al., 2021; Fehrer et al., 2018; Perelygina et al., 2022).

The aim of this study is to analyze the relationship between sustainability with customer satisfaction and service experience in the context of service ecosystems, by analyzing the role played by business models. The conceptual framework is S-D logic and transformative service research (TSR), and the sector under study is tourism (tourism destinations). To that end, a moderated mediation model with four variables is considered, whereby customer satisfaction is the dependent variable, perceived sustainability of the service ecosystem is the explicative variable, service experience is the mediator variable, and business models is the moderator variable. The model is applied in a survey of 1476 tourists from seven tourism destinations corresponding to three types of business models: sun and sand, urban, and rural.

This paper contribute to filling four gaps in service research. First, by analyzing sustainability in services as a transformative value and applying it to a specific case of tourism destination. TSR has been applied in an exploratory way to financial, healthcare, and social service sectors, but has been little studied in tourism (Galeone & Sebastiani, 2021). Considering sustainability as a transformative value is a novel approach in service research (Anderson & Ostrom, 2015).

Second, by examining sustainability through ecosystem perspective that has been little studied empirically (Anderson & Ostrom, 2015; Jaakkola et al., 2015; Vargo & Lusch, 2016, 2017). Besides the customer–firm dyad, a global perspective is needed to explore how service ecosystems works. This would be a response to Vargo and Lusch (2017) and Ng and Vargo's (2018) call for S-D logic to be compared more directly with practice. S-D logic is applied to this hugely important sector of the world economy that is tourism, which Field et al. (2021) and Galeone and Sebastiani (2021) believe requires greater attention from researchers.

Third, by studying the impact of transformative value in general and perceived sustainability in particular on service experience and customer satisfaction, identifying some consequences of sustainable service ecosystems, in response to the call for more research on sustainability (Field et al., 2021).

Fourth, by incorporating business models to S-D logic and empirically studying the impact of the model of value co-creation adopted by each service ecosystem (Basile et al., 2021; Fehrer et al., 2018).

The paper is structured in the following sections. First, a theoretical background is presented, where S-D logic, sustainability as transformative value, service ecosystems experience and business model literature are reviewed. Four hypotheses are put forward. Then the methodology of the empirical work based on a survey is presented. In the next section, the results and hypotheses testing are presented. Finally, theoretical contributions, practical implications and limitations and future research are elaborated.

2 | THEORETICAL BACKGROUND

2.1 | S-D logic

A service ecosystem is "a relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange" (Vargo & Lusch, 2016). An ecosystem perspective is relevant in S-D logic because it describes the relationships between the various stakeholders involved in the co-creation of service experience (Ben Letaifa, 2014). Not only is it about interrelations between firms directly involved in service provision, it also includes other agents of the community (Hammond, 2011; Viswahsthan Viswanathan, 2011).

S-D logic is fully applicable in the field of tourism destinations, which is reflected in the definition of the term: "physical space with or without administrative and/or analytical boundaries in which a visitor can spend an overnight. It is the cluster (co-location) of products and services, and of activities and experiences along the tourism value chain and a basic unit of analysis of tourism. A destination incorporates various stakeholders and can network to form larger destinations. It is also intangible with its image and identity which may influence its market competitiveness" (UNWTO, 2017). A tourism destination is therefore an ecosystem of tourism products (cultural, ecotourism, rural, adventure, health, wellness, medical, business, gastronomy, coastal, maritime, inland water, urban/city, mountain, education, sports, etc.), services (accommodation, the restaurant industry, transport, attractions, etc.), and activities and experiences involving various stakeholders.

In accordance with S-D logic, the most characteristic aspect of a service ecosystem is the existence of institutions and institutional arrangements (Vargo & Lusch, 2016). Institutions are rules, norms, and beliefs that facilitate and restrict actions, and institutional arrangements are the sum of interrelated institutions. Service ecosystems are networks of actors who gather complementary resources to create value and provide experiences (Ben Letaifa & Reynoso, 2015). S-D logic takes shape in tourism destinations through the figure of the Destination Management Organization (DMO): "the leading organizational entity which may encompass the various authorities,

stakeholders and professionals and facilitates tourism sector partnerships towards a collective destination vision. The governance structures of DMOs vary from a single public authority to a public/private partnership model with the key role of initiating, coordinating and managing certain activities such as implementation of tourism policies, strategic planning, product development, promotion and marketing and convention bureau activities" (UNWTO, 2017). Therefore, it is the governance structure that coordinates institutional arrangements and agrees on institutions.

2.2 | Sustainability as a transformative value

TSR is an emerging research area which focuses on the co-creation of well-being for individuals and society (Anderson, 2010; Darvey & Grönroos, 2019). It analyzes the relationship between services and physical and mental health, financial well-being, discrimination, marginalization, inclusion, access to basic services, literacy, quality of life, and decreased disparity among others (Anderson & Ostrom, 2015).

Transformative value is a social dimension of value creation that generates uplifting change for greater individual and collective well-being (Blocker & Barrios, 2015). Compared with the usual value, based on satisfying individuals' everyday needs, transformative value alters the thinking that defines the reality of consumption and the social structures seeking well-being (Blocker & Barrios, 2015).

Vargo and Lusch (2016) consider that value co-creation in a service ecosystem in itself conveys the improved well-being of all the actors in the network. Therefore, service ecosystem is an important phenomenon in transformative service (Galeone & Sebastiani, 2021). In this vein, sustainability, and the changes in consumption habits it implies, should be considered a transcendent or transformative value (Enquist et al., 2015; Galeone & Sebastiani, 2021).

In the case of a tourism destination, the transformative value of sustainability essentially generates well-being for residents and tourists. UNWTO (2021) defines sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities". In the specific case of host communities, the three dimensions of sustainability (economic, sociocultural, and environmental) are outlined in the 17 SDGs (UNWTO, 2021). Therefore, sustainable tourism contributes economic development, prosperity, and higher standards of living for local communities, though some negative effects like congestion, traffic, and insecurity must not be overlooked (Galeone & Sebastiani, 2021; González-Rodríguez & Díaz-Fernández, 2020; Martínez & Herrero, 2019; Rahmawati et al., 2019; Suárez-Cebador et al., 2018). In the case of visitors, it is important to note that holidays are considered a basic human right by the UNWTO. Tourism brings well-being to visitors thanks to improved mental health (lower levels of depression, stress, and anxiety, and higher levels of life satisfaction, enjoyment of work, and happiness) (Sirgy et al., 2011; Steger et al., 2006) and to the perception of the impact that tourism activity has on residents (Galeone & Sebastiani, 2021). The negative aspect of the value for visitors stems from the economic and non-economic costs they incur (Sánchez et al., 2006).

In accordance with S-D logic, it is a necessary condition that DMOs set down rules, norms, meanings, symbols, practices, and similar aides of collaboration (institutions), as well as coordination mechanisms and strategies to further the sustainability of the tourism destination. It is also a necessary condition for DMOs to invest in financial and human resources to ensure that the destination's sustainability policy progresses beyond a mere declaration of intent (Monferrer et al., 2021; Vargo & Lusch, 2016). Tourists interact with multiple services at the destination and are equally responsible for complying with institutions related with sustainability. Although the service offered to tourists is leisure, which is the basic need it aims to satisfy, the sustainable dimension of the value proposition is an increasingly important aspect of the service experience which the tourist must co-create in many ways (Field et al., 2021).

Therefore, the sustainability of the service ecosystem considered as a transformative value has a direct and positive influence on customer satisfaction and well-being. The influence on customer satisfaction is direct and positive when customer expectations are met. Iniesta-Bonillo et al. (2016) consider that, despite the great importance of this issue, few studies have empirically contrasted the relationship between perceived sustainability and customer satisfaction. The authors identified a direct relation between perceived sustainability of the tourism destination and customer satisfaction, and an indirect relation through perceived value. In a qualitative study of tourism destinations, Galeone and Sebastiani (2021) defended a direct and positive relation between perceived sustainability and customer satisfaction, by adopting a transformative value approach.

> **Hypothesis 1.** Perceived sustainability of the service ecosystem has a direct and positive influence on customer satisfaction.

2.3 | Service ecosystem experience

The importance of the service experience has been highlighted by S-D logic through establishing the experiential nature of value (Vargo & Lusch, 2008). Becker and Jaakkola (2020) say that customer experience is the non-deliberate and spontaneous (cognitive, affective, physical, sensorial, and social) response to an offer throughout the customer journey. Klaus and Maklan (2012) state that the roots of the construct lie in service quality: service quality is eminently cognitive, while service experience incorporates personal value and affects to customer evaluation.

Co-creation perspective is a basic aspect of service experience since the interactions between the customer and a product/firm are what provoke a personal reaction of an individual (Gentile et al., 2007). It is an evaluation process of the service attributes (grouped in dimensions), which generate a higher order abstraction (service experience) that influences behavioral intentions (marketing outcomes) (Klaus & Maklan, 2012).

Service experience research has been broadened to incorporate service ecosystem experience as a process that depends on many actors, times, touchpoints, or meanings (Becker & Jaakkola, 2020; Chandler & Lusch, 2015; Kandampully et al., 2018; McColl-Kennedy et al., 2015). In this sense, a service must be seen as a process that facilitates heterogeneous and unique experiences, personalized according to the skills, wishes, or motivations of all the actors involved (Chandler & Lusch, 2015).

This vision is outlined in the service experience definition that encompasses the multiple dimensions of the co-creation of a service: "service experience co-creation occurs when interpersonal interaction with other actors in or beyond the service setting influences an actor's subjective response to or interpretation of the elements of the service. Service experience co-creation may encompass lived or imaginary experiences in the past, present, or future, and may occur in interaction between the customer and service provider(s), other customers, and/or other actors" (Jaakkola et al., 2015).

From our point of view, service experience is a mediator variable between transformative value and customer satisfaction. Because it is an important dimension of the value proposition, the sustainability of the service ecosystem has a direct and positive influence on service experience (Becker & Jaakkola, 2020). For example, at a tourism destination, visitors will enjoy their service experience and will interact with sustainability dimensions at the touchpoints of the customer journey. All the moments of truth of value co-creation generate service experience, hence there is a direct and positive relation between value and service experience (Helkkula, 2011; Helkkula & Kelleher, 2010). But understanding the experience of service co-creation is key to understanding value co-creation, owing to the inherent circularity of both phenomena (Vargo & Lusch, 2016). In the case of tourism, given that the visit to a destination is usually an isolated experience, the transformative value (sustainability) is considered an antecedent of service experience.

> **Hypothesis 2.** Perceived sustainability of the service ecosystem has a direct and positive influence on service experience.

As for the relationship between service experience and customer satisfaction Becker and Jaakkola (2020) consider that satisfaction is an evaluative outcome of customer experience. Klaus and Maklan (2012) believe that service experience should have the same consequences as service quality and should therefore be a direct and positive antecedent of customer satisfaction. They believe that the relationship between service experience and customer satisfaction is not yet well established due to the recent conceptualization of service experience, although various authors have proposed a direct and positive relationship (Bilgihan et al., 2014; Brakus et al., 2009; Kandampully et al., 2018; Martin et al., 2015). Most empirical studies have focused on individual services because, as far as we know, there are no existing studies that address this relationship from the perspective of the service ecosystem. Generating customer satisfaction involves an institutional coordination effort and resource pooling for the service ecosystem to co-create value for customers and generate positive service experiences. It can therefore be postulated that service experience directly and positively influences customer satisfaction. In this vein, in a qualitative study of tourism destinations, Galeone and Sebastiani (2021) identified a direct and positive relation between authentic experience and customer satisfaction.

> **Hypothesis 3.** Service ecosystem experience directly and positively influences customer satisfaction.

2.4 | Business model as a moderator

Despite the efforts made in recent years, the concept of business models is still vague (Basile et al., 2021; DaSilva & Trkman, 2014; Perelygina et al., 2022; Reinhold et al., 2018; Scarpellini, 2022). The management literature considers that the core concept of business models is the combination of resources that through transactions generate value for firms, customers, and other stakeholders (Basile et al., 2021; DaSilva & Trkman, 2014; George & Bock, 2011; Johnson, 2010). Osterwalder and Pigneur (2010) defined business models as combinations of resources to create, deliver, and capture value for the customer.

Traditionally, business model conceptualizations have paid little attention to the reality of service ecosystems and the growing creativity between the actors (Fehrer et al., 2018; Reinhold et al., 2018; Wieland et al., 2017). From the S-D logic perspective, the business models of a service ecosystem are considered an important tool for innovation processes in the network and for market formation and explain a specific way of mixing the resources of the ecosystem (knowledge, skills, abilities, and human and financial assets) to create value (Fehrer et al., 2018; Wieland et al., 2017). Wieland et al. (2017) define business models as "dynamic assemblages of institutions that, through the performative practices of actors, reciprocally link and influence technological and market innovation and contribute to the viability of these actors and the viability of the service ecosystems of which they are a part".

Another debatable aspect is the identification of typologies of business models, an issue that is still very much open. Perelygina et al. (2022) regard them as characterizations that capture the essence of the cause-and-effect relationships between customers, services, and money. From the perspective of S-D logic and service ecosystem, Fehrer et al. (2018) establish three different network structures according to academic research traditions: firm-centered networks (value chain models), solution networks (B2B value creation in networks), and open networks (platform business models). In the specific field of tourism, Reinhold et al., (2018) proposed four DMO business models based on the degree of configurational complexity and the degree of hierarchical relationships: destination factory, destination service center, value orchestrator, and value enabler. A sufficient base to generalize a business model typology is still lacking. For that reason, Reinhold et al., (2018) believe that any proposed typology must be

accompanied by a conceptual framework of reference and the objective of the study.

S-D logic regards the value proposition as the core of any service ecosystem (Vargo & Lusch, 2016, 2017), an aspect that coincides with the mission of business models to create, deliver, and capture value for the customer (Osterwalder & Pigneur, 2010). This tourism destination-focused study uses the value proposition of a tourism destination as a criterion for identifying business models. UNWTO (2017) defined a tourism product as "a combination of tangible and intangible elements, such as natural, cultural, and man-made resources, attractions, facilities, services and activities around a specific center of interest which represents the core of the destination marketing mix and creates an overall visitor experience including emotional aspects for the potential customers. A tourism product is priced and sold through distribution channels and it has a life-cycle". Taking the definition of tourism product and tourism destination as a reference, business models are the different ways in which tourism destinations create, deliver, and capture value for the customer in a sustainably viable way, by offering tourism products and services. The physical space (place) and tourism products they commercialize (value proposition) make it possible to identify different types of business models of tourism destination (e.g., sun and sand, rural and urban).

Thus, multiple actors co-create institutions through cooperation and competition in environments of imperfect institutional arrangements, implying that each business model has different and unique characteristics that give rise to different and unique value propositions (Wieland et al., 2017). From our perspective, it can be hypothesized that business models is a moderator variable of the mediation model put forward. Statistically the moderator effect occurs when the size and/or direction between two variables is conditioned by a third variable, that is, when associations between variables vary between situations and groups of people (Aguinis, 2004). Given that business models are different combinations of resources for creating, delivering, and capturing value for the customer (Osterwalder & Pigneur, 2010; Perelygina et al., 2022), it can be hypothesized that these differences can affect the relationship between value, service experience, and customer satisfaction.

Hypothesis 4. Business model of service ecosystem moderate the mediation model.

3 | METHODOLOGY

3.1 | Sample selection and data collection

Before beginning the fieldwork and following the recommendations of Ye et al. (2007) on design questionnaires to counter self-generated validity, careful attention was paid to the order and the use of terminology and language that respondents would easily understand. Additionally, care was taken not to present the constructs in the order set out in our hypotheses (antecedent → mediating variable → consequence). Next, the questionnaire was translated from English into Spanish following Brislin's (1970) back-translation method, which has been widely used in the specialized literature, to ensure the Spanish version was consistent with the original English version. Finally, a pretest involving five tourism industry experts and a group of 25 tourists was carried out in September 2020.

Given the health restrictions owing to the Covid-19 pandemic that prevented in-person interviews at the destination, an electronic version of the questionnaire was prepared. It was distributed through the social networks Facebook and Instagram between November 2020 and March 2021, and 1476 valid responses were obtained. Respondents covered three types of tourist destination and up to seven different Spanish tourism destinations: 400 (27.2%) sun and sand (Peñíscola, Benidorm), 436 (29.5%), urban (Barcelona, Valencia), and 640 (43.4%) rural (Morella, La Rioja, and Asturias). Participation was conditioned by the individual spending an overnight at any of the chosen destinations in the last 5 years. An analysis of the primary data provided the main characteristics of the sample for the tourist profile (Table 1).

3.2 | Measurement instruments

All the scales used to measure the constructs of service experience, sustainability perception, and customer satisfaction correspond exactly to their theoretical definitions. All had also been revised by other authors, tested in previous studies, and adjusted in our study to adapt to the service ecosystem context. All the questionnaire items were valued on a 5-point Likert scale, where 1 represents totally disagree and 5, totally agree. Table 2 summarizes the sources of the measurement scales used in the study.

3.3 | Validity and scale reliability

Confirmatory factor analysis (CFA) was performed using structural equation modeling (SEM) to refine the scales with version 6.1 of the EQS multivariate software package. The maximum likelihood approach was used to estimate the parameters.

Following Hair et al. (Hair Jr. et al., 2006), a model development strategy is considered. To improve initial models, a refinement process was conducted, which involved eliminating less relevant indicators based on the structures of the latent variables assumed for each construct. Jöreskog and Sörbom (1996) recommended examining the estimation parameters. The indicators that did not satisfy the strong convergence condition were eliminated, that is, those having individual standardized coefficients (λ) lower than 0.6 and an average standardized factor loading of less than 0.7 (Steenkamp & Van Trijp, 1991; Hair Jr. et al., 2006). Compliance with the weak convergence condition was verified (Steenkamp & Van Trijp, 1991) by analyzing the significance of the factor regression coefficients between indicators and their latent variables. To do this, the Student t-value was considered

TABLE 1 Tourist classification data

Tourist classification data						
Gender	Men			Women		
	36.3%			63.7%		
Age (Mean: 37)	18–29	30–39	40–49	50–59	60–69	70 or more
	36.3%	22.0%	20.5%	13.1%	6.7%	8.1%
Occupation	Employee	Retired	Homemaker		Unemployed	Students
	64.1%	6.1%	4.1%		6.2%	19.5%
Studies	Primary educ.	Secondary educ.		High School	University educ.	
	2.9%	7.3%		34.2%	55.6%	

TABLE 2 Scales used

Variables	References	Items
Service experience	Klaus and Maklan (2012)	19
Peace of mind		6
Moments of truth		5
Output focus		4
Product experience		4
Sustainability perception	Suárez-Cebador, Rubio-Romero, Pinto-Contreiras, and Gemar (Suárez-Cebador et al., 2018); Iniesta-Bonilla, Sánchez-Fernández, and Jiménez-Castillo (Iniesta-Bonillo et al., 2016)	14
Economic sustainability		4
Sociocultural sustainability		5
Environmental sustainability		5
Customer satisfaction	Moliner, Monferrer, and Estrada (Moliner et al., 2019)	5

by imposing the maximum condition ($t > 2.58$; $P = 0.01$). Following this process, eight indicators were removed: EXP1.3, EXP3.3, EXP4.1, EXP4.3, SUS1.1, SUS1.2, SUS2.4, and SUS2.5. Finally, the evolution of the main model fit measurements was monitored as each indicator was eliminated.

Several verification tests were conducted to identify whether the above refinement tests negatively affected scale reliability (Table 3). For internal consistency, Cronbach's alpha ($\alpha > 0.7$), construct composite reliability (CR >0.7), and analysis of variance extracted (AVE >0.5) were tested (Churchill, 1979; Nunnally, 1979; Fornell & Larcker, 1981).

The analysis of convergent and discriminant validity follows. Convergent validity was tested by returning to the CFA performed at the start of the process, and by confirming the high estimated value and significance of the correlations between the dimensions in the scales. Table 4 shows the discriminant validity of the constructs considered assessed by AVE (Fornell & Larcker, 1981) and by confident interval tests (Anderson & Gerbing, 1988). In relation to the first test, when the square root of the AVE between each pair of factors is higher than the estimated correlation between those factors, as occurs here, the discriminant validity is ratified. The confidence interval test is based on the verification that the value of 1 does not appear within the confidence interval calculated for each pair of latent factors, taking into account the covariance of ±2 *SE* around the estimated value obtained in the final CFA. Once again, the results confirm the discriminant validity (Figure 1).

3.4 | Complementary data analysis

Further tests were also carried out. First, the variance inflation factor among the latent variables in the proposed model verified the absence of any signs of multicollinearity. The results, with values between 1.741 and 3.137 (considerably lower than the maximum value of 10), suggested multicollinearity was not a problem in the study (Diamantopoulos & Siguaw, 2006; Kock, 2015). Second, a t-test of independent means on the dimensions of the variables in the model was performed, using the first 45 and last 45 respondents. The absence of non-response bias (Armstrong & Overton, 1977) was confirmed because no significant differences between these respondents at the 0.05 level were found. Third, the Harman test to assess the possibility of common method variance bias was used (Harman, 1976). The test assumes that, if this bias exists, from a factor analysis a single factor should be expected to accumulate most of the covariance of independent and dependent variables (Podsakoff & Organ, 1986). Following Podsakoff et al. (2003), Friedrich et al. (2009), and MacKenzie and Podsakoff (2012), a factorial analysis was carried out on the indicators resulting from refining the process using principal component analysis (Velicer & Jackson, 1990), in which the unrotated factor solution was examined. The results of the factorial analysis revealed several factors with eigenvalues greater than 1. These factors explain 73.653% of the variance among the 30 items, and the first of the factors accumulates 35.903%. Hence, because several factors are identified, and the first factor does not accumulate

TABLE 3 Summary of the results after factor, reliability, and validity analyses.

Items	Factor loads	*t*-value
Service experience (CR = 0.96; AVE = 0.87)		
Peace of mind (α = 0.867; CR = 0.87; AVE = 0.57)	0.934	27.676*
EXP1.1: During planning, booking, and staying, everyone showed they knew what they were doing.	0.685	Fixed
EXP1.2: During planning, booking, and staying, the procedures were easy to carry out	0.685	24.350*
EXP1.3: Everything has been so easy at this destination that I would not mind coming back	Deleted	
EXP1.4: During planning, booking, and staying, everyone cared about me	0.799	28.009*
EXP1.5: During planning, booking, and staying I felt that everything flowed easily	0.843	29.367*
EXP1.6: All the advice I received during planning, booking, and staying was objective and independent	0.748	26.400*
Moments of truth (α = 0.875; CR = 0.88; AVE = 0.59)	0.998	35.812*
EXP2.1: Everyone at this destination was flexible in dealing with me and cared about my needs	0.791	Fixed
EXP2.2: During planning, booking, and staying they kept me informed at all times	0.792	34.004*
EXP2.3: During the reservation and the stay, I was sure that my money was well spent	0.798	34.359*
EXP2.4: At this destination there were good people: they listened to me, they were polite, and they made me feel comfortable	0.739	31.124*
EXP2.5: When something went wrong during the reservation and the stay, they solved it correctly	0.712	29.680*
Output focus (α = 0.833; CR = 0.84; AVE = 0.63)	0.993	38.117*
EXP3.1: During the reservation and the stay, they made things very easy for me. I will consider them again in the future	0.829	Fixed
EXP3.2: The processes associated with the reservation and the stay turned out to be as agile as I expected	0.790	35.893*
EXP3.3: This destination generated more confidence in me than other destinations visited previously	Deleted	
EXP3.4: The people at this destination showed empathy and understood my concerns	0.766	34.348*
Product experience (α = 0.805; CR = 0.81; AVE = 0.69)	0.793	24.278*
EXP4.1: At this destination I had a wide variety of offers to choose from (leisure, gastronomy, accommodation, culture, etc.)	Deleted	
EXP4.2: It was important for me to receive information about the different options that the destination offered	0.742	Fixed
EXP4.3: It was important for me to compare the different options to make the best decisions	Deleted	
EXP4.4: In the event of need, I felt that I could count on someone to help me	0.909	29.206*
Sustainability perception (CR = 0.94; AVE = 0.85)		
Economic sustainability (α = 0.701; CR = 0.72; AVE = 0.57)	0.985	27.322*
SUS1.1: At this destination, the economic impact of tourism seemed to be important	Deleted	
SUS1.2: The infrastructures and basic services of this destination were good	Deleted	
SUS1.3: Local products were sold at the establishments	0.782	Fixed
SUS1.4: Staff seemed well trained and prepared	0.722	24.099*
Sociocultural sustainability (α = 0.843; CR = 0.85; AVE = 0.66)	0.893	27.568*
SUS2.1: At this destination, you could tell they were committed to social projects	0.730	Fixed
SUS2.2: The protection and conservation of heritage were promoted	0.852	31.086*
SUS2.3: The cultural and social development of the local community was promoted	0.844	30.845*
SUS2.4: There was no employment discrimination based on gender, race, nationality, etc.	Deleted	
SUS2.5: Infrastructures had been adapted for people with disabilities	Deleted	
Environmental sustainability (α = 0.858; CR = 0.86; AVE = 0.55)	0.877	29.670*
SUS3.1: At this destination, the environment was respected and cared for	0.789	Fixed
SUS3.2: Saving energy and water was promoted	0.795	32.023*
SUS3.3: Garbage and waste were reduced, reused, and recycled	0.733	29.114*
SUS3.4: The level of pollution and odors at this destination was good	0.671	26.282*
SUS3.5: Ecological products were used	0.711	28.109*
Customer satisfaction (α = 0.903; CR = 0.91; AVE = 0.66)		
SAT1: My expectations about this destination were met	0.820	37.536*

TABLE 3 (Continued)

Items	Factor loads	*t*-value
SAT2: I was satisfied with the services (accommodation, food, attractions) at this destination	0.810	36.844*
SAT3: The price corresponded to the quality offered	0.739	32.260*
SAT4: My feelings towards this destination were very positive	0.849	39.576*
SAT5: Overall, I was satisfied with this trip	0.838	38.831*

Note: Fit of the model: $\chi^2/df = 1538.751/395 = 3.895$; NFI = 0.922; NNFI = 0.935; IFI = 0.941; CFI = 0.941; RMR = 0.034; RMSEA = 0.044.
Abbreviations: AVE, average variance extracted; CR, composite reliability; IR, individual reliability.
*$p < 0.001$.

TABLE 4 Scale discriminant validity

		1	2	3
1.	Service experience	0.93		
2.	Sustainability perception	0.68* [0.65;0.72]	0.92	
3.	Customer satisfaction	0.72* [0.69;0.75]	0.65 [0.62;0.69]*	0.81

Note: Below the diagonal: correlation estimated between the factors. Diagonal: square root of AVE.
*$p < 0.05$.

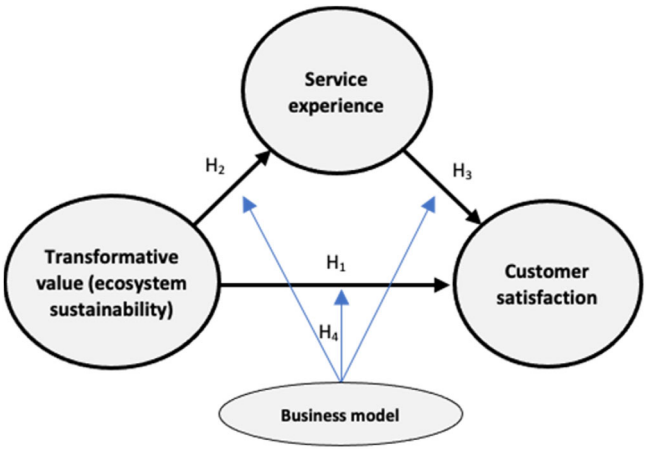

FIGURE 1 Moderated mediation model [Colour figure can be viewed at wileyonlinelibrary.com]

most of the variance, a substantial part of the common method variance bias seems to be absent (Friedrich et al., 2009; MacKenzie & Podsakoff, 2012; Podsakoff et al., 2003).

4 | ANALYSIS AND FINDINGS

4.1 | Mediation model

Moderation and mediation analysis are two techniques that facilitate the study of when and why two variables are interrelated. Mediation analysis defines direct and indirect effects in terms of regression coefficients (Baron & Kenny, 1986). Moderation occurs when the magnitude and/or direction between the variables is conditioned by a third variable, that is, when the associations between variables vary between situations or groups of people (Aguinis, 2004). Integrating both effects into a single model (moderated mediation model) is useful for evaluating whether the direct and indirect effects are moderated by another variable (Edwards & Konold, 2020).

The covariance matrix derived from the process of debugging the scales carried out in the previous section is presented in Table 5.

Based on this data the hypotheses were also tested with the R software (Lavaan package) using covariance-based structural equation models (SEM), which enabled the simultaneous exploration of a series of dependence relationships (Hair et al. Hair Jr. et al., 2006). Figure 2 shows the step diagram of the resulting relationship model after specification and identification.

The results obtained for each hypothesis proposed in the model (Table 6) show sustainability emerging as a determining factor of customer satisfaction (Hypothesis 1: $\lambda = 0.294$, $t = 9.188$). An indirect effect is also contrasted through service experience (0.41).

These results were also supported by the review of the R^2 obtained in testing the model. Following Hair et al. (Hair Jr. et al., 2006) rule of thumb that R^2 values of 0.75, 0.50, and 0.25 are substantial, moderate, or weak, respectively, the explanatory power of the model in its final dependent variable, customer satisfaction, achieves a moderate level (R^2: 0.64) (Figure 3).

4.2 | Moderated mediation model: Multigroup analysis

To study the moderator effect of business model, multigroup analysis is used, which is appropriate when the moderator variable is categorical (MacCallum et al., 2002). Seven tourism destinations corresponding to three business model typologies have been chosen: sun and sand, urban, and rural. These three typologies of tourism destination are selected because value proposition has been chosen as a criterion for identifying business models.

TABLE 5 Covariance matrix for the variables ($N = 1476$)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	EXP1.1	0.652																													
2	EXP1.2	0.373	0.556																												
3	EXP1.4	0.402	0.334	0.834																											
4	EXP1.5	0.354	0.363	0.492	0.629																										
5	EXP1.6	0.347	0.312	0.502	0.433	0.787																									
6	EXP2.1	0.355	0.321	0.517	0.440	0.510	0.769																								
7	EXP2.2	0.385	0.355	0.537	0.476	0.506	0.542	0.866																							
8	EXP2.3	0.342	0.312	0.430	0.415	0.405	0.433	0.511	0.704																						
9	EXP2.4	0.320	0.270	0.391	0.371	0.371	0.408	0.415	0.437	0.694																					
10	EXP2.5	0.343	0.312	0.450	0.399	0.455	0.476	0.493	0.443	0.397	0.879																				
11	EXP3.1	0.343	0.111	0.472	0.435	0.404	0.454	0.491	0.481	0.435	0.472	0.695																			
12	EXP3.2	0.342	0.344	0.422	0.406	0.387	0.422	0.466	0.418	0.361	0.416	0.455	0.629																		
13	EXP3.4	0.303	0.272	0.454	0.395	0.400	0.464	0.460	0.431	0.486	0.436	0.458	0.391	0.763																	
14	EXP4.2	0.258	0.223	0.380	0.354	0.340	0.363	0.368	0.356	0.344	0.351	0.354	0.320	0.413	0.847																
15	EXP4.4	0.319	0.270	0.490	0.425	0.421	0.494	0.478	0.444	0.420	0.448	0.464	0.398	0.518	0.587	0.893															
16	SUS1.3	0.193	0.220	0.292	0.255	0.288	0.278	0.324	0.276	0.259	0.269	0.251	0.264	0.286	0.262	0.316	1.005														
17	SUS1.4	0.244	0.211	0.346	0.309	0.308	0.331	0.336	0.319	0.335	0.308	0.320	0.285	0.384	0.307	0.375	0.407	0.678													
18	SUS2.1	0.199	0.184	0.334	0.256	0.286	0.359	0.377	0.292	0.266	0.336	0.284	0.273	0.363	0.311	0.391	0.504	0.417	1.091												
19	SUS2.2	0.240	0.206	0.317	0.265	0.286	0.324	0.328	0.320	0.320	0.307	0.293	0.269	0.352	0.345	0.354	0.518	0.413	0.597	0.944											
20	SUS2.3	0.206	0.204	0.295	0.248	0.269	0.308	0.323	0.279	0.263	0.311	0.253	0.270	0.308	0.283	0.319	0.538	0.385	0.612	0.695	0.933										
21	SUS3.1	0.252	0.200	0.356	0.284	0.325	0.342	0.360	0.341	0.351	0.338	0.331	0.303	0.391	0.332	0.402	0.427	0.412	0.515	0.575	0.497	0.914									
22	SUS3.2	0.211	0.165	0.347	0.274	0.314	0.328	0.352	0.286	0.277	0.331	0.269	0.265	0.340	0.310	0.370	0.426	0.381	0.592	0.503	0.501	0.611	1.051								
23	SUS3.3	0.253	0.194	0.334	0.292	0.299	0.299	0.328	0.299	0.313	0.313	0.277	0.295	0.349	0.333	0.379	0.414	0.376	0.529	0.479	0.463	0.544	0.674	1.079							
24	SUS3.4	0.258	0.233	0.307	0.269	0.323	0.327	0.339	0.307	0.314	0.336	0.293	0.299	0.350	0.240	0.306	0.424	0.345	0.401	0.436	0.410	0.528	0.497	0.477	1.002						
25	SUS3.5	0.210	0.151	0.337	0.247	0.297	0.344	0.340	0.250	0.235	0.309	0.261	0.260	0.297	0.252	0.317	0.426	0.329	0.589	0.466	0.481	0.518	0.666	0.599	0.560	1.145					
26	SAT1	0.212	0.230	0.287	0.296	0.281	0.298	0.326	0.313	0.274	0.303	0.302	0.288	0.309	0.276	0.301	0.317	0.268	0.266	0.322	0.321	0.289	0.264	0.264	0.315	0.252	0.621				
27	SAT2	0.230	0.205	0.301	0.299	0.282	0.303	0.305	0.338	0.312	0.319	0.351	0.296	0.333	0.302	0.340	0.256	0.285	0.253	0.294	0.276	0.307	0.271	0.275	0.277	0.227	0.405	0.564			
28	SAT3	0.236	0.224	0.345	0.307	0.340	0.356	0.345	0.376	0.298	0.370	0.349	0.310	0.356	0.295	0.338	0.295	0.282	0.310	0.307	0.316	0.297	0.307	0.288	0.337	0.320	0.414	0.402	0.750		
29	SAT4	0.219	0.221	0.271	0.292	0.282	0.290	0.307	0.322	0.280	0.296	0.293	0.294	0.305	0.260	0.292	0.304	0.258	0.238	0.284	0.278	0.292	0.266	0.260	0.317	0.245	0.419	0.384	0.404	0.589	
30	SAT5	0.201	0.205	0.265	0.261	0.248	0.250	0.284	0.302	0.293	0.244	0.289	0.247	0.295	0.245	0.268	0.253	0.267	0.215	0.266	0.248	0.277	0.227	0.242	0.254	0.207	0.376	0.342	0.361	0.408	0.489

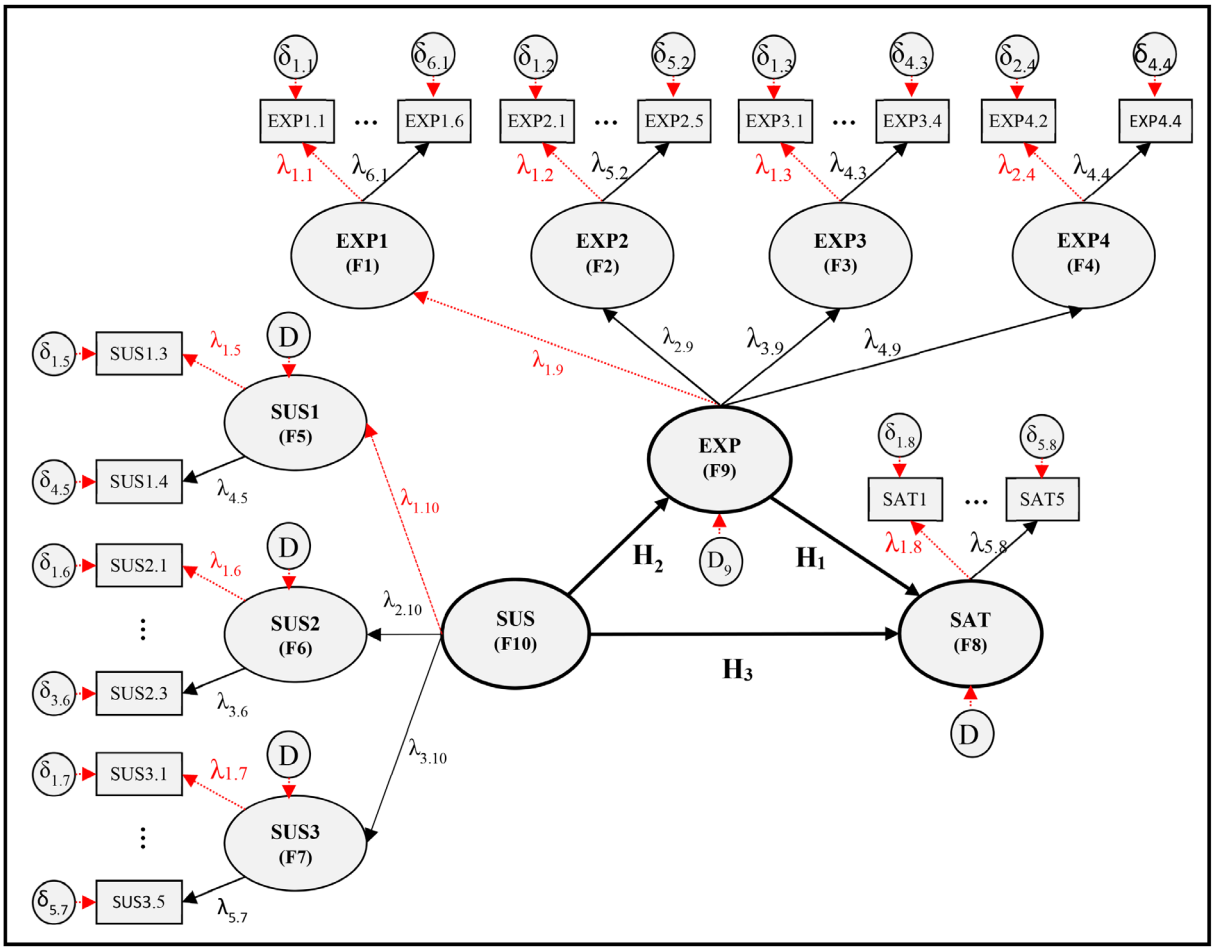

FIGURE 2 Structural equation model diagram [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 6 Summary results of the structural model: Global analysis

Hypothesis	Path	Parameter	*t*-sig	Result
Hypothesis 1	Sustainability perception → Customer satisfaction	0.294	9.188*	Supported
Hypothesis 2	Sustainability perception → Service Experience	0.734	24.821*	Supported
Hypothesis 3	Service experience → Customer satisfaction	0.559	16.597*	Supported
Indirect effect sustainability → Customer satisfaction = 0.41 Total effect sustainability → Customer satisfaction = 0.70				

Note: Fit of the model: χ^2/df = 1520.209/394 = 3.86; NFI = 0.996; NNFI = 0.997; IFI = 0.997; CFI = 0.997; RMR = 0.036; RMSEA = 0.045.
*$p < 0.001$.

Multigroup analysis begins with the estimation of three models: (1) model 1 (configurational model): the same mediator model is imposed on three groups; (2) model 2 (weak invariance): the same mediator model but factor loadings are constrained to be equal across groups; and (3) model 3 (strong invariance): the same mediator model but factor loadings, means of the latent variables, and intercepts are constrained to be equal across groups (Table 7).

The adjustment indices are good for the three models. To analyze whether there are between-group differences, the chi-squares of the configurational model are compared (Model 1) to the chi square for the models in which the paths were constrained in the groups. Two ANOVA tests emerge: the first test compares model 1 with model 2, and the second compares model 1 with model 3. Because the two *p*-values are significant, it may be concluded that the configurational model (model 1) is supported by this dataset (Table 8).

Therefore, the model in which the paths were estimated separately and freely in the three groups is the one that best adapts to the data: the loadings of the factors, the means of the latent variables, and the intercepts are not the same in the groups. These results confirm the moderator role of the business model of the service ecosystem based on its value proposition (Table 9).

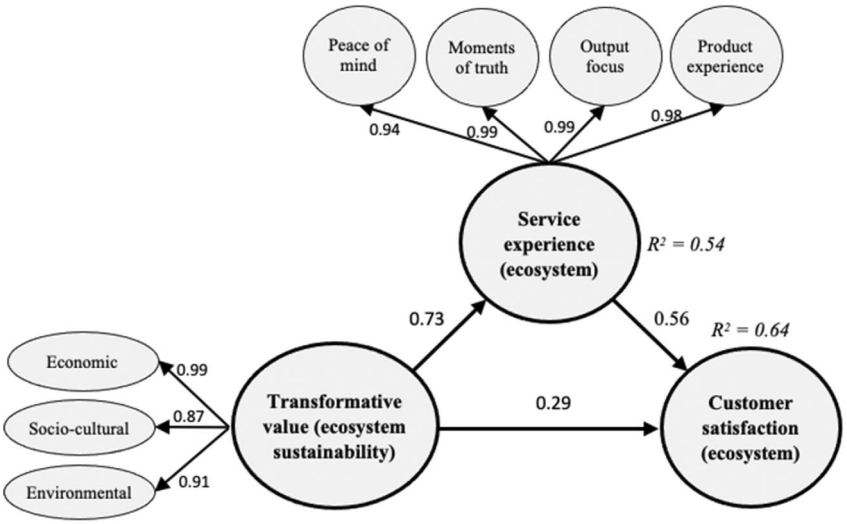

FIGURE 3 Results of the structural model: Global analysis. Fit of the model: χ^2/df = 1520.209/394 = 3.86; NFI = 0.996; NNFI = 0.997; IFI = 0.997; CFI = 0.997; RMR = 0.036; RMSEA = 0.045.

	Chi square	Df	*p*-value	RMR	RMSA	CFI
Model 1	3211.649	1188.000	0.000	0.049	0.060	0.927
Model 2	3329.955	1242.000	0.000	0.059	0.060	0.924
Model 3	3818.596	1302.000	0.000	0.096	0.064	0.909

TABLE 7 Free model versus constrained models in multigroup analysis.

	Df	AIC	BIC	Chi sq.	Chi sq. diff.	Df diff.	Pr (>Chi sq.)
Model 1	1188	91,111	92,670	3211.6			
Model 2	1242	91,121	92,397	3330.0	181.31	54	1.043–06 ***
Model 3	1305	91,490	92,450	3818.6	606.95	114	<2.2e-16 ***

Note: Signif. codes: 0 "***" 0.001 "**" 0.01 "*" 0.05 "." 0.1 " " 1.

TABLE 8 ANOVA multigroup analysis

As for the values of the parameters in the three groups, the urban tourism model behaves differently from the others. Destinations that base their value proposition on a sun and sand or rural tourism model stand out because the direct effect of perceived sustainability on customer satisfaction is significantly higher (0.27 in sun and sand, and 0.27 in rural tourism). Regarding the mediator role of service experience, the indirect effect on these two business models is also significantly higher (0.37 in sun and sand, and 0.36 in rural tourism). The total effect is 0.64 in sun and sand, and 0.63 in rural tourism.

In the urban destination model, the direct effect of perceived sustainability on customer satisfaction is significantly lower (0.24), the same as the indirect effect through service experience (0.33). The total effect is 0.57 (Figure 4).

Therefore, the influence of perceived sustainability on customer satisfaction is greater in tourism destination business models with a value proposition based on sun and sand and rural tourism. However, in urban destinations, the relationship between both variables is lower (but also significant). It is not easy to find an explanation, owing to the broad variety of variables that distinguish different destinations. Nevertheless, an important differential question is that tourism activity carries greater weight in the economic activity of sun and sand and rural destinations (Iniesta-Bonillo et al., 2016). Urban destinations, on the other hand, are much more diversified, so tourists fail to perceive the extent that the influence of their commitment to sustainability can have on the well-being of local residents.

5 | CONCLUSIONS AND DISCUSSION

5.1 | Theoretical contributions

The objective of this research is to analyze the relationship between perceived sustainability, customer satisfaction, and service experience in the context of the service ecosystems, by analyzing the moderator role of business models. This study has focused on tourism destinations as an example of service ecosystems. More specifically, a moderated mediation model between perceived sustainability (transformative value) and customer satisfaction has been considered, the

TABLE 9 Summary results of the structural model: Multigroup analysis

Sun and beach destination ecosystem				
Hypothesis	**Path**	**Parameter**	***t*-sig**	**Result**
Hypothesis 1	Sustainability perception → Customer satisfaction	0.270	7.451*	Supported
Hypothesis 2	Sustainability perception → Service Experience	0.703	16.510*	Supported
Hypothesis 3	Service experience → Customer satisfaction	0.522	13.855*	Supported
Indirect effect sustainability → Customer satisfaction = 0.37 Total effect sustainability → Customer satisfaction = 0.64				
Urban destination ecosystem				
Hypothesis	**Path**	**Parameter**	***t*-sig**	**Result**
Hypothesis 1	Sustainability perception → Customer satisfaction	0.244	7.451*	Supported
Hypothesis 2	Sustainability perception → Service experience	0.632	16.510*	Supported
Hypothesis 3	Service experience → Customer satisfaction	0.524	13.855*	Supported
Indirect effect sustainability → Customer satisfaction = 0.33 Total effect sustainability → Customer satisfaction = 0.57				
Rural destination ecosystem				
Hypothesis	**Path**	**Parameter**	***t*-sig**	**Result**
Hypothesis 1	Sustainability perception → Customer satisfaction	0.266	7.451*	Supported
Hypothesis 2	Sustainability perception → Service Experience	0.692	16.510*	Supported
Hypothesis 3	Service experience → Customer satisfaction	0.521	13.855*	Supported
Indirect effect sustainability → Customer satisfaction = 0.36 Total effect sustainability → Customer satisfaction = 0.63				

Note: Fit of the model: χ^2/df = 3211.649/1188 = 2.703; NFI = 0.889; NNFI = 0.919; IFI = 0.927; CFI = 0.927; RMR = 0.049; RMSEA = 0.060.
*$p < 0.001$.

mediator variable being service experience and the moderator variable being the business model.

The results show an intense relationship between perceived sustainability and customer satisfaction, both directly and indirectly through service experience. Therefore, the hypotheses of the mediation model are fulfilled. The relationship between perceived sustainability and customer satisfaction in a service ecosystem is coherent with previous studies by Iniesta-Bonillo et al. (2016) and Galeone and Sebastiani (2021). The contribution of this study lies in regarding service experience as a mediator variable, an aspect that is justified theoretically through S-D logic and empirically by the findings of this study.

A second contribution of this work is the importance of business models in sustainable service ecosystems, justified theoretically through S-D logic-based studies by Wieland et al. (2017), Fehrer et al. (2018), Reinhold, Beritelli et al.,(2018), and Reinhold, Zach et al., (2018). At an empirical level, multigroup analysis demonstrates the existence of a moderated mediation of the business model based on the value proposition of the tourism destination (urban destinations show different behavior from sun and sand and rural destinations). In the three business models of tourism destinations, the economic contribution is the most relevant dimension of perceived sustainability, followed by the environmental and sociocultural dimensions. Perceived sustainability has a direct impact on customer satisfaction and an indirect impact through service experience, because it is linked to higher values beyond the ordinary needs of the consumer (Blocker & Barrios, 2015), and these links can be moderated by business models based on value propositions.

These findings do not contradict the conclusions reached by Iniesta-Bonillo et al. (2016), whereby the restricted model of the multigroup analysis of two tourism destinations was preferred to the free model (two groups). In this study, the sun and sand and rural business models showed no differences, whereas that of urban destination revealed different behaviors. Therefore, it can be concluded that business models based on the value proposition must be considered in analyses since they may give rise to differences in perceived sustainability.

A third contribution, from the perspective of the application of S-D logic to tourism destinations, is that sustainability has been regarded as a transformative dimension of the value proposition of the service ecosystem (Galeone & Sebastiani, 2021). Incorporating the concept of transformative value in S-D logic allows the inclusion of value propositions like sustainability in a plane complementary to the ordinary value proposition of the service ecosystem. The incorporation in S-D logic of the transformative dimension of value related to the well-being of all stakeholders increases the explanatory capacity of the conceptual framework. In the same way, TSR should consider that a transformative dimension of value exists along with a transformative service, which opens an interesting line of research (Blocker & Barrios, 2015).

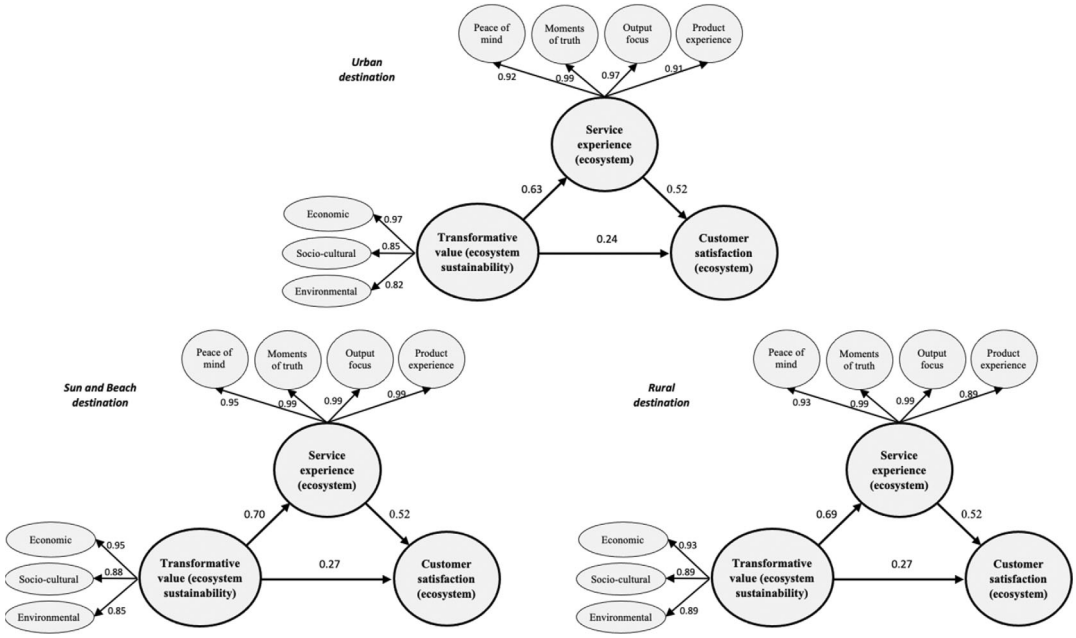

FIGURE 4 Results of the structural model: Multigroup analysis. Fit of the model: $\chi^2/df = 3211.649/1188 = 2.70$; NFI = 0.889; NNFI = 0.919; IFI = 0.927; CFI = 0.927; RMR = 0.049; RMSEA = 0.060.

A fourth contribution refers to the fact that the application of the conceptual framework of S-D logic to tourism destinations has shown high coherence. (UNWTO'S, 2017) definitions of tourism destination, tourist product, sustainable tourism, and DMO are coherent with the axioms of S-D logic (Vargo & Lusch, 2016). A service ecosystem reveals itself to be a relevant unit of analysis both from a theoretical and a practical perspective: networks of firms coordinated through institutions that undertake a sustainably viable value proposition, which generate service experience and customer satisfaction through co-creation with the customer.

5.2 | Managerial implications

Tourism destinations must commit to sustainability. They must realize that it is not simply another value proposition but a transformative value that affects the well-being of humanity (WCED, 1987). There is reticence to sustainability at many destinations because it demands a higher investment of economic resources to improve working conditions, extend basic public services, construct infrastructure, establish restrictions for urban development, water consumption, and non-renewable resources, impose rules for recycling, increase the purchase of more expensive local products, and so forth. However, tourists value sustainability positively as an issue that affects their satisfaction with the visit and service experience (and by extension the well-being of humanity).

The success of implementing sustainability in a tourism destination will mainly lie in the degree of awareness of all the partners about the need to cooperate for the well-being of the ecosystem (if it is good for the tourism destination, it will be good for the partners). Although there is competition in the destination, a certain degree of cooperation is needed and should stem from partners' awareness of the need to collaborate and invest in sustainability (Vargo & Lusch, 2016; Valbuena-Hernandez & Ortiz-de-Mandojana, 2022).

Emphasis is placed on the need to establish rules and regulations on sustainability that will align all partners (Mzembe et al., 2019). At tourism destinations, sustainability certificates are promoted at ecosystem level for the entire system and for individual firms (Fonseca et al., 2022). Destinations that commit to sustainability must impose rules and regulations as well as design a dashboard to monitor the evolution of the parameters (Mio et al., 2022; Rahmawati et al., 2019; Vargo & Lusch, 2016).

To achieve these purposes, tourism destination requires a governance structure that would lead, coordinate, and design and implement sustainability. DMO must be created. More often than not, they are committees of public and private representatives of the destination, which deal with everything to do with the functioning of the ecosystem (norms, recommendations, conflict resolution, strategy, studies, etc.). Governance forms part of the business model definition, along with other aspects that aid sustainability design in a tourism destination.

5.3 | Limitations and future agenda

The limitations set the boundary for generalizing the conclusions because the data are cross-cutting, the sample is a single country, and the profile of the interviewees was conditioned by the pandemic (the fieldwork was conducted on social media). As we have tried to

demonstrate, the study makes some contributions, but we believe it points to interesting new research lines.

Sustainability as a transformative value is a very inspiring concept that opens a very interesting research window when S-D logic is linked to Transformative Service Research (TSR). TSR is still in an early stage of development, but the study of customer well-being deserves greater efforts by service researchers. The cross-cutting nature of sustainability means that it has the potential to influence any aspect of a service ecosystem, whether at the level of various stakeholders or of the system network. The individual and collective implications open a broad line of research on sustainable service ecosystems.

Another interesting research thread is the study of leadership in sustainable service ecosystems. Although this issue has not been addressed directly in this work, it derives from the experience of DMOs. There are many service ecosystems in which formal leadership can be identified (port, airport, and commercial center), and others in which leadership is informal (distribution channel, e-commerce, and collaborative economy). Incorporating the research line on business models can offer important contributions by establishing a typology in service ecosystems, where the system of governance must be a relevant variable.

A third line of research is the full incorporation of sustainability in the literature on business models. To date, only economic viability has been contemplated in the revenue model. However, considering sustainability as a transformative value entails talking about sustainable viability, that is, economic, sociocultural, and environmental viability, bearing in mind the well-being of all individuals and collectives.

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