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COLLABORATION AND LEARNING PROCESSES IN VALUE CO-CREATION: A DESTINATION PERSPECTIVE.

ABSTRACT: Value co-creation has emerged as an important competitive strategy leading to value innovation. In tourist destinations co-creation results from the participation of multiple actors synchronously and contextually in value realization. Yet value co-creation remains highly theoretical and lacks empirical operationalization, especially in destination contexts. Are tourism destinations able and sufficiently mobilized to exploit the potential offered by co-creation theory? This paper operationalizes two fundamental dimensions of the value co-creation process, collaboration and learning, by developing and testing a measurement scale to evaluate the perceived impact of these dimensions on the market performance of actors at a tourist destination. Contributions to the literature on value co-creation and learning as well as managerial implications are discussed and suggestions for further research are made.

KEYWORDS: Value co-creation, tourist destination, collaborative capabilities, learning capabilities.

INTRODUCTION

As Nicholas Taleb argued in his book *Antifragile*, a powerful emotional shock can be beneficial for the health of an individual or a collective, perhaps for society itself (Taleb 2012). Covid-19 certainly represents that "black swan", perhaps more than any other in recent memory. It will profoundly affect tourism practices and the industry in the short term, but also possibly for decades to come. What will emerge after the pandemic is the question that researchers must engage with to ensure the industry recovers and develops on a more sustainable basis, fit for the future. Certainly, destinations will have to compete harder for tourist spending and they can do this by delivering excellent experiences. This research was undertaken before the pandemic but argues that co-created value through collaboration and learning in destinations could lead to a more competitive and high-performing tourism economy.

Value co-creation theory has become widely established since its introduction in the marketing literature (Prahalad & Ramaswamy 2004; Vargo & Lusch 2004). Creating value is the foundation of marketing itself (Kotler & Keller 2012) and is, therefore, the basis of competitive strategy. Over the years, the literature on value co-creation has been enriched with research on the relationships between companies and different stakeholders (internal and external) involved in particular market contexts (Vargo & Lusch 2004, 2008a; Park & Vargo 2012). Mostly, this research has examined how value is determined by and co-located in interactions between various actors involved in production and consumption processes (Vargo & Lusch 2011). However, very little empirical research has sought to understand the factors that facilitate or hinder collaboration between stakeholders of tourism destinations and which are therefore antecedent to the realization of value co-creation.

Value co-creation is often difficult to observe empirically (Storbacka, Brodie, Böhmann, Maglio, & Nenonen 2016) since it derives from the coordinated action of two or more actors, operating in a specific relational and phenomenological context. Interaction between the parties is the basis of coordination and what can be observed, evaluated and managed is the behavior of the individual actors in a specific service ecosystem (Grönroos & Voima 2013). Commitment to collaboration is gained through the expectation that positive results will be generated for all parties involved (cfr. Golinelli, Barile, Sphorer & Bassano 2015; Grönroos 2011; Voima, Heinonen, & Strandvik 2010). However, some studies have shown that coordination efforts between actors and the underlying interactions do not always give rise to value co-creation processes, especially in business-to-business service networks (Chowdhury, Gruber, &

Zolkiewski 2016). A consequence is that, rather than co-creating value, there is a possibility that value is destroyed (Frow, McColl-Kennedy & Payne 2016).

These studies have also underlined how participation in the creation of shared value depends on the expectations of each actor and, consequently, when each integrates their own resources with those of others, they need to be reassured that the benefits outweigh the sacrifices. Additionally, the expected value can be of various types (economic, social, cultural, professional, organizational, symbolic, etc.), whereby within one subject (individual or organization), one type of value could compensate for another (Lombardo & Cabiddu 2017), or the value created for an actor could also lead to value being destroyed for others involved in the same interactions (Plé 2017).

In the context of tourism, many studies have examined whether and how the principles of value co-creation can be applied to tourism experiences; most of these have focused on the relationships between businesses and tourists and between destinations and tourists (Campos, Mendes, Oom do Valle, & Scott 2018; Prebensen, Vittersø, & Dahl 2013). They have highlighted how the value of a tourist experience is intrinsically co-created between businesses and customers synchronously, contextually and collaboratively. Research has focused on: identifying the inputs into the value creation of tourist experiences at destinations (Prebensen, Woo, Chen, & Uysal 2012); methods used by tourists to cope with holiday experiences and ideally to co-create satisfactory experiences (Prebensen & Foss 2011); the use of IT to manage the creation of value (Cabiddu, Liu, & Piccolo 2013); and, how individual companies can gain a competitive advantage through activities that involve customers in more proactive ways (Grissemann, Stokburger-Sauer 2012).

Value creation improves the competitive performance of individual tourism firms and destinations. However, for destinations this process is complex because tourist experiences are more frequently produced by the collaborative action of a number of companies or organizations. The potential for co-creation at the destination level should therefore be embodied in the networks of the actors it comprises (Lindgreen, Antioco, Palmer, & Tim 2009). Interactions between actors should offer important opportunities to facilitate the creation of mutual value (Payne, Storbacka, & Frow 2008). It is in this regard that the literature has long recognized the importance of collaborative marketing in tourism (Fyall 2014). Therefore, an understanding of both the dynamics of interaction between tourism actors in a destination and the levers that facilitate or hinder collaboration becomes essential. The argument for these fundamental preconditions for co-creation have been made within the service dominant logic

approach proposed by Vargo and Lusch (2004), which emphasizes the importance of a subject's abilities to activate co-creative processes.

Prahalad and Ramaswamy (2004) represented this in the practitioner literature through the "Dialogue Accessibility Risk assessment and Transparency" (or DART) model, considered a set of basic skills necessary for the activation of virtuous collaboration processes. Two recent studies validated versions of a DART scale and its effect on innovation and value co-creation, although in a non-tourism context (Taghizadeh et al. 2016; Albinsson et al. 2016). Therefore, further studies are required to examine whether DART scales are able to capture the nuances of the tourism destination ecosystem, which is a unique service context. For example, to be successful, destination actors must collaborate with other actors in the system with 'rarely matching logics' (Beritelli, Bieger, Laesser 2014, 406), and a propensity for collaboration is connected with an inclination and capability to learn, to improve skills and to change (Lusch, Vargo, and O'Brien's 2007, 9; Vargo and Lusch 2004, 13). Organizational learning is defined as "a process by which a firm acquires information, knowledge, understanding, know-how, techniques, and practices that lead to changes in routines" (Phan & Peridis 2000, 201). Collaboration and learning are, then, general skills that are independent of destination, business model, strategic choices, etc. They can be considered transversal skills that are useful and antecendent to the development of positive relationships between actors of the destination, even if they belong to different sectors. In this sense, there is no collaboration if there is no learning and, conversely, no learning without collaboration. However, learning capabilities have not been considered in previous attempts to validate the DART scale and to assess its influence on innovation, which therefore necessitates further studies that could contribute a more holistic perspective.

Few studies have sought to understand how collaborative and learning practices influence tourism value co-creation processes and, in particular, whether and how these practices affect competitive performance. Accordingly, a primary purpose of the current paper is to develop a measure of the perceptions of actors regarding two issues. Firstly, the research aims to explore different stakeholder's perspectives on the role of the destination management (or marketing) organization (DMO) in facilitating value cocreation, by modelling and measuring the extent to which stakeholders perceive the level of collaboration (dialogue, access, risk assessment and transparency) and learning propensity/capacity (potential and realized) in these processes within the network of destination actors. Secondly, it assesses whether collaboration and learning skills positively influence the destination's market performance, stimulated and induced by

DMO activities that are expected to positively influence the stakeholder's performance. Overall, our intent is to ascertain how DMOs could implement collaboration and learning processes among actors in such a way that they increase the competitive capability of the destination.

To test the analyitic model in the field, we chose the context of Sardinia for two main reasons: the first is that it is a particularly popular Mediterranean tourist destination for its sea and beaches, though it has its own unique history completely independent of Italy until 1720 (the year in which the Kingdom of Sardinia passed to the Princes of Piedmont as a result of the 1718 Treaty of London), which makes for a rich and diverse tourism sector to explore supply side perspectives; and secondly, because up until the current time, the public policies and strategies for coordination of the tourism offer seems to have met limited success.

CO-CREATION IN TOURISM RESEARCH

Studies on value co-creation show with ever-greater evidence the importance of the interactions between different actors involved in delivering the tourist experience, in particular, between tourists and suppliers, given that the active participation of tourists in the construction and use of the offer is a precondition for co-creation (Buonincontri, Morvillo, Okumus, & Van Niekerk 2017). Co-created experiences positively influence the satisfaction of tourists, their level of spending and their happiness (Prebensen & Xie 2017). These dynamics are the basis of strategies of many destinations, which face ever-growing international competition. Destinations need compelling, unique and memorable experiences at the center of their offer (Campos et al. 2018; Tung & Ritchie 2011). Co-creation is thus seen in strategic terms for the improvement of competitive performance, underlining the importance of an approach that encompasses both marketing and management (Ciasullo & Carrubbo 2011; Sfandla & Björk 2013).

The Role of Operant Resources in the Co-Creation Process

Increasingly, consumers engage in the processes of both defining and creating value, such that the experience of the consumer becomes the very basis of value (Prahalad & Ramaswamy 2004). Service is grounded in value in use, in contrast to exchange (Prebensen et al. 2013). Emphasis is placed not on the product (operand resources) but on the relationships and on the relational processes between actors and the knowledge and skills they invest in consumption experiences (operant resources) (Frow, Brodie, Little, & Payne 2010; Grönroos 2008). Firms should, then, be able to access and integrate these resources to create value through innovation (Vargo & Lush 2004, 2008b). Similarly, it has been argued that the "firm as a viable system is

an organization capable of increasing and/or maintaining its capability for survival (competitive advantage) by means of collaborating, cooperating and sharing efficacious processes of interaction between components (other systems) for the co-creation of value" (Golinelli et al 2015, 4). The extent to which tourism organizations are aware of how such resource integration can enable them to leverage value, or to collaborate and share processes, is yet to be established.

The process of value creation starts to take form when a customer interacts with the product, service or brand, and this has profound implications for the ways that organizations perceive and act on their relationships with customers (Grissemann et al. 2012; Vargo & Lusch 2004, 2008a). Potentially, all social and economic actors are resource integrators (Vargo & Lusch 2008a). A consequence of this approach is that "S-D logic points toward a need to think about value creation taking place in and central to the emergence of service ecosystems" (Vargo & Lusch 2011, 185). As such, firms and organizations need to look beyond the immediate boundaries of their own value chains to actively engage in collaborative exchanges and integrate resources within the ecosystem to maximize competitive advantage (Tussyadiah & Zach 2013). An ecosystem approach at the destination level implies that the vision of co-creation as a corporate orientation must be adopted by all actors in the system. This should include the development of mechanisms, processes and systems for the involvement of both tourists and destination actors in the co-creation process (Bharwani & Jauhari 2013; Ciasullo & Carrubbo 2011). Moreover, there have been few studies on how the co-creation process develops in the B2B context (Kohtamäki & Rajala 2016), although more have examined the B2C perspective (e.g., Muniz, & Arnould 2009), which makes it particularly important to study the mechanisms destination organizations utilize to collaborate effectively.

Co-Creation and Collaboration in Tourism Service Ecosystems

Lusch and Vargo (2014, 137) argued that "S-D logic recognizes that value creation is a collaborative process". In the tourism literature, it is widely recognized that destination competitiveness demands effective collaboration and cooperation between the different local stakeholders (both public and private) delivering products and services to tourists (Del Chiappa & Presenza 2013). Competitiveness is partly derived from the cooperative behavior of different tourism actors, involving joint decision making among key stakeholders. Collaboration is possible if certain basic conditions are in place. Alter and Hage argue that cooperation can be defined as "the quality of the relationships between human actors in a system of mutual understanding, shared goals and values, capacity to work together on a common task" (1993,

86). Elbe (2002) identifies three levels of cooperation: a) limited, when it is characterized by a very low contribution of resources – in terms of time and money invested – and a poor mutual adaptation of operational activities among stakeholders; b) moderate, when it is restricted to one or limited aspects of the business, with some commitment in terms of resource allocation, but a simple, surface-level adaptation of operational activities; and c) large, when the cooperation is of a long-term, strategic nature and is for the stakeholders at the heart of business growth. Cooperation can be achieved at each of the three levels, but in practice is developed primarily through a step-by-step process that begins with limited forms and then progresses to the most complex, and thus a coordinating role is essential to successful cooperation.

Collaboration and cooperation can be based on formal relationships (such as contracts) or informal relationships between members (largely based on personal and social relationships). In the case of tourist destinations, Beritelli (2011) argues that both configurations are evident. The presence of one or the other depends mainly on the specific nature of the agreements and the particular circumstances in which they were established. Firstly, there is need for a recognition that "cooperative behavior among actors and stakeholder groups in tourism destinations is an interpersonal business" (Beritelli 2011, 623). Secondly, greater discrimination between different destinations is not represented by formal rules, but rather by the presence of specific key players and their past experiences, which directly influence future behavior. Thirdly, the simple exchange of information does not necessarily lead to a reciprocal understanding among stakeholders or to effective collaboration, because "cooperation processes require reciprocal sympathy" (Beritelli 2011, 624). Thus, the role of stakeholders is critical in determining the nature and extent of collaboration amongst destination network systems, which are in effect 'open systems' of interdependent stakeholders (D'Angella & Go 2009). A coordinated approach in tourism destinations is essential because of the shortage of resources (mostly financial) of destinations, the risks of events that harm the reputation of the destination, and the high level of fragmentation of the tourist offer.

The DMO must take a proactive role in driving the relationships within the network and generating systematic and on-going feedback from stakeholders in order for the destination to remain competitive and overcome these challenges. Some authors have argued that in order to innovate, these organizations should facilitate formal institutional network collaborations between individual actors (D'Angella & Go 2009, 430). A move from a competitive approach to a systemic approach is necessary despite the innate resistance brought on by the nature of competition. A systemic approach is one in which tourism businesses are jointly involved in

creating tourist experiences. Researchers have also tried to assess the organizational capacity for co-creation at the level of the DMO, including the influence of social media (see for instance Tussyadiah & Zach 2013). Online information systems allow information to flow more easily across the destination and help consensus-based tourism planning, knowledge sharing and co-creation to be achieved (Baggio & Del Chiappa 2014). However, Tussyadiah and Zach (2013) found that DMOs had limited knowledge, skills and capacity to transfer information in the spirit of co-creation theory. There is thus a need for further research aimed at understanding the factors that determine the capacity for co-creation amongst stakeholders at a tourist destination level.

Following the service dominant logic approach, we argue that DMOs, as key supply-side stakeholders, can be considered as second-level resource integrators (i.e., at a level above individual firms and organizations), as a metaorganization. These organizations work to combine specialized competences of individual actors (firms, institutions, associations, professionals, etc.) in tourism, into the complex services demanded by the marketplace: the "tourist offer". The main skill that allows organizations to combine competences is the "knowhow", which Vargo and Lusch (2008, 2016) called an "operant resource" (FP 4 of SD Logic). Lusch, Vargo, and O'Brien (2007) identified the skills deemed necessary to tranform the physical assets of an organization (operand resources), and they divided them into two major groups: "collaborative" and "absorptive" capabilities.

The Collaborative and Learning Capabilities as a Means to Develop productive Relationships Among Destination Actors

A potentially useful model to examine what collaborative capabilities are pertinent to the development of a culture which provides the basis for the activation of co-creation processes is the "DART" model: dialogue, access, risk assessment and transparency (Prahalad and Ramaswamy 2004). These building blocks appear to be the main skills that are antecedent to actors' collaboration. As a consequence, they improve the performance of both each single actor and, in our context, the destination as a whole. The corollary is that if these capabilities are not adequately developed, this has a negative impact on performance. The model is configured as a cognitive scheme capable of generating virtuous practices (or activities) of collaboration at the micro level by economic agents (Kohtamaki & Rajala 2016), or, in the present context, between the actors involved in a destination (for definition see Jarzabkowski & Spee 2009, 82).

Collaboration, therefore, arises if there are practices aimed at promoting dialogue, access to resources, taking responsibility and transparency between the ecosystem actors and, in the case of this study, among the public and private actors of the tourist offer. Our hypothesis is based on the assumption that, above all, DMOs should encourage processes of value co-creation among the actors of the tourist offer through activities or practices that encourage the following:

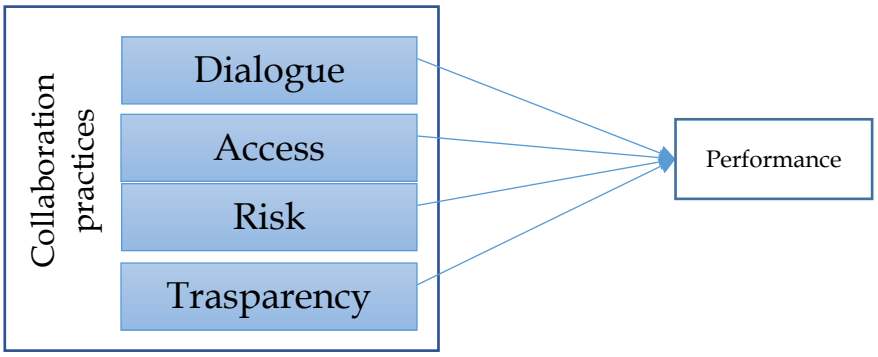
- *Dialogue* with and between destintion actors to obtain better results, especially in terms of market performance. We refer to activities that emphasize "constructive interactivity, deep engagement and a propensity to act both sides" (Taghizadeh, Jayaraman, Ismail, & Rahman 2016, 3).
- *Access* to the resources necessary to allow individual players to better organize their activities on the basis of better market results. Access to the relevant resources, made possible by functioning and continuous dialogue, facilitated by ICT (Bilgihan, Okumus, & Kwun 2011; Albinsson et al. 2016), manifests in the desire to share, to integrate one's own resources with those of others for objectives of common interest (Ramaswamy 2005). Clearly, this is not automatic and therefore activities to stimulate this must be put in place. Paraphrasing Albinsson et al. (2016), it can be argued that DMOs should try to facilitate the access of all tourism actors to essential processes and resources, to facilitate the creation of products or services that are desired by tourists.
- Taking on the *risk* deriving from sharing all necessary information and integrating one's own resources with those of other stakeholders in order to improve overall market performance. This means that as the actors become co-creators of value, they demand more information on the potential risks related to being part of a network of mutual interest. Each actor is therefore responsible for all the risks associated with offering products (Ramaswamy 2005). In this sense, each destination actor is partially responsible for enacting the DMO's strategies.
- The assumption of responsibility of the DMO for *transparency*. The DMO needs to provide tourism operators and actors with adequate information that contributes to the reduction of the risks faced by the individual stakeholders in the process of sharing their own resources. This helps all actors to establish reliable relationships between the DMO and the competing actors. However, this interaction will be successful only if information from the DMO is transparent to the individual actors (Ramaswamy 2005). Information transparency improves the willingness of individual actors to accept and make DMO holistic strategies and actions their own and become an active and

amplifying subject (Prahalad & Ramaswamy 2001). This transparency of the DMO towards the actors and their response to initiatives contributes to improving the market performance of the destination and of the individual actors.

Figure 1 summarizes the influence of practices based on DART capabilities on the organization's performance.

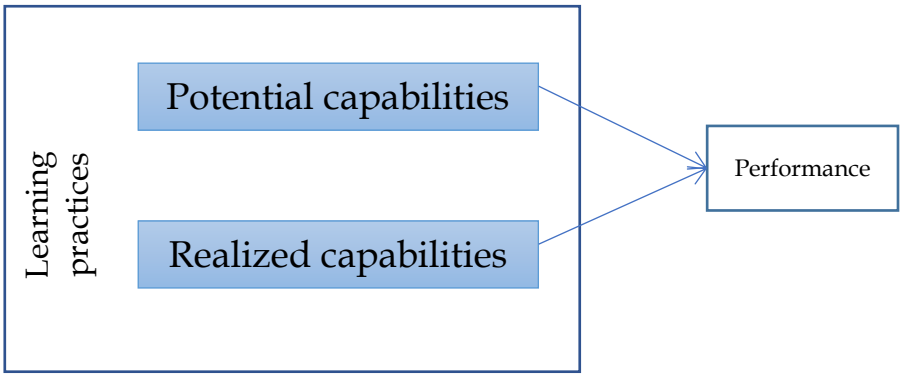
Figures

Fig. 1 – Activities based on DART capabilities affecting an organization's performance



On the other hand, learning (or absorptive) capabilities refer to the propensity or at least capacity to acquire, assimilate, transform and exploit new skills that allow organizations to innovate and change (Cohen, Levinthal 1990), including the ability to collaborate and become more competitive, through learning, as mentioned previously. The learning process implies a change in the stock of knowledge acquired and used. This means that any learning process requires, first of all, the willingness of each actor (internal disposition) to change and, therefore, to learn. Change, however, also requires (external) connections of the actors. Learning, therefore, is configured as an interactive co-creative process in which the actor's internal disposition is a central condition for involvement in any given activity (Storbacka et al. 2016). Brodie, Hollebeek, Jurić, & Ilić (2011) and Chandler and Lusch (2015) refer to this disposition as a psychological (i.e. human) state, which does not correspond to our definition of actors. In this sense, the potential and the realized capabilities should increase the performance of both the DMO *and* all the other actors. Figure 2 shows the relationship between potential and realized capabilities and performance.

Fig. 2 – Activities based on learning capabilities affecting an organization's performance



From the destination point of view, not only natural and heritage resources, attributes, and the infrastructure, such as information technologies, can be considered "operand" but also the individual tourism actors (Golinelli et al. 2015). The latter can be considered as an "object" of the actions of the destination, to ensure that it operates as more than the sum of many separate entities, that is, as a system that works harmoniously. This continuous and constant combination of tangible and intangible elements confers on the DMO a role as a meta-integrator.

Having defined the dimensions characterizing collaboration and learning resources, the study now aims to verify whether each of these improves market performance, leading to the following hypotheses:

1. Dialogue between the DMO and tourism actors positively influences their market performance.
2. Access between DMO and tourism actors positively influences their market performance.
3. Risk assessment among these actors positively influences their market performance.
4. Transparency among these actors positively influences their market performance.
5. Potential capabilities that actors have acquired from DMO activities positively influence their market performance.
6. Realized capabilities that actors have acquired from DMO activities positively influence their market performance.

METHODS AND DATA

Study 1: Qualitative study – Scale development

Scale development was undertaken following the guidelines produced by Rossiter (2002) and De Vellis (2016). According to Rossiter (2002), the scale development process starts by defining the constructs in terms of object, attribute, and entity. In this vein and with the aim of exploring the perceptions of the tourism sector on the dimension of collaboration and learning according to the DART model, a focus group was organized involving eight tourism stakeholders selected to include public and private sectors via purposive sampling (Bryman & Bell 2015). These stakeholders were: a hotel owner; a tourism councilor of the main city of Sardinia (who was also an operator in the MICE field); a public official in the tourism sector at the Sardinian provincial government; a travel agent providing a digital portal specializing in inbound tourism; a representative of a B&B association; a start-up entrepreneur in tourism; a consultant for tourism development programs; and a restaurateur and hotel manager. There were two women and six men; the youngest was 35 years old and the oldest 58; geographically they were from different towns across Sardinia.

A semi-structured interview protocol based on previous studies on value co-creation was developed. After an introductory discussion, participants were encouraged to address two open-ended questions:

- Do you think there is collaboration between public and private tourism operators in Sardinia?
- What, in your opinion, shows that there is collaboration or not?

Then, focusing on the practical dimensions of the DART model, we proceeded with more specific questions to understand what they meant in practice, in requesting greater dialogue, knowledge of strategies and relevant information, involvement in decisions and transparency of behavior.

The discussion was recorded and both the moderator and another researcher attending the meeting took notes. The data were manually coded independently by each researcher through thematic coding (Braun & Clarke 2006). The initial codes were reviewed by the research team, and an independent researcher reviewed the coding to provide a final sense-check. Where disagreements arose in coding, discussions ensued until an agreement was reached, and the final coding made. At the conclusion of this analysis, each of the researchers produced an item list independently, based on classifying the themes according to the dimensions of the DART

model, which were then compared to identify overlaps and differences, and a final list of items was synthesized (Table 1).

Table 1 – Items characterizing dimensions of co-creation that emerged in the focus group

- Dialogue must concern the representatives of the different actors of the destination - The dialogue must be continuous - The dialogue should be based on listening - The dialogue must include a contribution from each actor to interact with other actors and with the same DMO - Closed group of traders on FB with which the DMO can talk - Other opportunities to improve dialogue are meetings convened by the DMO or requested by industry associations in the DMO - Access to information must be easy - Relevant information should be readily available - The basic access is made possible by the operators to operators - Access to information must cover both public and private operators - It happens that you have access to too much unsuitable information - It must avoid over-information - Information present and available to all - The information must be available within reasonable time
- I collaborate if there is a strategic project - it is important to share the cost of the promotional activities of DMO (sponsorship maps, brochures, etc.) among private operators - I understand what I can, and I have to give - I take responsibility if there is sharing of common values and objectives - Feeling part of a system and consequent participation in the meetings - It is important to feel involved in the decision-making of the DMO - There must be awareness of the role of each actor - The wrong behavior of one destroys all - Commitment to seek and work for common goals
- Decisions of those who govern the destination must be shared with the representatives of tour operators - There should not be the phenomenon of free riding - Those who govern the destination must have the ability to share projects and proposals with representatives of the category and with the workers - There is transparency if there is a chance to discuss freely the problems encountered by traders

All the items for which there was a total overlap were included in the first draft of the questionnaire; any items that had been proposed by a majority (but not all) of the researchers were discussed in order to formulate definitive versions that were also included in the draft. An additional series of items were sourced from previous literature and adapted for the aim of this study, to measure the dimensions of potential capabilities, realized capabilities and market performance (Thomas and Wood 2014; Taghizadeh et al. 2016) (see Appendix 1).

To test construct validity and to improve the reliability of the constructs, the q-sort method (Nahm, Rao, Solis-Galvan, & Ragu-Nathan 2002) was used. Six expert judges were involved in three independent rounds, divided into groups of two judges per round. During this process, we asked the judges to assign each item to one of the attributes of the dimensions considered (i.e., dialogue, access, risk assessment, transparency, potential capabilities, realized capabilities and market performance).

At this stage, we asked to 6 independent researchers external to the working group to check each item for ambiguities. This allowed us to correct and clarify the wording of items. Following Nahm et al. (2002), the item purification process ended after three rounds, when raw agreement index (0.89), Cohens' Kappa (0.87) and overall hits ratio (0.94) were higher than 0.85, showing a good level of agreement among judges and confirming construct validity and reliability (Table 2).

Table 2 – Inter-Judge Agreements

AGREEMENT MEASURE	**Round 1**	**Round 2**	**Round 3**
Raw Agreement	0.67	0.87	0.89
Cohen's Kappa	0.62	0.84	0.87
Overall Hit Ratio	0.65	0.85	0.94
	Hits %	**Hits %**	**Hits %**
D	67%	70%	88%
A	60%	100%	100%
R	50%	80%	88%
T	50%	100%	100%
POT	67%	70%	100%
REAL	67%	90%	90%
MP	100%	100%	100%

At the end of the third round, 12 items from the initial draft (see Appendix 1) were deleted (D1, D2, A4, A5, RA5, T4, T5, PC3, PC4, RC2, RC4, RC7) and 5 rewritten (A3, D5, T2, T3, RC1). Table 3 shows the final list of items embedded in the questionnaire.

Table 3 – List of items in the questionnaire

Dialogue	
D3	The actors of the destination frequently have dialogue with each other
D4	The actors of the destination are always willing to have dialogue with each other
D5	The dialogue between actors in the destination is easy and constructive
Access	
A1	Each actor can easily access useful information made available by the DMO
A2	Each actor can easily access useful information made available by other actors of the destination
A3	The management of DMO can easily access useful information and data made available from the different actors of the destination
Risk Assessment	
RA1	The tourist actors of the destination usually inform the DMO immediately about the changes made at their own tourist offers
RA2	Each tourist actor of the destination accepts the decisions of the DMO and undertakes to implement them
RA3	Each tourist actor is available to contribute financially to the activities of the DMO
RA4	Each tourist actor at the destination takes responsibility for actively contributing to the DMO decisions
Transparency	
T1	Each tourist actor of the destination is responsible for the consequences that its own decisions have on the overall tourism strategies of the destination
T2	The behavior of the actors of the destination are always transparent to the DMO
T3	The behavior of the actors of the destination are always transparent to each other
Potential capabilities	
PC1	The meetings organized by the DMO always make it possible for each tourist actor to learn something new
PC2	The meetings organized by the DMO enabled me to meet other colleagues and operators of the destination
PC5	Thanks to the meetings and contact platforms organized and managed by the DMO, I learned to build on knowledge and experience
PC6	The meetings between operators promoted by the DMO allowed me to understand concepts and assimilate new technological processes that I had previously ignored
Realized capabilities	
RC1	Thanks to the work carried out by the DMO the tourist operators of the destination have increased their ability to successfully integrate the old knowledge with the new ones

RC3	Thanks to the stimuli of the DMO the awareness of all the tourist operators of the destination has grown that to innovate it is necessary to use new knowledge
RC5	Thanks to the activities of stimulation and involvement of the DMO I have speeded up my ability to apply the new knowledge considered important
RC6	Thanks to the action taken by the DMO, I reconsidered the technologies used to adapt to the new knowledge acquired
RC8	Thanks to the involvement and coordination action carried out by the DMO, I improved my market performance
	Market performance
Thanks to the collaboration and learning skills (co-creation approach) induced by the DMO initiatives, we were able to obtain the following results:	
MP1	Attracted new tourists
MP2	Opened up new tourist markets
MP3	Captured greater market share
MP4	Increased tourist retention
MP5	Increased tourists' satisfaction

Study 2 – Quantitative study – Item purification and validation

With the aim of testing and validating the questionnaire items, a survey was developed through which to verify whether the dimensions were indeed related to the value co-creation process. A five-point Likert scale was used, which is consistent with most scale development in tourism research (e.g., Pan, Zhang, Gursoy, & Lu 2017; Zhao & Huang 2020).

The questionnaire was administered online to public and private tourism stakeholders across Sardinia. The email invitation containing the link to the online survey was sent to 5000 email addresses sourced from a database obtained by pooling datasets provided by the region and different tourism associations in the island. At the end of the data collection, 237 complete questionnaires were available for use in the statistical analysis.

An exploratory factor analysis (Table 4) was undertaken (ML method and Varimax rotation – software SPSS 21) and seven factors emerged that together explained 68.29% of the total variance. Items showed factor loadings higher than 0.5, communalities higher than 0.3 and cross-loadings lower than 0.4 and, therefore, no items were deleted (Hair, Black, Babin, Andreson 2014). The item-to-total correlation was then calculated and all the items showed values higher than 0.5 (Bearden, Hardesty, & Rose 2001). According to Nunnally (1978) and Bryman and Bell (2015), to verify the internal consistency and reliability of multiple item

measures, a Cronbach coefficient higher than 0.7 was considered to show the reliability of a measure.

Table 4 - EFA

Factor analysis	Loadings	Eigenvalue	% variance explained	% variance cumulated	Chronbach Aplha	Alpha if item deleted	Item-to-total
MARKET PERFORMANCE		**7.053**	**26.122**	**26.122**	**0.896**		
MP1	0.853					0.865	0.785
MP2	0.834					0.865	0.784
MP3	0.796					0.879	0.72
MP4	0.791					0.88	0.716
MP5	0.793					0.88	0.718
REALIZED CAPABILITIES		**3.055**	**11.314**	**37.437**	**0.858**		
RC1	0.724					0.828	0.678
RC3	0.774					0.818	0.716
RC5	0.745					0.828	0.679
RC6	0.764					0.827	0.682
RC8	0.678					0.843	0.62
RISK ASSESSMENT		**2.544**	**9.423**	**46.860**	**0.771**		
RA1	0.636					0.749	0.514
RA2	0.677					0.7	0.605
RA3	0.762					0.712	0.579
RA4	0.771					0.702	0.597
DIALOGUE		**2.110**	**7.814**	**54.674**	**0.824**		
D3	0.826					0.773	0.664
D4	0.856					0.695	0.739
D5	0.717					0.797	0.639
TRANSPARENCY		**1.468**	**5.437**	**60.111**	**0.804**		
T1	0.707					0.836	0.549
T2	0.867					0.61	0.766
T3	0.859					0.735	0.647
POTENTIAL CAPABILITIES		**1.120**	**4.149**	**64.260**	**0.753**		
PC1	0.668					0.753	0.44
PC2	0.669					0.701	0.54
PC5	0.712					0.653	0.624
PC6	0.655					0.668	0.598
ACCESS		**1.088**	**4.031**	**68.290**	**0.692**		
A1	0.798					0.574	0.526
A2	0.683					0.547	0.546
A3	0.666					0.667	0.451

Goodness of fit: Chi-square = 3,203.224 d.f. 351 Sig = 0.000 - KMO= 0.819

To test the validity of the questionnaire, a confirmatory factor analysis (CFA) was performed, using Lisrlel 8.8 software and the maximum likelihood method (see Table 5). Before this analysis was done, the data were subjected to a multivariate normality test, using Prelis software. This showed that the data had a univariate normal distribution, and the test for multivariate normality was negative. Although one of the prerequisites for the application of a structural equation model is compliance with the multivariate normality condition, numerous studies show that the maximum likelihood method is robust even if this assumption is not confirmed (Olsson, Foss, Troye, & Howell 2000; Hair et al. 2010).

Table 5 - CFA

	CONSTRUCT LOADINGS	T-VALUES	SMC (R2)	CR	AVE
DIALOGUE				0.828	0.617
D3	0.757		0.573		
D4	0.850	11.634	0.723		
D5	0.745	10.756	0.554		
ACCESS				0.696	0.435
A1	0.641		0.411		
A2	0.744	7.451	0.554		
A3	0.584	6.724	0.341		
RISK ASSESSMENT				0.773	0.46
RA1	0.622		0.387		
RA2	0.737	8.288	0.544		
RA3	0.652	7.685	0.425		
RA4	0.698	8.034	0.487		
TRANSPARENCY				0.823	0.616
T1	0.615		0.378		
T2	0.954	9.316	0.910		
T3	0.749	9.413	0.560		
POTENTIAL CAPABILITIES				0.76	0.452
PC1	0.460		0.212		
PC2	0.595	5.874	0.354		
PC5	0.781	6.550	0.610		
PC6	0.796	6.582	0.634		
REALIZED CAPABILITIES				0.859	0.55
RC1	0.757		0.573		
RC3	0.786	11.884	0.617		
RC5	0.729	10.986	0.532		
RC6	0.736	11.097	0.542		
RC8	0.696	10.453	0.484		

MARKET PERFORMANCES				0.895	0.632
MP1	0.856		0.734		
MP2	0.875	16.862	0.766		
MP3	0.793	14.549	0.630		
MP4	0.717	12.551	0.515		
MP5	0.721	12.629	0.519		

To verify the goodness of the model fit, an analysis of the fit indices was carried out. The robust Satorra-Bentler chi-square was equal to 648.08 (df = 303; p-value = 0,000), but numerous studies have demonstrated that this index is heavily affected by the sample size (Baumgartner & Homburg 1996) and therefore other incremental fit indices can be considered. The fit between the structural model and data was therefore evaluated by means of the following standard indices: the RMSEA of the model was 0.073, which, being under 0.08, was deemed acceptable (Hair et al. 2014); the goodness-of-fit index (GFI) was 0.906, which is acceptable (higher values indicate a better fit); finally, the incremental fit measures (NFI = 0.976, CFI = 0.981, NNFI= 0.974) all indicated a very good fit of the model (Hoyle 1995).

To assess the reliability of each scale, we calculated the composite reliability and the average variance extracted (AVE). The results show that the scales had good reliability, as the composite reliability for each scale is above .70, apart from access, which was really close to this value (Access CR=0.696), and the AVE for each dimension is above or only slightly below .50 (Bagozzi & Yi 1988). All factors' loadings were significant and close to 0.6, indicating convergent validity and construct reliability (Anderson & Gerbing 1988).

For constructs with AVE values slightly below 0.5, Fornell and Larcker (1981) say that the AVE can be considered as a more conservative estimate of the validity of the measurement model, and "on the basis of 'ρn' (composite reliability) alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error" (Fornell & Larcker 1981, 46). In this vein, we highlight that the composite reliability of the seven constructs is equal or above the acceptable level of .60 (Fornell & Larcker 1981) and, for this reason, we considered the internal reliability of the measurement items acceptable. The same finding is consistent with previous research, where constructs with AVE below 0.5 were considered suitable (e.g., Lam 2012; Wallace et al. 2013).

The discriminant validity of the measures was also confirmed with the Fornell & Larcker criterion (1981), as the AVE index of each construct was higher than the squared correlation between the construct itself (Bagozzi et al. 1991) (Table 6).

Table 6 – Correlation matrix

Correlation (squared correlation)	D	A	RA	T	PC	RA	MP
D	1						
A	0.570 (0.325)	1					
R	0.487 (0.237)	0.417 (0.174)	1				
T	-0.053 (0.002)	0.086 (0.007)	0.353 (0.125)	1			
PC	0.449 (0.201)	0.449 (0.201)	0.208 (0.043)	0.004 (0.000)	1		
RC	0.354 (0.125)	0.535 (0.286)	0.390 (0.152)	0.252 (0.063)	0.705 (0.497)	1	
MP	0.320 (0.102)	0.318 (0.101)	0.320 (0.102)	0.230 (0.053)	0.196 (0.038)	0.448 (0,200)	1

Study 3: Quantitative study – Testing the model

To test the theoretical model, a further round of data collection was undertaken with a new sample randomly chosen from the second half of the list of email addresses used in study 2. In total, 331 responses were obtained, and a new empirical structural equation model was developed (see Figure 3). The model includes six exogenous attributes or latent variables (dialogue, access, risk assessment, transparency, potential capabilities and realized capabilities) and one endogenous variable, market performance.

A SEM approach was adopted to test the influence of each construct on market performance adopting a supply-side perspective (i.e., self-perceptions of tourism stakeholders). Overall, fit statistics are within the acceptable range (RMSEA=0.0876; NFI=0.868; NNFI=0.882; GFI=0.806; CFI=0.898; IFI=0.899). The hypotheses were tested by examining the sign, size, and statistical significance of the structural coefficients (Treiblmaier, Bentler & Mair 2011): hypotheses 1, 2, 4 and 5 were not supported, while hypotheses 3 and 6 were supported and statistically significant at $p < 0.01$ (Table 7).

Table 7 – Structural Equation Model (SEM)

	Hypotheses	Proposed direction	Standardized path coefficients	t-value	Result
H1	Dialogue positively influences Market Performance	+	-0.007	-0.076	Not Supported

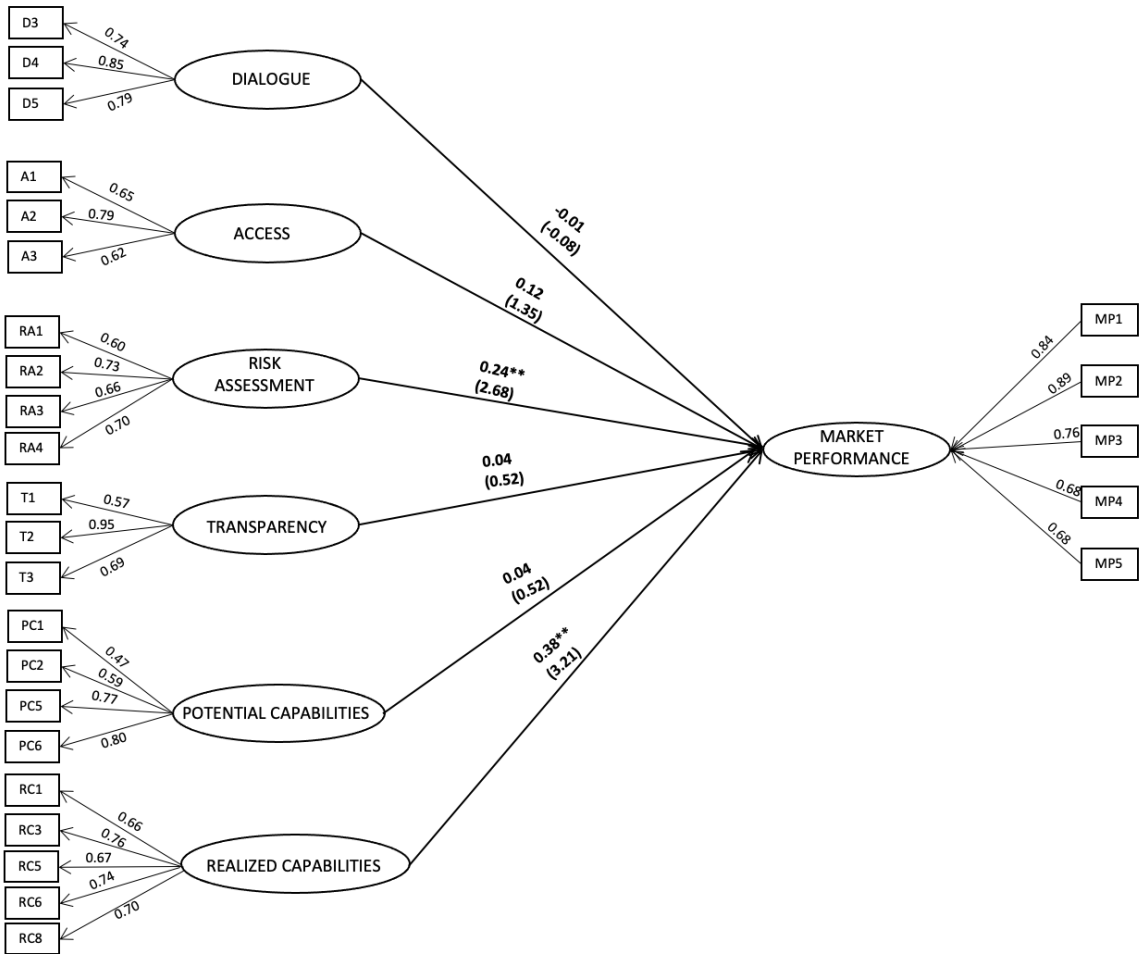
H2	Access positively influences Market Performance	+	0.122	1.347	Not Supported
H3	Risk assessment positively influences Market Performance	+	0.236	2.687**	Supported
H4	Transparency positively influences Market Performance	+	0.041	0.624	Not Supported
H5	Potential positively influences Market Performance	+	-0.125	-1.181	Not Supported
H6	Real positively influences Market Performance	+	0.383	3.213**	Supported

*=p<0.05 **=p<0.01

The findings presented in table 7 show, surprisingly, that respondents seem not to recognize the role played by the DMO's actions to develop dialogue, share resources, and generate transparency in sustaining market performance. In other words, our results seem to suggest that tourism stakeholders are mostly convinced that performance results largely from personal actions and commitment, regardless of the actions of the DMO.

Of course, stakeholder perceptions could change over time according to the effectiveness by which destination marketers communicate to tourism businesses and develop a kind of systemic consciousness (Del Chiappa & Presenza 2013), which might help them to fully realize the extent of interconnectedness between individual businesses and the whole destination. This may also help link business performance to destination management decisions and particularly to any actions aimed to increase information sharing and systemic dialogue.

Figure 3 – Structural Equation Model



DISCUSSION

The lack of empirical studies on the ways in which the actors of a destination share resources and coordinate with each other to develop products and services provided the impetus for this research. In particular, this study contributes to the theory that an ability to integrate and coordinate resources owned by different tourism destination stakeholders enhances both destination (Baggio & Sainaghi 2011, 2016) and businesses competitiveness (Wang & Fesenmaier 2007). Furthermore, we argue this becomes a precondition when planning and implementing a convergent and consensus-based positioning strategy so that the overall visitor experience and related perceived value are enhanced (Camisón et al. 2015).

In this vein, our theoretical model points to two main capabilities ("collaboration and collective learning") as preconditions for destination competitiveness. Furthermore, the model helps to understand the behavioral dynamics of destination actors and the role played by the DMOs in creating or strengthening a suitable environment that favors the competitive behaviors

of all the actors of a destination system (Abreu-Novais, Ruhanen, Acodia 2016). The study provides vital empirical evidence on the behaviors of sharing resources and coordination to develop products and services, which has been previously lacking (Murray, Lynch & Foley 2016).

The model also enables an appreciation of links between this perceived ability (or inability) and the market performance of each individual actor. In particular, it highlights that the ability or willingness to engage in dialogue, share resources, take on risk and to provide transparency can improve the market performance of the businesses in the network. The fact our findings do not support some hypotheses could perhaps be attributed to the relatively weak effectiveness by which the DMO facilitates networking and coordination among tourism stakeholders (Chim-Miki & Batista-Canino 2017; Fyall, Garrod, Wang 2012).

Specifically, our results showed that risk assessment and realized capabilities exerted a direct and statistically significant effect on market performance, while dialogue, access, transparency, and potential capabilities did not have a significant effect. These results are consistent with prior studies. For example, they seem to confirm that businesses do not consider accessibility as an antecedent factor of innovation choices and market performance (Grauslund & Hammershøy 2021). Our findings are also in line with Tagizadeh et al.'s (2016) study, which used the DART model to evaluate the innovation capacity of companies and the implications for market performance, and found that accessibility had no effect on these outcomes. Furthermore, our study highlights that the different dimensions of the DART model reflect those operant resources enhancing the effectiveness by which informal mechanisms support networking and collaboration between tourism stakeholders and the DMO. This echoes the idea that the conscious use of these informal interactions makes it possible "to avoid conflicts, delays in the decision-making process and disruptions between the interested parties" (Sainaghi, De Carlo & d'Angella 2019, 532).

The idea that a lack of collaborative behaviors determines a prevalence of competitive and individualistic behaviors among actors in the destination is not new. What our study further stresses is that the competitive tensions between value creation and its appropriation can prevail over the importance of practicing collaboration (Czakon, Czernek-Marszałek 2020, 324). In accordance with existing literature this could be also due to contextual factors (i.e., the specific tourism destination) and cultural idiosyncrasy (e.g., individualistic versus collectivistic behavior) that inevitably influence the extent to which tourism stakeholders are able to collaborate. This appears to be partly the case in Sardinia, where studies have shown that

tourism stakeholders tend to perceive networking with the DMO more as a technical matter rather than as an ongoing and complex "negotiation" process (Del Chiappa & Presenza, 2013). A destination-based consensus would be achieved ideally through an ability to facilitate dialogue, sharing resources and reciprocity (Jaakkola & Hakanen 2013; Kohtamaki & Rajala 2016).

When the learning dimension is specifically considered, our study partially contrasts with Liu et al. (2013)'s study, given that in our case only one learning ability (i.e., realized capabilities) has a positive influence on market performance. This, as suggested by the focus group findings, could be explained as participants being lacking what might be termed a "systemic consciousness". This hampers their ability to see beyond their individual action to the activities and initiatives undertaken and promoted by the DMOs, unless these (i.e., the DMO-related activities) provide them with concrete and immediate short-term outcomes. At the same time, this could also be coupled with a certain degree of "marketing myopia" that prevents tourism stakeholders recognizing value in any actions that would allow them to acquire and assimilate new knowledge to sustain their strategic and longer-term decision making, and their ability to foresee scenarios and future trends in tourism (Gummesson & Mele 2010; Jaakkola & Hakanen 2013).

CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

This study proposes and operationalizes a theoretical model assessing, from a supply-side perspective, how co-creation dynamics occur within a tourism destination and how this affects perceived performance. Two theoretical lenses were integrated, the DART model of value co-creation processes and the learning capabilities-based approach.

Findings re-affirmed a very well-known axiom: collaboration and collaborative learning cannot be taken for granted but both require effective and conscious actions, in our context by DMOs, to foster conditions that can help this to occur and to facilitate value co-creation. The fact that dialogue, accessibility of relevant resources, transparency, and potential capabilities have not been found to affect the stakeholders' perceptions does not mean that these dimensions are not important. On the contrary, this circumstance could be attributed to the fact that stakeholders believe that a lack of DMO capability applies to their destination.

In summary, this study contributes to the literature on value co-creation through an emphasis on multi-actor business ecosystems, epitomized by tourism destination contexts, and

in developing and validating a DART scale and its effect on innovation, which integrates learning capabilities to create a more holistic tool for the first time.

From a managerial point of view, this study suggests that policy makers and destination marketers should increase their efforts to run internal marketing and communication campaigns, aiming to increase awareness of the role of the DMO in adding value to the competitiveness of the destination. What is particularly lacking is an appreciation of the role of the DMO in coordinating tourism activity at the macro (i.e., destination) and micro (i.e., organization) levels.

This is even more important now in view of the devastating effects of Covid-19 on world tourist flows. Indeed, the lockdown period has impacted the tourism sector very severely. We argue that it is only through stronger networking, collaboration and cooperation that destinations will be able to cope effectively with this unprecedented crisis, still ongoing, for the whole tourism and hospitality sector (Pappas 2018).

At the same time, it would be extremely important and useful to develop "coaching" actions aimed at helping various tourism actors acquire collaboration and learning skills of the type considered in this study (Audet & Couteret 2012). Another important action that could build and sustain DMO credibility in the eyes of tourism stakeholders would be to implement a Destination Management System (DMS) with the ability to create fast and effective information sharing to help tourism stakeholders plan their businesses. This might include a regularly updated event calendar to set revenue management strategies, updated flight routes to decide in which source market to promote the business/destination, digital training webinars to allow all the tourism stakeholders to easily update their skills and competences. In the context of the present study, this would help overcome the problem of the geographical distance between stakeholders that characterize the island (Bregoli, Hingley, Del Chiappa, & Sodano 2016).

Furthermore, the study offers an effective instrument for policy makers and destination marketers to measure and monitor the effects of action and operations of DMOs on stakeholders' views and perceptions over time.

Beside its contribution to both theory and practice, this study is not free of limitations. The main on is the specificity of the context analyzed, which makes it impossible to generalize the results. In this sense, the measurement scales could be refined and developed further through additional testing in other contexts. Replication studies could be undertaken to ensure the robustness of our model.

In addition, this study did not consider the role that business characteristics might have in moderating self-reported perceptions of collaboration and learning dynamics within the

destination network. However, the general applicability of the model of organizational learning and collaboration within the context of multi-stakeholder ecosystems in tourist destinations offers much potential to the study of value co-creation processes for the future competitiveness of destinations.

Lastly, we focused on the relations between the actors and the whole tourism destination, whereas future research should focus on the perceptions of the operators on the actions of the DMO, including programming, organization, coordination, and control of activities aimed at encouraging collaboration and learning of all the actors of the destination. In this way, it will be possible to fully identify the antecedents of value co-creation needed to improve the tourist offer and enhance market performance, facilitating greater destination resilience to externalities such as the current global pandemic.

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APPENDIX 1 – Initial list of items

Dialogue	
D1	The DMO communicates with the various actors of the destination to inform them about the strategies and actions it intends to adopt
D2	The DMO requires the operators to provide suggestions and proposals useful for the definition of the strategies and actions of the destination
D3	The actors of the destination frequently dialogue with each other
D4	The actors of the destination are always willing to dialogue with each other
D5	The dialogue between actors in the destination is easy and constructive
Access	
A1	Each actor can easily access to useful information made available by the DMO
A2	Each actor can easily access to useful information made available by other actors of the destination
A3	The management of DMO can easily access to useful information and data made available from the different actors of the destination

A4	The DMO is always available to answer to information requests from the operators of the destination
A5	The DMO provides operators with information on the destination strategies to allow each person to define their business strategies in advance
Risk Assessment	
RA1	The tourist actors of the destination usually inform the DMO immediately about the changes made at their own tourist offers
RA2	Each tourist actor of the destination accepts the decisions of the DMO and undertakes to implement them
RA3	Each tourist actor is available to contribute financially to the activities of the DMO
RA4	Each tourist actor at the destination takes responsibility for actively contributing to the DMO decisions
RA5	Each operator of the destination shows a great sense of responsibility in actively participating in the policies of coordination of the tourist offer
Transparency	
T1	Each tourist actor of the destination is responsible for the consequences that its own decisions have on the overall tourism strategies of the destination
T2	The behavior of the actors of the destination are always transparent with the DMO
T3	The behavior of the actors of the destination are always transparent with each other
T4	My level of transparency towards other operators and towards DMO influences their way of being transparent with me
T5	Tourist operators always provide the DMO with up-to-date information
Potential capabilities	
PC1	The meetings organized by the DMO always make each tourist actor possible to learn something new
PC2	The meetings organized by the DMO enabled me to meet other colleagues and operators of the destination
PC3	The meetings organized by the DMO allowed me to have greater respect for the work of the other operators of the destination
PC4	The meetings organized by the DMO favor mutual trust among all the operators of the destination
PC5	Thanks to the meetings and contact platforms organized and managed by the DMO, I learned to build on knowledge and experience
PC6	The meetings between operators promoted by the DMO allowed me to understand concepts and assimilate new technological processes that I had previously ignored
	Realized capabilities
RC1	Thanks to the work carried out by the DMO the tourist operators of the destination have increased their ability to successfully integrate the old knowledge with the new ones
RC2	All destination tourist operators are encouraged by the DMO to share information

RC3	Thanks to the stimuli of the DMO the awareness of all the tourist operators of the destination has grown, that to innovate it is necessary to use new knowledge
RC4	Thanks to the impulse action carried out by the DMO, I improved my ability to use ICT technologies to document and interact with the other actors of the destination
RC5	Thanks to the activities of stimulation and involvement of the DMO I have speeded up my ability to apply the new knowledge considered important
RC6	Thanks to the action taken by the DMO, I reconsidered the technologies used to adapt them to the new knowledge acquired
RC7	Thanks to the information and involvement of the DMO, I was able to respond more effectively to the demands of the market
RC8	Thanks to the involvement and coordination action carried out by the DMO, I improved my market performances
	Market performances
MP1	Attracted new tourists
MP2	Opened up new tourist markets
MP3	Captured greater market share
MP4	Increased tourist retention
MP5	Increased tourists' satisfaction