Be Water my Friend: Building a Liquid Destination through Collaborative Networks

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Highlights

- Social networking and community engagement contribute to self-organisation;
- The ability to seize opportunities is a good measure of organisations’ resilience;
- Planning to change and broadening participation increase organisations’ ability to capitalise on opportunities that arise in an uncertainty situation;
- DMOs must stimulate organizations’ preparedness and their participation in the destination’s planning process.
Be Water, my Friend: Building a Liquid Destination through Collaborative Networks

Abstract

Resilient tourism organisations and destinations can adapt and prosper in changing environments. Social networking and community engagement contribute to self-organisation, a typical element of resilient systems. In this context, the present work aims at assessing the role of two of the main factors that contribute to the development of resilience in tourism organisations: their preparedness to crisis, and their participation in the destination’s crisis management plans. To this end, quantitative data was collected through a survey with 72 hotel managers in Galicia, Spain, a region that is frequently afflicted by natural disasters, namely forest fires and oil spills. A logistic regression model has shown that planning to change and broadening participation increase organisations’ ability to capitalise on opportunities that arise in an uncertainty situation. Therefore, in times of unpredictability, more flexible organisations are better able to adapt and transform themselves in response to internal and external changes.

Keywords: Community engagement, liquid destination, resilience, hotel, participation, self-organization, social networks

1. Introduction

Measuring a tourism destination’s resilience level is not easy. The task represents a real challenge for managers, as it requires them to evaluate economic and social systems in a context of change and high uncertainty, since tourism is embedded in human actions. Responding adequately to uncertainty is key to building efficient adaptation capabilities (Cheer & Lew, 2017). In this context, resilient destinations are able to cope with sudden changes (Luthe & Wyss, 2014). The concept of resilience has been extensively discussed in studies on the field of psychology, as well as in post-disaster studies. In the context of tourism destinations and organisations, however, it has not yet received enough academic attention, therefore, there are still some knowledge gaps to be filled.

In recent years, important advances have been made towards measuring tourism organisations’ and destinations’ resilience. In this context, several studies have proposed models and frameworks resulting from qualitative (Becken, 2013) and quantitative approaches (Brown, Rovins, Feldmann-Jensen, Orchiston, & Johnston, 2019; Orchiston, Prayag, & Brown, 2016; Luthe & Wyss, 2014). These studies build on seminal conceptual works on organisational resilient, according to which one of the distinctive elements of resilience is a system’s ability to absorb disturbances and evolve, especially by self-organising without resorting to external drivers (Prayag, 2018; Walker, Holling, Carpenter, & Kinzing, 2004). In a resilient system, this endogenous self-organization happens both in extraordinary circumstances of change (e.g., great disasters) and in the face of incremental changes (Lew, 2014). Therefore, resilient organisations face crises as sources of strategic opportunities, as they find opportunities in times of distress.

Among the factors that contribute to the self-organisation ability, and therefore, to a company’s resilience, is the development of social networks and community engagement (Biggs, Schlüter, & Schoon; 2015; Cutter, Burton, & Emrich, 2010). The former provides a different approach in the study of crisis management and resilience, with an emphasis on the interactions between organizations (Scott & Laws, 2005). It is critical that policy makers and other stakeholders (e.g., government, civil society, academia, and the media) work together to
create more agile and adaptable forms of local, national, and global governance and risk management (WEF, 2017).

Considering the extant literature on organisational resilience, especially in the context of tourism organisations, the present study builds on several specific contributions. First, it has been considered that tourism organisation managers’ view about their crisis preparedness and their participation in the destination’s crisis plans (which are normally led and coordinated by the DMOs) may foster the organisation’s resilience. This approach builds on previous studies’ results (Biggs, Schlüter, & Schoon; 2015; Cutter, Burton, & Emrich, 2010), according to which the relationships established between different stakeholders play an important role in reducing disruptions, as they lead to mutual learning via shared experiences. In this context, a key-concept in the present study is that collaboration between companies, as well as regular interactions between public and private organisations lead to an agile and flexible (or adaptable) environment (Islam & Walkerden, 2015; Getz & Timur, 2005). It has also been considered that, in a context of crisis, enhancements in resilience are measured by the company’s ability to seize opportunities that may arise (Seville et al., 2006). There is also a wide theoretical basis that backs this approach, which will be minutely reviewed in the following section.

The factors mentioned above have been recognised as enhancers of resilience, as they are related to organisations’ behaviour in the pursuit of proactive resilience building. Within the context of tourism destinations and organisations, however, no study has empirically assessed the role of the factors that contribute to resilience building. In this context the present paper aimed at assessing the role of two of the main factors that contribute to the development of resilience in tourism organisations, more specifically, hotels: their preparedness to crisis, and their participation in the destination’s crisis management plans.

To achieve the mentioned goal, a quantitative survey was carried out with hotel managers in a destination particularly affected by two types of natural disasters: forest fires and oil spills. Hotels have been chosen as the object of research because, along with DMOs, they play a crucial role in achieving inter-stakeholder collaboration for sustainable destination development, as different actors within the industry trust or depend on them (Timur & Getz, 2008; Sheehan & Ritchie, 2005).

The collected data has been analysed through logistic regression models. Results show that both variables – preparedness and participation – play an important role in building an organisations’ ability to adapt and seize opportunities that might arise in times of change or disturbing events. Therefore, the study’s findings demonstrate that tourism organisations’ preparedness and participation in a destination’s crisis management plans indeed contribute to enhance their resilience, and consequently, the destination’s.

2. Literature review

Crisis management normally deals with changes that result from extraordinary circumstances or great disasters. Meanwhile, resilient systems (ecological, socio-ecological, etc.) are also able to adapt, respond, and evolve in response to subtler adversities and incremental changes in organisations’ routines (Hall, Prayag, & Amore, 2018; Prayag, 2018; Lew, 2014; Hall, 2010). In this context, the concept of resilience offers a broader and more comprehensive perspective (than that of crisis management) to understand how systems face different levels of adversity.

2.1. Preliminary discussion

Different approaches to resilience have been proposed by scholars from different disciplines throughout the last decades (Ryff, Love, Essex, & Singer, 1998). One of the first authors to address this topic was Victor Frankl, a psychologist. Based on existential analysis, especially on
Kierkegaard’s will to meaning, the author analysed how individuals react in face of adversity by examining people who had suffered from the experience of the concentration camps during World War II, himself included (Frankl, 1985). Later, Rutter (1990) defined resilience as an individual’s positive reaction to stress and adversity; Masten (1989) defined it as the positive part of an adaptation following extenuating circumstances; and Garmezy (1991) conceptualised it as the capacity of recuperation and maintenance of adaptive functioning in face of disability. In this context, resilience became a common concept in the field of psychology (Ryff et al., 1998). Accordingly, within the context of psychopathologic development, resilience refers to a positive adaptation to adversity (Luthar, 2015).

The concept has been extrapolated to other disciplines and became a popular term (Meerow, Newell, & Stults, 2016; Meerow & Newell, 2015; Brown, 2014), particularly in the fields of socio-ecology and sustainable management (Pierce, Budd, & Lovrich, 2011; Zimmerman & Fraris, 2011). More recently, it has been applied to the context of tourism (Hall, 2017), in which it relates to a variety of phenomena, such as climate variability and land use (Schirpke et al., 2017; Becken, 2013), network governance (Luthe & Wyss, 2016), and mainly, recovery from disasters (Korstanje & Ivanov, 2012; Haigh & Amatarunga, 2010). Analogous to personal resilience, which is strengthened by certain personal characteristics (Frankl, 1985), the resilience of tourism destinations and organisations is also favoured by specific organisational factors. Amongst those, are a company’s self-organisation ability, its social networking, and its stakeholders’ participation in the destinations’ crisis management plans.

### 2.2. Self-organisation ability as a distinctive element of resilience

Resilience refers to one’s ability to respond to change (Holling, 1973). Learning and adaptive change allow systems to successfully respond, recover and adapt to new conditions. Adaptive resilience includes social learning by individuals, governance structures, or stakeholders after a triggering event (Cutter, 2016). In this context, resilience acquires a positive social meaning, as it is preferable to employ the concept of adaptation rather than other, such as vulnerability (Weichselgartner & Kelman, 2014). Disturbances in daily activities make it possible to observe how a system works in such situations, namely, how it responds to the changes and where its limits lay. This allows managers to identify potential failures, and consequently, improve the company’s ability to adapt (Woods, 2017).

Resilient structures present a high level of internal self-organisation, which is an endogenous process, as it cannot be simply forced by exogenous drivers (Prayag, 2018; Walker, Holling, Carpenter, & Kinzing, 2004). Such ability to re-construct is more than a simple passive resistance to negative aspects followed by a mere adaptation to the environment (mithridatism). Instead, a resilient system develops active resistance to external impacts that can affect its normal functioning. Regarding socio-ecological systems, although the system re-organises spontaneously, human actors’ abilities and interests significantly affect the system’s recovery capabilities (Walker et al., 2004).

According to Ruiz-Ballesteros (2011), prompting the opportunity of self-organization is an enhancer of resilience in tourism development. The three key factors for this process are: i) the ability to live with change and uncertainty, ii) nurturing diversity, and iii) the importance of combining different kinds of knowledge.

Considering the extant literature on organisational resilience, one question arises: how to promote self-organization in businesses and organizations, and by extension, in tourism destination? This topic has received scarce attention by scholars in the field of organizational resilience (Hall, Prayag, & Amore, 2018). Among the few studies dedicated to this subject, Carpenter, Walker, Anderies and Abel (2001), outline two key “self-organization enhancing” factors: coevolved ecosystem components, and the presence of social networks that facilitate...
innovative problem solving. The concept of coevolution refers to resources’, stakeholders’, and strategies’ ability to realign after changes in order to evolve harmoniously in constantly changing environments. A coevolutionary perspective of coordination emphasises flexibility and change (Inkpen & Currall, 2004). The other key element of organisations’ and tourism destinations’ resilience, the presence of social networks, is minutely addressed in the next section.

2.3. Social networking

Social networks refer to the set of relationships developed between individuals and/or groups (Carpenter, 2013). Individuals’ social networks are commonly differentiated into bonding networks (with family members), bridging networks (with neighbours and friends), and linking networks (with organizations) (Woolcock, 2001). Social networks provide a different perspective in the study of crisis management and resilience, as they allow for collective action that provide information to be employed by individuals and communities (Ritchie & Gill, 2007).

Moreover, they emphasise interactions between organisations (Scott & Laws, 2005), which also include the collaborative work among different stakeholders. Companies that are not part of a formal ecosystem can create alliances that will support them when necessary. Strong trading partnerships offer resilience when disasters strike, as they create an objective or a vision that leads to a culture of commitment to problem resolution (Sheffi, 2005; Williams & Ferguson, 2005).

To achieve long-term recovery, policy makers and other stakeholders (e.g., government, NGOs, and other community-based organizations) must work together to create more agile and adaptable forms of local, national and global governance and risk management (WEF, 2017; Islam & Walkerden, 2015). The process of adaptation and transformation to changing environmental, social, and economic conditions demands that these actors take the initiative of evaluating, planning, and managing resilience over time (Luthe & Wyss, 2014). Regular interactions between public and private organisations lead to an agile and flexible environment. The need to negotiate agreements with other organisations and continuously adapt to different requirements facilitates the learning process, individual adaptation to changes, and the solidary cohesion among partners (Getz & Timur, 2005).

Collaboration between companies also plays an important role in reducing disruptions, as it leads to mutual learning via shared experiences. This allows each business to operate more safely and coordinate prevention efforts with their partners. Ultimately, this results in a significant reduction of many potential disruptions that originate outside the organisations or spread to others (Sheffi, 2005). In contrast, within the traditional firm-centred approach to strategy, social networking managers need to formulate their strategies in terms of the collective success of their networks, as well as their individual organisations’ self-interest (Bresser, 1988). In this context, as indicated by several studies (Lee, Vargo, & Seville, 2013; Sautter & Leisen, 1999), coordination between different organizations can facilitate both disaster preparedness – planned resilience – and response to situations that had not been considered during planning – adaptive resilience.

2.4. Stakeholders’ participation in the destination’s crisis management plan

According to the stakeholder theory, an organisation maintains relationships with many groups of individuals, including employers, clients, suppliers, governments, and local communities (Freeman, 2010). The development of a destination crisis management plan is the responsibility of DMOs, which must also foster the participation of all local tourism stakeholders (Paraskevas & Arendell, 2007). In the present work, it is considered that tourism stakeholders’ participation in the destination’s crisis management plan may vary from the mere passive attendance of public hearings and advisory committees to other forms that imply
a greater involvement in the destination’s decision-making process (Byrd, 2007). To carry out
the destinations’ crisis management plan, DMOs must achieve a high level of agreement and
participation amongst tourism stakeholders (Pauchant & Mitroff, 1992). In this context,
tourism organisations and DMOs can benefit from working together in order to be more
prepared to face the effects of crises, as well as to overcome potential risks (d’Angella & Go,
2009; Johnson, Lu, Tolomiczenko, & Gellatly, 2008).
The participation of many stakeholders in recovery plans and in decision making processes is a
key factor for an efficient network coordination (WTO, 2000; Jamal & Getz, 1995). In tourism
destinations, resilient thinking can be implemented through the strengthening of relationships
and cooperation, as well as through the construction of a comprehensive social network. All of
these factors aim at allowing a diverse group of stakeholders (e.g., business managers,
employees, local government, residents, and tourism planners) to participate in the planning
and decision-making processes (Zacher, 2018; Sautter & Leisen, 1999).

Considering the addressed contributions, Biggs, Schlüter and Schoon (2015) propose seven
elements that contribute to the practical application of resilience thinking. The elements are
related to the strengthening of relationships, stakeholders’ diversity and participation, cooperation among partners, network construction, and stimulus to learning. Two of those
elements – managing connectivity and broadening participation – directly affect community
engagement and participation. Managing connectivity includes the existence of flexible
networks in the public-private partnership and organizations connected by common interests
(Nordin & Svensson, 2007). Broadening participation is based on a well-informed community
in which fostering people’s trust may lead to a common understanding of challenges and
complex problems, and consequently, trigger collective actions supported by a high level of
participation.

2.5. Preparedness and participation as enhancers of positive adaptations to disturbances

According to Mitroff, Pearson and Harrison (2002) organisations achieve better results in
changing situations when their preparation is adequate. In the context of tourism,
preparedness improves knowledge on the organisation itself, which generates competitive
advantages for destinations. This allows for a quick identification of unfavourable situations’
effects on the organisation (Glaesser, 2003). Planning for crisis – and its integration in strategic
planning – leads to knowledge on products and markets, which builds organisations’ ability
react faster, and thus, limit the impacts of disturbances in their businesses (Johnson et al.,
2008; Irvine & Anderson, 2005). Within the tourism sector, as in other industries, crisis
strategic planning (CSP) is fundamental in underpinning resilience (Pal, Andersson, &
Torstensson, 2012).

An adequate development of CSP may increase employers’ engagement and facilitate they
adaptation to changes. In this context, staff engagement, as well as emotional, psychological,
and cultural preparedness, are essential to cope with disruptive events and build resilience
(Brown et al., 2019; Hosie, 2006; Sharpley, 2005). Preparation may also evidence latent
problems, allow managers to identify personal that must be replaced, favour the development
of new strategies and market segments, enhance early alert systems, and help accelerating
changes (Burnett, 1998). In resilience terms, preparation and planning are effective because
they enhance awareness of critical dependencies and functions within the organisation.
Moreover, they provide confidence to seek out opportunities even in times of disturbance
(Seville et al., 2006). In this context, resilient organisations have the foresight and situation
awareness necessary to prevent the emergence of potential crises (Holbeche, 2015).

A high level of participation in the destinations’ crisis management plans also increases trust
and acceptance of tourism plans, and consequently, their political legitimation (Bramwell &
Sharman, 1999). The benefits brought about by different organisations’ participation and commitment in the destinations’ crisis management and recovery have been thoroughly analysed. Studies on the subject focus on the following topics:

- Stakeholders’ protagonist role in the initial phases of CSP (Johnson et al., 2008; Evans & Elphick, 2005; Ritchie, 2004; Faulkner, 2001);
- Responsibility of the involved parts (Pechlaner, Abfalter, Raich, & Dreyer, 2007; Sharpley, 2005);
- Achieving effective recovery and long-term benefits (De Saussmarez, 2007; Sautter & Leisen, 1999);
- Tourism businesses’ perceptions and their contributions in different phases of CSB (Hystad & Keller, 2008; Prideaux, 2003);
- Organisational learning and feedback (Paraskevas & Arendell, 2007).

In an increasingly volatile and uncertain world, one of the greatest assets an organisation can have is the ability to survive unexpected crises and find opportunity to thrive in face of potentially terminal events (Stephenson, Seville, Vargo, & Roger, 2010). An organisation with better preparation to face external impacts or alterations, and with a higher level of participation in the tourism destination’s planning (social network), is in a better position to positively adapt to disturbances (Luthar, 2015; Cutter, Burton, & Emrich, 2010).

3. Methodology

3.1. Study design: Selecting the analysed variables

The present paper aimed at assessing the role of two of the main factors that contribute to the development of resilience in tourism organisations, more specifically, hotels: their preparedness to crisis, and their participation in the destination’s crisis management plans. To this end, borrowing from Seville et al.’s (2006), contributions, resilience is understood as the organisation’s ability to adapt and seize opportunities in times of disturbances.

Managers’ perceptions on these characteristics were measured through a 7-point Likert scale (1: strongly disagree; 7: strongly agree), through which they identified the roles that best reflected their behaviour. When operationalising a categorical variable, the measure of gradualness is particularly important. In this context, preparedness was measured by the item “The preparation and planning for the crisis of my organization is adequate”. Before evaluating their preparedness to crisis, however, respondents had to answer a block of seven qualitative dichotomous questions, which represented elements that indicate good preparedness. This aimed at ensuring that respondents were familiar with the concept. Moreover, it has been considered that a crisis results from an unforeseen event over which one has little or no control (Glaesser, 2003). Such unpredictability extenuates the need for preparedness for different scenarios and the threats they bring about. Therefore, the aspects that represented preparedness in the questionnaire were generic and applicable to any situation.

Participation, in turn, was measured through the item “My organization’s participation in the destinations’ crisis management plans was very high”. Hotels can participate in a destination’s crisis management plans in multiple formal and informal ways (Byrd, 2007). In this context, the term “very high” was employed to encompass any of these possible forms of hotels involvement, as it refers to the intensity of the participation, rather than a to particular form. Moreover, it aimed to mitigate possible overvaluations of the hotel’s participation by respondents (Hoorens, 1995).

The dependent variable Opportunities seized from the crisis comprised four items: Opp1, Opp2, Opp3, and Opp4, consisting of numeric variables and operationalised through the mentioned 7-point Likert scale. Resilient organisations can turn crises into a source of strategic

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opportunities (Vargo & Seville, 2011). Therefore, they find opportunity in times of distress (Stephenson et al., 2010). The present investigation faced the difficulty in measuring strategic opportunities to organisations. In the absence of previously validated measurement instruments, an \textit{ex novo} questionnaire was developed. The literature review points to four parameters of opportunities that may be presented to tourism businesses during crises or disruptive events. These items are described in Table 1.

### Table 1. Opportunities to the organisation

<table>
<thead>
<tr>
<th>Item</th>
<th>Concept</th>
<th>Item/question</th>
<th>Literature support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opp1</td>
<td>Swifter response to disruptive events</td>
<td>My organization has increased the speed of response to crises and disruptive events.</td>
<td>Irvine &amp; Anderson (2005); Burnett (1998)</td>
</tr>
<tr>
<td>Opp2</td>
<td>Increased staff commitment with the organisation</td>
<td>The individual staff commitment with the organization has increased.</td>
<td>Brown et al. (2019); Hosie (2006)</td>
</tr>
<tr>
<td>Opp3</td>
<td>Reactivation of strategic planning</td>
<td>The crisis has contributed to the reactivation of strategic planning in my organization.</td>
<td>Johnson et al. (2008)</td>
</tr>
<tr>
<td>Opp4</td>
<td>Experience, learning, and knowledge transfer</td>
<td>My organization has learned from the crisis experience and transferred knowledge.</td>
<td>Paraskevas &amp; Arendell (2007); Ritchie (2004)</td>
</tr>
</tbody>
</table>

All items were coded into a categorical ordinal variable by the adoption of cut-out values. In this context, the new variable is rated 0 when the items’ average score is 1 or 2; 1 when items average 3, 4, or 5; and 2 when they average 6 or 7.

To evaluate the measurement instrument, the construct’s reliability, unidimensionality, and validity have been assessed. The reliability analysis suggested that the scale is internally consistent, as the item-total correlation (min.: .739; max.: .860) is above .3 for all four items, as recommended by Norusis (1993), and Cronbach’s $\alpha$ (.892) is above Nunnally’s (.7). A scale is considered unidimensional when only one underlying concept arises under the set of items that compose the scale. The Principal Component Analysis (PCA) did not point to the exclusion of any item, and the four items did group in an only factor. The factor loadings of each item (Opp1: .869; Opp2: .933; Opp3: .754 y Opp4: .621) are all above .6, as recommended by Hair, Anderson, Tatham and Black (1999). Finally, the division analysis points to the results’ stability, both in terms of loadings and of commonalities.

An initial univariate analysis was carried out to determine which independent variables are significantly related to the dependent variables. To this end, the probit function was employed as the link function for the parameter estimation for the dependent variables. Preparedness and participation scored significantly ($p < .05$) in all the contrasts, with all positive and significant coefficients in the Wald statistic test (see Table 2).

### Table 2. Univariate analysis between the independent variables and the dependent variables

| Preparedness | Coef. | SE | Wald | $p > |z|$ | 95% CI |
|--------------|-------|----|------|------|--------|
| Opp1         | .421  | .108 | 15.284 | .000 | .210; .632 |
| Opp2         | .450  | .108 | 17.355 | .000 | .238; .662 |
| Opp3         | .274  | .097 | 8.070  | .005 | .085; .464 |
| Opp4         | .255  | .093 | 7.424  | .006 | .071; .438 |

| Participation | Coef. | SE | Wald | $p > |z|$ | 95% CI |
|--------------|-------|----|------|------|--------|
| Opp1         | .318  | .096 | 10.974 | .001 | .130; .507 |
| Opp2         | .253  | .088 | 8.167  | .004 | .079; .426 |
| Opp3         | .307  | .093 | 11.012 | .001 | .126; .488 |
3.2. Data collection procedures

The study was carried out in the autonomous community of Galicia, in the northwest of Spain. This particular region was chosen because it regularly suffers two major types of disasters: oil spills, caused by oil tankers sinking near the coast, and forest fires. The coast of Galicia is an area of intense oil tankers traffic and has suffered seven major oil spills in the last four decades, three of which are among the 20 major oil spills in history: Urquiola (1976; 100,000 MT), Aegean Sea (1992; 74,000 MT) and Prestige (2002; 63,000 MT) (ITOPF, 2018). Regarding forest fires, 92,576 have been registered in Galicia within the last 15 years, resulting in a total of 403,306 hectares of burned area, which represents 13.6% of Galician territory (IGE, 2018).

These disasters are not isolated events, as they happen repeatedly, which characterise a particularly adequate habitat for a longitudinal research on resilience. Both types of disaster directly affect the most valuable attributes of the destination, such as its landscape and natural environment, beaches and coastline, gastronomy, hospitality, and security. All these attributes are systematically valued above 4.5 out of 5 in recent years, in a research carried out by Galicia Tourism (2017).

A quantitative survey was adopted as data collection technique. The research population consists of all 3 to 5-star hotels in the autonomous community (226 hotels). Hotels are the most used type of accommodation by tourists visiting Galicia (44.5% in 2016), followed by friends’ and relatives’ houses (19.4%) (Galicia Tourism, 2017). The questionnaires were sent to hotel managers, which aimed at increasing the chances of response, as lower level employees could claim to be unable to respond due to insufficient knowledge or freedom to share information (Azorín & Sánchez-Crespo, 1986).

The data collection process comprised four different steps. First, each hotel manager was contacted via telephone by a member of the research team, who explained the objectives of the study and solicited their participation. From the 226 3 to 5-star hotels in the region, 221 were contacted, and only one immediately refused to participate. The second step consisted in sending an e-mail to the director or the manager of each hotel, which aimed at reinforcing the commitment previously established via telephone. The third step consisted in sending a postal package including an explanatory letter, the research questionnaire, and a prepaid envelope with the researcher’s address to facilitate the task of sending back the filled in questionnaire.

Finally, in the fourth step, another e-mail was sent to the hotel representatives who had agreed to participate in the research but had not sent back the filled in questionnaire.

Throughout all those steps, some measures were taken in order to avoid non-response bias, such as ensuring data confidentiality (Cruz Cantero, 1986) and the data collection procedures’ homogeneity (Azorín & Sánchez-Crespo, 1986). In the end, a total 72 valid questionnaires were obtained, which implies a non-response rate of 67%. The non-response rate does not necessarily denote a lack of interest in the subject, as natural disasters have significantly affected tourist arrivals and hotel occupancy rates in Galicia (Loureiro & Barrio, 2009), as well as received intense media coverage. Therefore, the authors infer that it rather indicates a certain resistance to surveys by hotel managers, as previously pointed out by Goyder (1985). In the case of Galician hotels, this is likely intensified by their obligation to respond the local tourism authority’s hotel occupancy survey. In order to attenuate the non-response caused by this context, the researchers attempted to demonstrate commitment by contacting managers...
in different phases, but also avoided being intrusive. Despite these efforts, the non-response rate was still quite high. Nevertheless, due to the addressed circumstances, the there is no reason to believe that non-response bias is an issue within the present study.

3.3. Data analysis and model proposal

The collected data has been analysed through ordinal logistic regression, which allows for measuring the effect of a covariable matrix’s value on the cumulative probability of a particular event (in the present case, the dependent variable “Opportunities to the organisation”) taking place. The use of logistic regression analysis in tourism research has grown significantly in recent years. Between 1998 and 2002, logistic regressions are employed in 3.06% of tourism studies (Palmer, Sese, & Montano, 2004). Depending on the study’s design and data collection procedures, logistic regression may serve one or more of the following objectives: 1) determining the existence of a relationship or association between the independent variables X, and the dependent variables Y; 2) measuring the magnitude of such relationship; and 3) estimating the probability of a certain event happening as an outcome of the independent variables’ X values (Jovell, 2006).

In ordinal logistic regression, the dependent variable Y is expressed through a categorical ordinal value, e.g., 1, 2, ... J, which is affected by a vector of the explicative covariables’ values, that is: \( X = (x_{1}, x_{2}, ..., x_{n}) \). The cumulative probability of an event is limited to a certain value, which represents an advantage of logistic regression analysis when compared to other analysis techniques (Winship & Mare, 1984). The starting equation in ordinal logistic regression models is based on the following expression:

\[
P(Y = j) = \frac{1}{1 + e^{-(\alpha_{j} - \beta_{1}x_{1} - \beta_{2}x_{2} - ... - \beta_{n}x_{n})}} \quad j = 1, 2, ..., J-1
\]

The ratio between the probability of Y taking a lower value and that of it taking a higher value is the odds ratio. Such coefficient is calculated through the following expression:

\[
\frac{P(Y \leq j)}{P(Y > j)} = e^{\alpha_{j} - \beta_{1}x_{1} \cdot \cdot \cdot \beta_{n}x_{n}} \quad j = 1, 2, ..., J-1
\]

The model proposal process started with the inclusion of the independent variables, which was carried out through a backward method. The selection of relevant independent variables was based on a comprehensive literature review and played an important role on the model’s substantive significance (Seth, Carlson, Hatfield, & Lan, 2009). The assumptions of multicollinearity, normality, and equality of the variance-covariance matrices are all applicable to logistic regression analysis, although such applicability is not as frequently stated as in discriminant analysis (Hair, Anderson, Tatham, & Black, 1999). In the present study, the correlation coefficient between the two covariables – preparedness and participation – is .3, well below the limit (.7) suggested by Jovell (2006), which is an evidence of the constructs’ multicollinearity. The absolute values of kurtosis and critico ratio (-1.096 for preparedness; -1.699 for participation; and -.967 for the multivariate) do not exceed 1.96, pointing to the constructs’ normality (Bagozzi & Yi, 1988). Finally, the Box’s M test shows that the variance-covariance matrix for each variable level come from the same population, except for Opp1, which had a significant test result (F: 2.583; .017). Nevertheless, given logistic regression analysis’ robustness against moderate deviations of this assumption, the variable was still included in the model. The proposed model’s odds ratio logarithm (logit) is:

\[
\ln \left[ \frac{P(Y \leq j)}{1 - P(Y \leq j)} \right] = \alpha_{j} - \beta_{1}(\text{preparedness}) - \beta_{2}(\text{participation}) \quad j = 1, 2
\]
The estimated coefficients ($\alpha, \beta_1, \beta_2$) are measures of the changes in the odds ratio. The model estimates only one coefficient $\beta_j$ for all the covariables. The negative sign in the covariables’ coefficient implies that higher coefficients indicate a decrease in the odds ratio values, that is, a higher probability that $Y$ takes higher values. The coefficient $\alpha_j$ is different for each category and can be interpreted as the base odds for each category $j$ when $\beta_j = 0$ for all the covariables. This means that the effect of an independent variable is the same for all the different logit functions.

The statistical significance of each regression coefficient within the model was verified through the Wald statistic. To evaluate the final goodness of fit, several statistical indicators have been considered. To evaluate the model’s global fit, the contrast of the chi-square with the reduction of the value of likelihood logarithm (-2LL) was employed, as it provides a measure of the improvement caused by introducing the independent variables (McCullagh & Nelder, 1989). The goodness of fit measures was obtained from the observed and estimated frequencies, and then contrasted with the Pearson’s chi-square for the model and the chi-square based on the deviation. The degree of association between the dependent variable and the covariables was evaluated through the pseudo R-square (pseudo $R^2$), which is different from the $R^2$ in the linear regression, as it applies the Ordinary Least Squares (OLS) approach to goodness of fit. There several different pseudo R$^2$s and each may take significantly different values. For the purposes of this study, Cox and Snell’ (IDRE, 2011; Gessner, Maholtra, Kamakura, & Zmijewski, 1988) pseudo-R$^2$ was employed. Finally, to verify the assumption that the $\beta_j$ coefficient is equal for the different categories of the dependent variable, it has been contrasted through a test of parallel lines.

4. Results

4.1. Sample Characterisation

Respondents were mainly hotel directors and general managers (80.6%), department managers (6.9%), and owners (5.6%). The sample consists mostly of 3-star (59.7% of the sample) and 4-star hotels (33.3%). Although only five 5-star hotels responded (6.9% of the sample), they represent 62.5% of all high-class hotels in Galicia. The distribution of responses throughout the Galician provinces, as well as in terms of hotel category, is proportional to the total population’s distribution, which reinforces the absence of non-response bias. 36.1% of hotels specifically target leisure travellers, while 18.1% prioritise business travellers. The remaining 41.7% work with both markets. To evaluate hotels’ perceived level of risk, a 7-point scale (1: without risk; 7: very high risk) was employed. The highest perceived levels of risk refer to fires (5.86) and oil spills. Negative perceptions of residents towards tourism, on the other hand, had the lowest rated perceived level of risk (1.74).

4.2. Logistic regression model

The data was analysed though IBM SPSS v.17.0. Results are summarised in Table 3.

<table>
<thead>
<tr>
<th>Opp1 model</th>
<th>$\chi^2$: 28.651</th>
<th>Prob. &gt; $\chi^2$ = .000</th>
<th>Pseudo $R^2$ = .336</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>SE</td>
<td>Wald</td>
</tr>
<tr>
<td>Threshold</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opp_1 = 0</td>
<td>1.520</td>
<td>.535</td>
<td>8.082</td>
</tr>
<tr>
<td>Opp_1 = 1</td>
<td>4.592</td>
<td>.817</td>
<td>31.601</td>
</tr>
<tr>
<td>Location</td>
<td>Prep.</td>
<td>.467</td>
<td>.128</td>
</tr>
<tr>
<td></td>
<td>Part.</td>
<td>.287</td>
<td>.107</td>
</tr>
<tr>
<td>Opp2 model</td>
<td>$\chi^2$: 26.343</td>
<td>Prob. &gt; $\chi^2$ = .000</td>
<td>Pseudo $R^2$ = .314</td>
</tr>
</tbody>
</table>

Table 3. Models’ goodness of fit assessment
In all cases, $\beta_1$ and $\beta_2$ coefficients, which correspond to preparedness and participation, respectively, are statistically significant ($p < .05$). All models present good global fit, which is corroborated by the contrast between the chi-square and the reduction of -2LL, which determines whether the model fits significantly better in comparison to other models. The pseudo $R^2$ values are expressed in a scale ranging from 0 to 1, whereas higher values indicate a better model fit. The obtained values are acceptable, however, as mentioned earlier, they cannot be directly interpreted as the level of association between the dependent variable and the independent variables. Therefore, it is not employed as a definitive measure of the model’s goodness of fit (IDRE, 2011).

Pearson’s chi-square and the deviation’s chi-square are also used as model fit indicators. All the models except for Opp3 present significant Pearson’s chi-square values (Opp1 $\chi^2 = 40.246$, sig. .963; Opp2 $\chi^2 = 50.844$, sig. .736; Opp3 $\chi^2 = 88.872$, sig. .006; Opp4 $\chi^2 = 42.069$, sig. .943). Regarding the deviation’s chi-square, all models present significant values (Opp1, $\chi^2 = 35.886$, sig. .99; Opp2, $\chi^2 = 39.676$, sig. .969; Opp3 $\chi^2 = 40.150$, sig. .964; Opp4 $\chi^2 = 42.974$, sig. .93).

The test of parallel lines contrasts the null hypothesis that the $\beta_j$ coefficients are the same in the different categories of the dependent variable. The test’s value is significant, which corroborates that the relationships between the independent variables and the logits are identical for all categories of the outcome variable.

A linear relationship between the logit value and the independent variables was assumed for all models. The linearity was already indicated by the data analysis; however, the assumption was further scrutinised through a graphical verification. To this end, each independent variable was converted into four dummy variables corresponding to the following values in the Likert scale respectively: 1, 2-3, and 6-7. The number of dummy variables included in the model was smaller (by 1) than that of categories of the dependent variable, which aimed at avoiding a perfect linear relationship. The graphical analysis results reinforced the evidence of a linear relationship between the log-odds’ estimated coefficients and the covariates. Therefore, an increase in preparedness and participation improves the range of opportunities that might be seized by the organization.

5. Discussion
Due to the difficulty in precisely measuring the factors that contribute to resilience, as well as to the exploratory character of the present study, the relationships between the dependent variable and the covariates must be interpreted in terms of association or correlation, rather than considering an evidence of predictive effectiveness. Logistic regression models applied to a transversal design estimate events that took place in a specific time period, in which the independent and the dependent variables to be included in the model could also be observed. Therefore, the results they yield cannot be extrapolated to future or hypothetical situations.

In the context of the models presented in this study, the variables preparedness and participation are correlated to a set of opportunities that emerge to hotels in crisis or change situations. The negative sign in the $\beta_j$ coefficients implies that higher coefficients indicate a decrease in the odds ratio, which, is the ratio between the likeliness that $Y$ takes lower values and that of it taking higher values. All coefficients obtained are positive. Therefore, an increase in the hotels’ preparedness and participation enhances the likeliness of them seizing a set of opportunities.

Disasters are characterised by their chaotic and unpredictable nature (Hosie et al., 2009). Therefore, they are likely to lead to transitory dysfunction periods. In these cases, adaptation is manifested as the process of overcoming these environmental alterations (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). Therefore, fostering participation in the destination’s crisis management plans might help managers to obtain more detailed information on hazards that might affect the tourism sector, as well as enhance their knowledge on crisis management and share knowledge that might help other destination stakeholders. This joint action ultimately leads to a strengthened industry cohesion, and consequently, more positive attitudes and swifter responses to disturbances form the whole destination. In addition, a better planning and a more intense participation in the social network bring about other advantages to organisations, such as increased staff commitment, facilitation of the business reorientation process, and enhanced budgeting for disaster management, which further contribute to their resilience building (Brown et al. 2019).

Moreover, preparedness contributes to reactivating the company’s strategic planning, and consequently, to acquiring knowledge of the product and its markets, identifying staff members in need of renovation, and developing new strategies.

Galicia’s specific characteristics provide certain particularities to the study. The region has been afflicted with forest fires and oil spills. These events do not catch hotel managers by surprise, as they take place with relative frequency. In fact, these two types of disaster showed to be the events with highest perceived risk among the respondents. Such experience is a good basis for improvements in learning and knowledge transfer. On the other hand, the local population seemingly has very good perceptions regarding tourism, as Negative perceptions of residents towards tourism is the item with lowest perceived risk level. This characteristic, along with visitors’ positive evaluation on local hospitality, strongly influences support for tourism development and participation in the planning and management processes (Rasoolimanesh, Jaafar, Kock, & Ramayah, 2015).

A clear implication of the present study’s results is the confirmation that stimulating hotels’ preparedness and participation in the destination’s planning process contributes to their resilient capacity. Each hotel has the responsibility to undertake a strategic planning that accounts for unforeseen and undesired situations. However, promotion and stimulation actions must be carried out by organisations with that have the necessary resources. The active and constant commitment with resilience thinking implementation in a tourism destination may be a difficult task to the entity responsible (Zacher, 2018). Therefore, such responsibility should be attributed to entities that possess the necessary competencies to fulfil it. Many authors agree that such task is the responsibility of Destination Management Organisations (DMOs), as they play a central role in setting up the destination (Zacher, 2018;...
The present paper aimed at assessing the role of two of the main factors that contribute to the development of resilience in tourism organisations: their preparedness to crisis, and their participation in the destination’s crisis management plan. To this end, quantitative data was

Organizations’ collaboration in social networks allows them to adapt to changes more easily, since one of the problems that are typically detected in catastrophe situations is precisely the lack of communication between stakeholders, along with insufficient planning for disaster management (Mair, Ritchie, & Walters, 2016). In this context, the ability to make network connections and work with organisations in the community adds to a hotel’s resilience to disasters (Orchiston, Prayag, & Brown, 2016). The presence of social networks contributes to organisations’ agility and innovation. Moreover, it allows them to deal more fluidly with their own complexity (Holbeche, 2015). Nevertheless, social networks still have a considerable expansion potential (Brown et al., 2019). Therefore, their role in building organisations’ resilience might still be significantly amplified.

The theoretical development of the concept of agile, adaptable, and innovating organisations is connected with that of the liquid organisation, which originates from Bauman (2013). The liquid organization arises as a response to solid and stable organizational structures, which are typical of the industrial society (Bauman, 2013). In times of uncertainty, a liquid organization behaves better: it values the importance of functionality, manages to adapt and transform itself as a response to external – and internal – changes, and focuses on the simplicity of processes to improve their flow (Wearing & Hughes, 2014).

A destination can be viewed as a complex and adaptable system. Information and knowledge flows are important factors for such system’s general wellbeing (Baggio, Scott, & Cooper, 2010). Rather than stagnant structures fixed in a specific moment, destinations should be viewed as co-evolutionary processes (Inkpen & Currall, 2004). In this context, destinations that foster collaborative networks, and thus facilitate information and knowledge flow, could be characterised as liquid destinations.

The concept of liquid destination is a new proposition. Unlike what might intuitively be inferred at a first glance, the term does not refer to a destination that has diluted the bases upon which it once stood. On the contrary, it designates a destination that builds upon these bases – its nuclear resources – to incorporate flexibility as an endogenous element of resilience. Therefore, a liquid destination is indeed a sound destination, which prospers in contexts of change and disturbances by rapidly adapting and overcoming the consequent obstacles. The so-called rebirth areas, or “phoenix tourism” destinations, as New Orleans after Hurricane Katrina (Miller, González, & Hutter, 2017), are clear examples of such concept. Due to their outstanding resilience to disturbances and risks, such destinations managed to not only recover from the disasters that afflicted them, but in doing so, improve their image. In sum, liquid destinations are more proactive, and therefore, have the ability to quickly adapt to different circumstances in order to create more agile forms of local, national and global governance and risk management (WEF, 2017). Ultimately, this makes those destinations more resilient and allows them to constantly evolve.

6. Conclusion

The present paper aimed at assessing the role of two of the main factors that contribute to the development of resilience in tourism organisations: their preparedness to crisis, and their participation in the destination’s crisis management plan. To this end, quantitative data was

To this end, quantitative data was
collected through a survey with hotels from a region frequently affected by disasters: Galicia, Spain. Hotels were chosen as the object of study due to the role they play, along with DMOs, in the construction of tourism stakeholders’ social network, which is a starting point to building destination resilience (Timur & Getz, 2008; Sheehan & Ritchie, 2005).

The findings, obtained through a logistic regression, provide an original contribution to tourism literature, as they demonstrate that organisations that prepare for disturbances and participate in the destination’s crisis management planning process are indeed better able to adapt, improve and seize opportunities in times of crises. In a context of high uncertainty, the crisis planning process contributes to adaptive resilience, as it provides better social learning for the parts involved, and consequently, generates more proactive postures. Potential improvements presented to organisations include: increased swiftness and efficacy in responding to disturbances, mutual learning between stakeholders due to shared experiences, knowledge development and transfer to employees, and improved staff commitment. The study also provides a methodological contribution, as it is the first to apply logistic regression to the context of resilience in tourism destinations.

The findings also bring about important implications for tourism management and policy making. Governmental agencies, especially DMOs, must stimulate hotels’ preparedness and their participation in the destination’s planning process. Involving destination stakeholders in such processes contributes to the effectiveness of tourism development and crisis management plans, as well as reinforces their legitimacy. Therefore, governmental agencies should facilitate stakeholders’ participation in different phases of planning, as well as foster the integration of the destination’s and the organisations’ strategic planning.

Future investigations must attempt to provide contributions to the practical application of resilience measures and attitudes. Given the constantly changing environments that characterise complex systems – in which resilient thinking is centred – longitudinal studies are necessary to assess their evolution. Complex systems, such as tourism destinations, require a multi-dimensional approach. Research based exclusively on the examination of quantitative elements does encompass the ample set of meaning related to the concept of resilient thinking, which integrates several epistemologies (Becken, 2013). Therefore, for a better interpretation of how participation in collaborative networks provides agility and fluidity to elements of the tourism system – strategies, stakeholders, and resources –, the results of the present study must be complemented by those of investigations that examine such relationship from a qualitative stance.

References


Federal Reserve Bank of Atlanta.


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<tr>
<th>Páginas</th>
<th>Referencias</th>
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With the following questions we would like to collect your experiences on how your hotel has been affected by events that have occurred in Galicia in recent years. The data collected are confidential, will be treated anonymously and globally, and will not be used for any purpose other than this study.

Experience and preparation for the crisis-event

Indicate your opinion on the level of risk of the following events (crisis) in Galicia, being 1: ‘risk free’; 7: ‘very high risk’

<table>
<thead>
<tr>
<th>Event</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrorism</td>
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<tr>
<td>Oil spill</td>
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<tr>
<td>Forest fires</td>
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<td>Environmental pollution</td>
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<tr>
<td>Floods</td>
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<tr>
<td>Earthquakes</td>
<td></td>
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<tr>
<td>Crime</td>
<td></td>
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<td>Disease</td>
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<td>Contaminated food</td>
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<tr>
<td>Traffic accidents</td>
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<tr>
<td>Negative perceptions of residents towards tourism</td>
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</tbody>
</table>

Do you currently have a crisis plan?  
Yes  
No

Is the crisis plan formally drafted?  
Yes  
No

Has the staff of your organization received specific training on crisis management?  
Yes  
No

Does your organization maintain a fluid and regular relationship and communication with the media?  
Yes  
No

Does your organization have an updated and accessible contact panel for emergencies?  
Yes  
No

Do you have an insurance that covers the risk of crisis or disaster?  
Yes  
No

Have you reserved in the budget a contingency fund for risks or emergencies?  
Yes  
No

Do you currently have a crisis plan?  
Yes  
No

Indicate your degree of agreement with the following statements, being 1: ‘strongly disagree’; 7: ‘strongly agree’

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>The preparation and planning for the crisis of my organization is adequate</td>
<td></td>
<td></td>
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<tr>
<td>My organization's participation in the destinations’ crisis management plans was very high</td>
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</table>

Opportunities seized from the crisis

Indicate your degree of agreement with the following statements, being 1: ‘strongly disagree’; 7: ‘strongly agree’

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>My organization has increased the speed of response to crises and disruptive events</td>
<td></td>
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<tr>
<td>The individual staff commitment with the organization has increased</td>
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<tr>
<td>The crisis has contributed to the reactivation of strategic planning in my organization</td>
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<tr>
<td>My organization has learned from the crisis experience and transferred knowledge</td>
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<td></td>
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</table>

Sociodemographic data

- Number of hotel employees: __________
- Costumer type: □ holiday   □ professional
- Category (stars): __________
- Respondent's position: ________________________

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