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Article

Tourism metamorphosis: Reshaping destination attractiveness in a post-pandemic world

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Abstract: Through Qualitative Comparative Analysis (QCA) on destination attractiveness characteristics at the country level, this study identifies attribute configurations in the pre- and post-pandemic period to analyze the changes and differences generated by an exogenous event (COVID-19). The results suggest that the destination attractiveness attributes work together, in multidimensional configurations, to increase leisure travel volume. We found an important change in pat-terns/configurations of attractiveness between the pre- and post-pandemic scenarios. Our findings suggest that the destination attributes may change in importance and valuation or disappear for some configurations. The conclusion has implications for the stakeholders related to the destination attractiveness development, showing possible patterns of tourism attributes to guide the action to improve the resilience in the tourism sector and recover these activities in a disaster scenario.

Keywords: tourism resilience; destination attractiveness; COVID-19; external shocks; attributes configurations; Travel & Tourism Development Index

1. Introduction

Tourism includes several industries, such as accommodation, transportation, attractions, commerce, food and entertainment, and travel companies (Lock, 2022; Vukadinovic et al., 2017). According to the World Travel & Tourism Council (WTTC), in 2019, tourism represented one of every four new jobs created worldwide, concentrating around 10% of jobs (333 million). Further, tourism accounts for 0.3% of global GDP (9.3–9.6 billion US$) (Lock, 2022; Vukadinovic et al., 2017; WTTC, 2022). In addition, for 2019, the expenses of international visitors amounted to 1.8 billion US$, representing 6.8% of total exports (WTTC, 2022). However, several factors could threaten tourism development, such as natural disasters, political and economic situations, security perceptions, and health crises (Duan et al., 2022; Panasiuk, 2021). Therefore, in this paper, we want to shed some light on the impact of the COVID-19 pandemic on the tourism industry.

Crises and disruptions could adversely affect entire economies, particularly in countries where tourism generates a large proportion of GDP directly or indirectly (Aliperti et al., 2019). In this sense, the tourism sector is vulnerable to economic recessions, natural disasters, health epidemics, wars, political instability, threats to biosecurity, food security, terrorism, and international conflicts (Duan et al., 2022; Jiang et al., 2019; Ritchie, 2004). Consequently, risk management and disaster mitigation are attracting more and more interest in tourism research (Rosselló et al., 2020).

Among the major impacts of crises and disruptions on tourism development is the damage to cultural heritage and tourism infrastructure, which, in addition to affecting the attractiveness of a given destination, may have impacts on its ability to carry out and sustain tourism offers (Aliperti et al., 2019; Rosselló et al., 2020). At the same time, there are adverse effects on consumer behavior, affecting travel decision-making and dissuading visitors from arriving at affected destinations (anxiety generation, risk perception, sensation seeking) (Jiang and Ritchie, 2017). Thus, crises could reduce visits to affected areas, damaging the destination's reputation (Duan et al., 2022). For instance, statistical analyses show that events associated with tsunamis, floods, and volcanoes represent significant negative motivators for new visitors (Rosselló et al., 2020).

This research aims to answer the question: How do exogenous events (in our case COVID-19 pandemic) change the destination attractiveness configurations? By understanding the new configurations of attributes that constitute destination attractiveness, stakeholders can implement actions to increase the tourism sector's resilience to exogenous events (COVID-19). We used qualitative comparative analysis (QCA) to determine the configurations of attractiveness that stimulate leisure travel at the country level. First, we identified the COVID-19 pre-pandemic (2018) configuration considering six indicators of the Travel & Tourism Development Index (World Economic Forum, 2022). Second, using the same indicators, we determined a configuration of attractiveness for COVID-19 post-pandemic stage (2022). Finally, we analyzed the differences between both configurations and conceptualized specific patterns.

Our findings suggest that exogenous events (COVID-19) may change the destination attractiveness configurations, emerging new patterns of attributes in the post-event stage. Therefore, the tourism sector needs to adapt to these new configurations that can stimulate leisure travel. For instance, developing a new destination attractiveness according to the most important attributes in the new normal context or modifying their early destination image. These changes could maintain tourism competitiveness and recover the tourism activity in the destination. We identified two patterns of attributes in the pre-pandemic scenario: non-hazardous destinations and eco-systemic destinations. In the post-pandemic scenario, safety and security are less important, and high levels of health hygiene, infrastructure, and culture are core conditions to generate high levels of leisure travel.

This study contributes to destination attractiveness literature, showing how attractiveness attributes increase the demand for tourist places. These research findings help us understand the effects of exogenous events (COVID-19) on destination attractiveness configurations and how to adapt destination attractiveness to face the new normal successfully. The tourism sector is an essential agent in the global economy; therefore, this work sheds light on where public policies can be directed to increase the sector's resilience and avoid the loss of jobs and incomes.

The paper is structured as follows. After the introduction, the literature review is presented. The third section explains the methods and materials used in the study, and the results are analyzed in the fourth section. Finally, the discussion is developed in section five.

2. Literature review

Tourism is a crucial resource to encourage regional development regarding social, economic, and cultural issues (Estevão & Costa, 2020). Therefore, industry players, cities, and countries strive to build a good reputation as tourist destinations (Acharya and Rahman, 2016; Fernando, 2015; Ma et al., 2019). Furthermore, since tourism development is essential to the economy, especially with the arrival of foreign tourists (Choo and Halim, 2022; Manzoor et al., 2019; Vukadinovic et al., 2017), governments and stakeholders try to build an attractive image destination to differentiate from the competition and influence potential tourists' behavior (Martínez et al., 2014; Nguyen and Tong, 2022; Weru and Njoroge, 2021).

Individuals have overall perceptions of places that shape the evaluation of a destination for a potential visit and result in destination attractiveness (Josiassen et al., 2016; F. Yang et al., 2020). A destination can be perceived by tourists holistically, similar to the brand image of products, considering the capacity of the location to provide a great experience based on multiple attributes working together as a dynamic, interactive, and reciprocal system (Chu et al., 2022; Cracolici and Nijkamp, 2009; Tasci et al., 2007). Although the tourists' expectations, emotions, and feelings about a location are central issues in developing a destination's attractiveness, these represent the demand side of touristic transactions (Baloglu and McCleary, 1999; Formica and Uysal, 2006; Josiassen et al., 2016). On the other hand, it is also essential to consider the supply side since the tourism industries, governments, and stakeholders can shape the structural conditions to favor touristic activities (Mior Shariffuddin et al., 2022; Stepchenkova and Mills, 2010). Moreover, the evidence suggests that the collaboration between stakeholders to develop a positive destination attractiveness produces better results in tourist perceptions than isolated efforts (Lee, 2016; Mior Shariffuddin et al., 2022; Solvoll et al., 2015; Van der Zee and Vanneste, 2015).

2.1. Destination attractiveness and touristic competitiveness

The cognitive component of destination image formation represents the people's knowledge recognition, beliefs, thoughts, and awareness of each attribute of a tourism location (Beerli and Martín, 2004; Michael et al., 2018). Thus, suppliers and policymakers could provide information about the location's attributes to create a positive destination attractiveness to project the desired image to differentiate from other destinations (Gartner, 1989; Llodrà-Riera et al., 2015; Xiao et al., 2022). Also, cognitive component of destination image development involves the individuals' intellectual process of seeking information and making judgments (Ahn, 2019; Mior Shariffuddin et al., 2022). Based on information available about the tourist location, individuals can evaluate the destination's attractiveness, i.e., to shape feelings and opinions about the destination and its potential capability to satisfy their needs (Ćulić et al., 2021; Reitsamer and Brunner-Sperdin, 2017). In this vein, previous research highlights the need for more empirical evidence on the effect of destination attractiveness related to destination policy, planning, and development (DPDD) on tourism and travel (T&T) performance and competitiveness (Mior Shariffuddin et al., 2022; Ritchie and Crouch, 2003).

The World Economic Forum proposes specific factors and policies that characterize a T&T industry that represents destination attractiveness, contributing to T&T's competitiveness. The Travel & Tourism Development Index framework includes five sub-indexes: (1) enabling environment, (2) T&T policy and enabling conditions, (3) infrastructure, (4) T&T demand drivers, and (5) T&T sustainability (World Economic Forum, 2022). These attributes work together to develop a destination attractiveness that attracts tourists and differentiates the location from other touristic places (Mior Shariffuddin et al., 2022). The enabling environment subindex encompasses the fundamental conditions required for conducting operations within a country, consisting of five pillars: business environment, safety and security, health and hygiene, human resource and labor market, and ICT (information and communications technology) readiness. The T&T policy and enabling conditions subindex focuses on particular policies or strategic elements that have a more direct impact on the T&T sector, comprising three pillars: prioritization of T&T, international openness, and price competitiveness.

The infrastructure subindex evaluates the presence and caliber of physical infrastructure within each economy, encompassing three pillars: air transport infrastructure, ground and port infrastructure, and tourist service infrastructure. The T&T demand drivers subindex encapsulates the primary motivations behind travel, comprising three pillars: natural resources, cultural resources, and non-leisure resources. The T&T sustainability subindex assesses the existing or potential sustainability challenges and risks within the T&T sector, incorporating three pillars: environmental sustainability, socioeconomic resilience and conditions, T&T demand pressure and impact (World Economic Forum, 2022). These attributes work together to develop a destination attractiveness that attracts tourists and differentiates the location from other touristic places (Mior Shariffuddin et al., 2022).

Until now, research on tourism competitiveness has focused on analyzing the impact of each factor separately. According to Zadeh Bazargani and Kiliç, (2021), within the framework of tourism and travel competitiveness, infrastructure emerges as a cornerstone determinant impacting tourism performance, complemented by the significance of policy conditions, enabling environments, and the richness of natural and cultural resources, all of which play pivotal roles in shaping tourism outcomes. Salinas Fernández et al. (2022) pinpointed the 13 most vulnerable countries in terms of tourism competitiveness. They recommend urgent interventions in key areas, including promoting cultural elements and preserving historical heritage, conserving natural areas, improving access to information technologies, enhancing international openness, and strengthening transportation infrastructures and tourist services. Conversely, Woyo and Slabbert (2021) found that suppliers rated natural attractiveness, cultural appeal, and human resources as critical dimensions contributing to Zimbabwe's touristic competitiveness. While these studies offer valuable insights into the key factors of tourism competitiveness, they also highlight the importance of analyzing how these factors interact with each other.

The destination attractiveness differs from the attractiveness that each tourism service or company may have separately. Destination attractiveness defines the attributes of the overall touristic ecosystem in a particular place (Buhalis, 2000; Hanna et al., 2021; Tran et al., 2022). The collective of firms dedicated to tourist and leisure

activities are involved in a system that includes collaborations and interactions (Choo and Halim, 2022; Manzoor et al., 2019; Vukadinovic et al., 2017). Therefore, destination attractiveness depends on destination image development at the industry level, including government intervention through public policies oriented to stimulate touristic activity (Gartner, 1989; Llodrà-Riera et al., 2015; Xiao et al., 2022).

2.2. Exogenous events on destination attractiveness development

Exogenous events, such as pandemics, natural disasters, and armed conflicts, threaten overall economic activities (Aliperti et al., 2019). Given the uncertain nature of these events, the business environment reacts to crises and disruptions by implementing the risk management actions, such as contingency plans and adaptation strategies (El Baz and Ruel, 2021; Shad et al., 2019). However, some events seem impossible, or the firms cannot plan actions for risk management; therefore, these events can have disastrous effects on companies and industries unprepared to deal with them (Hubbard, 2020). Moreover, when a disaster occurs, it is difficult to anticipate the duration, consequences, or scale (Al-Thaqeb et al., 2022). In this vein, when exogenous events occur, the government intervenes in crisis management, bringing assistance and resources to help people (Ibáñez et al., 2022; Xu et al., 2022). After the critical stage of the events, people, businesses, and government focus on recovering the sectors more affected by the crisis (Ahmad et al., 2021; Wan et al., 2022).

According to Panasiuk (2021) and Duan et al. (2022), the main threats to the tourism sector could be classified into seven categories: 1) natural disasters, 2) security crises, 3) economic and financial crises, 4) accidents and calamities, 5) health crisis, 6) public opinion, and 7) climate change. Before the occurrence of events, the destination image is built based on a configuration of destination attractiveness attributes that represent the touristic environment in specific locations (countries, islands, regions, cities) (Choo and Halim, 2022; Manzoor et al., 2019; Vukadinovic et al., 2017). However, this configuration may change when the crisis stage ends due to the exogenous events.

Regarding natural disasters, the earthquakes in New Zealand (2010 and 2011) significantly affected the tourism industry in Christchurch, where the regional GDP fell from US$31 billion to a low of US$3.7 billion (Prayag et al., 2019). Regarding public perception, the Ebola crisis affected several African tourist destinations, even in countries far from the endemic outbreak. For instance, trips to South Africa, Kenya, and West Africa (countries unaffected by the virus) were canceled (Maphanga and Henama, 2019). Health crises have imposed high costs on the tourism industry worldwide. For instance, the SARS outbreak in 2003 increased unemployment in the tourism sector, reducing hotel occupancy and plane seats and leading to the bankruptcy of several companies (Senbeto and Hon, 2020).

The current health crisis has motivated scholars to uncover the impacts of COVID-19 on the tourism industry. The main findings are summarized in Utkarsh and Sigala (2021), Zopiatis et al. (2021), and Yang et al. (2021), among others. According to these reviews, the main topics analyzed include the impacts of COVID-19 on the industry, tourism in the post-COVID era, the pandemic's effect on tourist perceptions, technology adoption, and managing change, among others (Utkarsh and Sigala, 2021;

Y. Yang et al., 2021; Zopiatis et al., 2021). Regarding tourist perceptions, most studies assume a destination marketing perspective focusing on the adverse effects of COVID-19 on destination image and consumer preferences (Taecharungroj and Mathayomchan, 2021; Y. Yang et al., 2021). Despite these advances, there is a call for increasing the research on image restoration and how destination attractiveness will adapt to this new normal (Ahmad et al., 2021).

3. Materials and methods

3.1. Methods

We implement a QCA to determine the configurations of destination attractiveness that produce high leisure travel levels and to identify if these configurations changed between pre-pandemic and post-pandemic scenarios. This methodology applies the Boolean algebra logic to the comparison principles and allows work with small samples (10–50 cases) (Berg-Schlosser et al., 2009; Lijphart, 1971; Thiem, 2022). QCA is especially appropriate for testing models that involve many "interacting" factors, such as the configuration of destination attractiveness to obtain high-entry leisure travel (Longest and Vaisey, 2008; Thoits, 1995). We follow the recommendations of Pappas and Woodside (2021) and Longest and Vaisey (2008) to implement the step-by-step QCA. Our analysis is structured in three stages: (1) calibration of conditions and outcome variables, (2) analysis of necessity, and (3) analysis of sufficiency (Ragin, 2009; M. Schneider et al., 2010).

We run two QCA models, one for the pre-pandemic period considering the level of leisure travel in 2018 and another for the post-pandemic period using the level of leisure travel in 2022. The conditions for the pre-pandemic scenario (2018) include the destination attractiveness indexes lagging in one period, i.e., the indexes observed in 2017. Similarly, we used the destination attractiveness indexes for the post-pandemic period (2022) 2021. This approach allows us to deal with endogeneity issues regarding confusing causality between outcome and conditions measures in the same period.

3.2. Sample, variables, and calibration

We use data from the Euromonitor Travel Industry 2022 (Euromonitor, 2022) and the Travel & Tourism Development Index 2021 (World Economic Forum, 2022) dataset. The sample includes 51 countries and two waves: (1) leisure travels pre-pandemic (2018) and destination attractiveness indexes in 2017, and (2) leisure travels post-pandemic (2022) and destination attractiveness indexes in 2021. We considered only countries with complete information on the variables. Each country represents one case in the sample, i.e., 51 cases in the QCA, and each year was considered one scenario, i.e., pre-pandemic and post-pandemic.

The outcome variable "Leisure travels" refers to sales (in US$ millions per capita) of all travel products made through intermediaries and direct suppliers to leisure travelers, considering the individuals or groups traveling for leisure purposes. Our condition variables are six pillars of the Travel and Tourism (T&T) development index, in which variables are expressed as scores ranging from 1 to 7, where 1 = worst and 7

= best. (1) Safe and security measures the extent to which a country exposes locals, tourists, and businesses to security risks. (2) Health and hygiene measure healthcare infrastructure, health security, access to safe drinking water, and sanitation. (3) Tourism priority measures the extent to which the government and investors actively promote and invest in the development of the T&T sector. (4) Environmental sustainability measures the general sustainability of an economy's natural environment, protection of its natural resources, and vulnerability to and readiness for climate change. (5) Tourism infrastructure measures the availability and competitive provision of essential tourism services such as accommodation and car rentals. Finally, (6) Cultural resources measure the availability of resources such as archaeological sites and entertainment facilities. Descriptive statistics (non-calibrate) for each variable per year are reported in **Table 1**.

Table 1. Descriptive statistics, non-calibrate variables.

Variables	Travels 2018		Travels 2022	
	Mean	**S.D.**	**Mean**	**S.D.**
Leisure travels	7.2×10^{-4}	6.3×10^{-4}	5.6×10^{-4}	4.8×10^{-4}
Safe and security	5.384	0.965	5.388	0.903
Health and hygiene	5.723	0.818	5.100	1.093
Tourism priority	4.817	0.531	4.157	0.531
Environmental sustainability	4.359	0.679	4.206	0.524
Tourism infrastructure	4.941	1.061	4.131	1.066
Culture resources	3.545	1.556	3.465	1.297

Our data contains only continuous variables; therefore, a fuzzy calibration was used previously for QCA. We did feature scaling to normalize the range of the variables between 0 and 1 to set membership scores. Following the calibration criteria proposed by Ragin (2009), we use a direct membership assignment based on the s-shape function, establishing three thresholds. The inclusion/exclusion criteria consider "fully out" the cases with a membership value up to 0.05, "fully in" the cases with a membership value of at least 0.95, and the cross-over point of 0.5 (Berg-Schlosser et al., 2009; Ragin, 2009).

3.3. Analysis of necessity and sufficiency

We analyze the necessity to determine if the conditions are present in all cases that show a particular outcome (Bol and Luppi, 2013; Thomann and Maggetti, 2020). The criteria to determine if some conditions are necessary is that the levels of consistency for conditions would be >0.900 (Pappas and Woodside, 2021; Ragin, 2009). We implement an analysis of sufficiency to observe what condition or combination of conditions is sufficient to explain the outcome. The sufficiency condition is satisfied when the condition/s is a subset of the result, and we establish a numeric benchmark for any configuration with consistency >0.800 is sufficient (Legewie, 2013). Once sufficient configurations have been determined, Boolean algebra (Quine–McCluskey algorithm) is used to reduce the configurations into a more parsimonious solution (Longest and Vaisey, 2008).

We evaluated each final solution according to the fit measures of coverage and consistency, in which solution coverage indicates how much of the outcome is understood by considering the final solution set. Raw coverage indicates which outcome share is explained by a specific configuration. There is no explicit minimum limit to assess the coverage measures. Still, the reasoning behind the coverage evaluation is the goodness-of-fit measure of the solution (solution coverage) or the configuration (raw coverage). Therefore, the higher the coverage measure, the greater the outcome explanation (Haesebrouck, 2019; C. Schneider and Wagemann, 2010). On the other hand, solution consistency and configuration consistency are assessed using the consistency threshold of 0.800, i.e., a consistency measure >0.800 means that the solution/configuration has an appropriate empirical relevance (Legewie, 2013; Skaaning, 2011).

We can distinguish between core and peripheral conditions in the final reduction set. Not all present conditions have the same importance in the configuration sets; specific conditions could exist in all sets. These conditions are considered core conditions because they are always involved in explaining the outcome (Fiss, 2011; Pappas and Woodside, 2021).

4. Results

4.1. Pre-pandemic configurational analysis

Table 2 presents the sufficiency and necessity matrix at the level of the single conditions. The analysis of necessity indicates that there are no necessary conditions to produce higher levels of leisure travel since the consistency for each condition is lower than 0.900. However, the high tourism infrastructure is the single set that—alone—is sufficient for predicting the outcome (consistency = 0.829[a]).

The initial analysis of sufficiency presents six configurations with consistency levels higher than 0.800 (Appendix A), i.e., there is a minimum configuration reduction set with six configurations of destination attractiveness sufficient to explain the high levels of leisure travel in 2018. The final reduction set obtained in the parsimonious solution is shown in **Table 3**. The presence of the condition is indicated with the black circle (•), the absence of the condition is represented with a crossed-out circle (⊗), and the indifferent condition with a script (-).

Table 2. Sufficiency and necessity matrix (pre-pandemic scenario).

Variables	**Y**	**A**	**B**	**C**	**D**	**E**	**F**
Leisure travels (Y)	1						
Safe and security (A)	0.824	1					
Health and hygiene (B)	0.785	0.762	1				
Tourism priority (C)	0.723	0.730	0.665	1			
Environmental sustainability (D)	0.809	0.791	0.822	0.676	1		
Tourism infrastructure (E)	**0.829[a]**	0.751	0.782	0.757	0.772	1	
Culture resources (F)	0.668	0.617	0.660	0.698	0.616	0.714	1

[1] Super index a denotes the higher level of consistency value.

Table 3. Final reduction set (pre-pandemic scenario).

Variables	**Non-hazardous destination**		**Eco-systemic destination**	
	I	**II**	**III**	**IV**
Safe and security	•	•	⊗	•
Health and hygiene	•	•	•	⊗
Tourism priority	⊗	•	•	•
Environmental sustainability	•	⊗	•	•
Tourism infrastructure	•	⊗	•	•
Culture resources	-	-	-	-
Raw coverage	0.404	0.269	0.325	0.361
Unique coverage	0.095	0.028	0.039	0.064
Configuration consistency	0.974	0.983	0.987	0.987
Solution coverage	0.585			
Solution consistency	0.959			

1 (•) Indicates the presence of the condition. (⊗) Indicates the absence of the condition. (–) Indicates an indifferent condition. There are no core conditions.

The final reduction set shows an appropriate measure fit. Further, all configurations have levels of consistency >0.800 and good raw coverage indicators (0.269 to 0.404). Our results show that the solution explains 59% of the outcome, and solution consistency is >0.800 (Woodside, 2013). There are no core conditions. Based on the theoretical content of configurations, we propose two categories of touristic destinations considering the destination's attractiveness present in each one: 1) *Non-hazardous touristic* destination: Configurations I and II are included in this category. These configurations have in common high levels of safety and security and health and hygiene indexes to produce a high level of leisure travel. 2) *Eco-systemic touristic destination*: Configurations III and IV are considered in this type. These configurations are based on high levels of tourism priority, environmental sustainability, and tourism infrastructure to generate high leisure travel levels.

4.2. Post-pandemic configurational analysis

Table 4. Sufficiency and necessity matrix (post-pandemic scenario).

Variables	**X**	**J**	**K**	**L**	**M**	**P**	**R**
Leisure travels (Y)	1						
Safe and security (A)	0.761	1					
Health and hygiene (B)	**0.769**[b]	0.799	1				
Tourism priority (C)	0.668	0.703	0.682	1			
Environmental sustainability (D)	**0.769**[c]	0.794	0.831	0.656	1		
Tourism infrastructure (E)	0.757	0.721	0.804	0.698	0.753	1	
Culture resources (F)	0.670	0.642	0.693	0.672	0.637	0.749	1

[1] Super indexes b and c denotes the higher level of consistency value.

The sufficiency and necessity matrix, at the level of the single conditions, indicates that no necessary conditions exist to produce higher levels of leisure travel

since the consistency for each condition is lower than 0.900 (**Table 4**). However, the high health and hygiene and the environmental sustainability indicators are the single sets that—alone—are sufficient for predicting the outcome (consistency = 0.769[b,c]).

The minimum configuration reduction set (Appendix B) shows four configurations of destination attractiveness sufficient to explain high levels of leisure travel in 2022. **Table 5** presents the final reduction set obtained in the parsimonious solution. The two configurations in the final reduction set have levels of consistency >0.800 and good raw coverage indicators (0.524 and 0.468). Further, the solution explains 57% of the outcome, with a solution consistency >0.800 (Woodside, 2013). Consequently, our results suggest that the model is empirically relevant.

Table 5. Final reduction set (post-pandemic scenario).

Variables	**Environmental-based destination**	**Traveler-friendly destination**
	V	**VI**
Safe and security	⊗	⊗
Health and hygiene	●̃	●̃
Tourism priority	-	•
Environmental sustainability	•	-
Tourism infrastructure	●̃	●̃
Culture resources	●̃	●̃
Raw coverage	0.524	0.468
Unique coverage	0.101	0.045
Configuration consistency	0.954	0.931
Solution coverage	0.569	
Solution consistency	0.932	

1 (•) Indicates the presence of the condition. (●̃) Indicates the presence of the core condition. (⊗) Indicates the absence of the condition. (–) Indicates an indifferent condition.

In **Table 5**, the presence of the core conditions is indicated with the accent (~) on the black circle, as three core conditions are repeated in each configuration. Drawing from the conceptual framework of configurations, we suggest classifying tourist destinations into two categories based on the level of attractiveness each destination exhibits: 1) *Environmental-based tourism destination:* Configuration V is different from configuration VI in the presence of high levels of environmental sustainability to produce a high level of leisure travel. Therefore, the eco-friendly tourism destination differentiates from the others in environmental sustainability strategies. 2) *Traveler-friendly tourism destination:* Configuration VI differentiation to produce a high level of leisure travel is a high level of tourism priority (e.g., excellence in service quality).

4.3. Changes in the destination attractiveness configuration

In the pre-pandemic scenario, we identified two main configurations to explain a high level of leisure travel, i.e., the destination's attractiveness could interact in, at least, two different ways to produce a positive outcome. However, something changed

during the pandemic, and how tourist destinations' attractiveness can produce higher leisure travel revenue may differ in the post-pandemic era.

In the post-pandemic configurations, we found that low levels of safety and security are not a problem to attract high levels of leisure travel. However, high health and hygiene levels may be considered mandatory travel and tourism development conditions. People's concern about the COVID-19 pandemic may have influenced their willingness to take health risks, and recommendations to stay safe from the virus may have produced new hygiene habits that individuals now consider essential. Thus, tourist destinations must have the necessary infrastructure to achieve optimal health and hygiene conditions. In addition, the people in charge of providing tourist services must comply with sanitary measures to prevent the spreading of diseases such as COVID-19. These new requirements could explain why tourism infrastructure and cultural resources have also become indispensable for developing a destination attractiveness that attracts high levels of leisure travel. **Figure 1** shows the overview of the metamorphosis of destination attractiveness configurations, according to the findings described above.

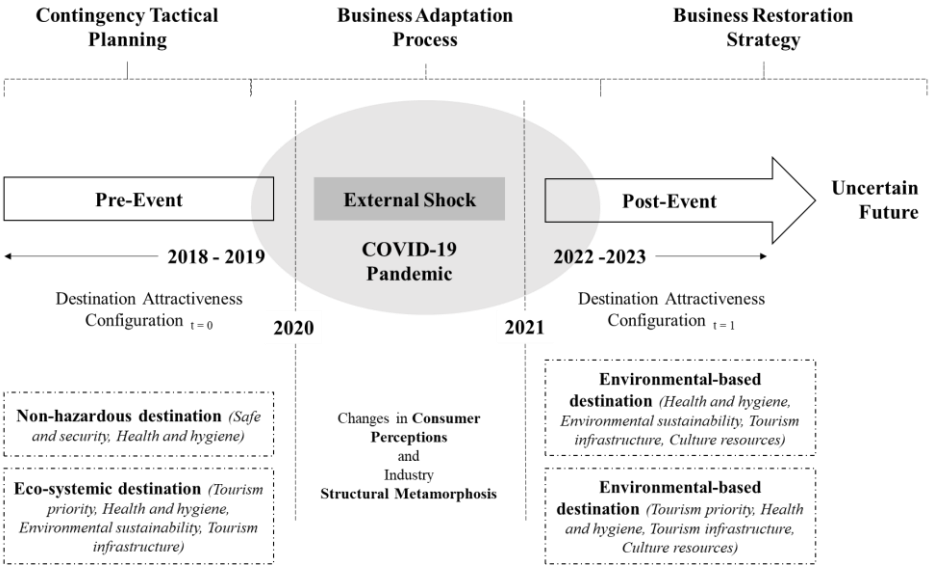

Figure 1. Overview of the metamorphosis of Destination Attractiveness Configurations.

5. Discussion and conclusions

Our review couldn't identify previous studies analyzing destination attractiveness configuration within the COVID-19 framework. Thus, we cannot directly compare our results with existing literature. However, our results suggest that for the post-pandemic scenario, the quality of tourism infrastructure and health and hygiene are core conditions for defining successful destination attractiveness configurations, similar to previous evidence (Utkarsh and Sigala, 2021; Y. Yang et al., 2021; Zopiatis et al., 2021).

The magnitude of the disruption generated by COVID-19 is so enormous that several trade-offs have been identified in previous research, including the trade-off between economic activity and health (Kano et al., 2021), virtual and physical activity

(Bin et al., 2021), or between environment, health, and economic development (Sarkodie and Owusu, 2021). Our results increase the previous evidence of the potential trade-offs generated by COVID-19, as we found a (partial) trade-off between safety and security condition and health and hygiene while comparing the pre-and post-pandemic scenarios. Interestingly, our results suggest that cultural resources are core conditions in explaining leisure travel after the pandemic. Our results align with previous evidence showing that in the post-COVID era, tourist destinations must highlight and better communicate local culture and communities to restart the activity (Chemli et al., 2022).

Our findings confirm that the destination attractiveness attributes work together to increase the arrival of leisure travelers. Previous studies have proposed this statement, but there is no empirical evidence on how these attributes are combined to improve destination attractiveness (Cracolici and Nijkamp, 2009; Ćulić et al., 2021; Taecharungroj and Mathayomchan, 2021). Moreover, to the best of our knowledge, no research exists on how the destination attractiveness attribute configurations change due to external shocks (e.g., COVID-19). In this vein, our study made at least three contributions.

First, contribute to the theoretical framework of destination attractiveness, showing how attractiveness attributes work together in configurational sets to increase the demand for a destination (Mior Shariffuddin et al., 2022; Murphy et al., 2007). Second, contribute to risk management literature, presenting a novel method to evaluate differences and changes in destination attribute configurations before and after the exogenous event (COVID-19) (Ahmad et al., 2021; Wan et al., 2022). This evaluation allows the design of better risk management strategies to successfully deal with crises and disruptions at macro and micro levels (Hubbard, 2020). Third, from a policy perspective, our results contribute to inform policymakers in strengthening those conditions that could help design more successful destination attractiveness configurations (Utkarsh and Sigala, 2021). Further, as building destination attractiveness configuration requires close collaboration between public and private entities, our results also highlight the relevance of public-private partnerships for tourism development in the new normal (Wan et al., 2022; Xu et al., 2022).

The practical implications of this research could lead to design initiatives to encourage joint initiatives, partnerships, and collaborations to leverage each other's strengths and resources effectively. Also, the stakeholders can establish mechanisms for monitoring and evaluating the effectiveness of different attractiveness configurations and adjust strategies as needed to achieve desired outcomes. In this vein, a configurational approach to competitiveness would make it possible to evaluate sets of attributes instead of intervening in each of the competitiveness indicators separately.

This research has some limitations that represent opportunities for future studies. Our sample considers countries with different levels of economic development. Therefore, the unique institutional characteristics of each one may affect the general results. New studies may focus on evaluating specific configurations by country, considering local destinations. On the other hand, the consequences of the pandemic were a developing phenomenon in the year under study; therefore, our data is inconclusive regarding the post-pandemic scenario, as global tourism activity had not recovered by 2022. However, the fundamental principles and factors influencing

tourism competitiveness are unlikely to have drastically changed within a short timeframe. Thus, the insights generated from our research can still provide valuable perspectives for understanding and addressing the broader issues shaping tourism development in the current landscape. Future studies could replicate our model at various time points, such as exploring the evolving post-pandemic landscape or examining the impact of new external shocks as they arise. We cannot include business travelers, but these travelers' preferences may generate different destination attractiveness configurations compared to leisure travelers. Future studies can explore specific attractiveness configurations in the case of business travel and how exogenous events (COVID-19) can produce changes in these patterns.

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Appendix A

Table A1. Final reduction set (pre-pandemic scenario).

Variables	**Set a.1.**	**Set a.2.**	**Set a.3.**	**Set a.4.**	**Set a.5.**	**Set a.6.**
Safe and security	⊗	●	●	●	●	●
Health and hygiene	●	-	●	-	-	⊗
Tourism priority	●	●	⊗	⊗	●	●
Environmental sustainability	●	●	●	●	⊗	●
Tourism infrastructure	●	⊗	-	●	●	-
Culture resources	-	⊗	●	-	-	-
Raw coverage	0.325	0.239	0.338	0.412	0.380	0.365
Unique coverage	0.031	0.009	0.010	0.047	0.053	0.024
Configuration consistency	0.987	0.947	0.995	0.963	0.978	0.968
Solution coverage	0.633					
Solution consistency	0.947					

[1] (•) Indicates the presence of the condition. (⊗) Indicates the absence of the condition. (–) Indicates an indifferent condition. There are no core conditions.

Appendix B

Table B1. Final reduction set (post-pandemic scenario).

Variables	**Set b.1.**	**Set b.2.**	**Set b.3.**	**Set b.4.**
Safe and security	⊗	•	•	•
Health and hygiene	•	•	•	-
Tourism priority	⊗	⊗	-	⊗
Environmental sustainability	•	•	•	•
Tourism infrastructure	•	-	•	•
Culture resources	•	•	•	-
Raw coverage	0.424	0.402	0.466	0.464
Unique coverage	0.034	0.010	0.075	0.074
Configuration consistency	0.970	0.972	0.969	0.961
Solution coverage	0.584			
Solution consistency	0.947			

1 (•) Indicates the presence of the condition. (⊗) Indicates the absence of the condition. (–) Indicates an indifferent condition. There are no core conditions.