

Analysis of the impact of Covid-19 pandemic on tourist satisfaction. A case study of visitors of Costa Daurada, South Catalonia

Indrajeet Mallick

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Analysis of the impact of Covid-19 pandemic on tourist satisfaction. A case study of visitors of Costa Daurada, South Catalonia

INDRAJEET MALLICK



DOCTORAL THESIS

2024



FAIG CONSTAR que aquest treball, titulat "Analysis of the impact of Covid-19 pandemic on tourist satisfaction. A case study of visitors of Coasta Daurada (South Catalonia).", que presenta Indrajeet Mallick per a l'obtenció del títol de Doctor, ha estat realitzat sota la meva direcció al Departament de Geografia d'aquesta universitat.

HAGO CONSTAR que el presente trabajo, titulado "Analysis of the impact of Covid-19 pandemic on tourist satisfaction. A case study of visitors of Coasta Daurada (South Catalonia).", que presenta Indrajeet Mallick para la obtención del título de Doctor, ha sido realizado bajo mi dirección en el Departamento de Geografía de esta universidad

I STATE that the present study, entitled "Analysis of the impact of Covid-19 pandemic on tourist satisfaction. A case study of visitors of Coasta Daurada (South Catalonia).", presented by Indrajeet Mallick for the award of the degree of Doctor, has been carried out under my supervision at the Department of Geography of this university.

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COASTA DAURADA, SOUTH CATALONIA

Indrajeet Mallick

Preface

This thesis explores the profound effects of the COVID-19 pandemic on tourist satisfaction, with a

specific focus on the Costa Daurada region in Spain, a mature coastal destination. Tourism, as a

global economic driver, has long contributed to socioeconomic growth through employment,

infrastructural development, and cultural exchange. However, the industry is vulnerable to

disruptions, whether political, economic, or environmental. The unprecedented challenges

introduced by the COVID-19 pandemic have reshaped tourist behavior and altered the dynamics of

destination management.

Given this context, the Costa Daurada serves as an ideal case study, offering valuable insights into

the complex relationship between pandemic-induced changes and tourist satisfaction. The region's

strategic location, rich cultural heritage, and established tourism infrastructure provide a compelling

backdrop for examining the shifts in traveler preferences, behavior, and satisfaction during a period

of significant global upheaval.

This research is based on three case studies conducted during my Ph.D. program in Tourism and

Leisure at the Department of Geography of the Universitat Rovira i Virgili. The dissertation is

structured as follows:

Part I: Introduces the research context, including the objectives, methodology, and theoretical

framework that underpin the study.

Part II: Presents the core argument of the thesis, supported by three empirical studies. These studies

explore (1) the determinants of destination satisfaction, (2) the influence of traditional satisfaction

determinants during COVID-19, (3) the impact of pandemic-era changes on satisfaction levels, and

(4) the differences in satisfaction between tourists who altered their travel plans and those who did

not. The case studies are titled:

A. COVID-19 Prevention Measures and Reliance: Their Relationship with Tourist Satisfaction.

B. Tourist Satisfaction During the Pandemic: An Analysis of the Effects of COVID-19 Prevention

Measures in a Mediterranean Coastal Destination.

C. Holiday Plans Altered Due to COVID-19: The Impact on Tourist Satisfaction.

Part III: Discusses the main findings of the dissertation, drawing general conclusions and

emphasizing the knowledge gained. It also outlines management implications, potential future

research paths, and the broader implications for destination management strategies.

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I dedicate my thesis to my Family and friends.

Linkage of the Doctoral Thesis

The research underpinning this doctoral thesis has been developed under the frame of the following projects:

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Principal Researcher 1: Dr. Salvador Anton Clavé
Principal Researcher 2: Dr. Aaron Gutiérrez Palomero

Duration: 01/09/2021 - 2025

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Contents

Abstrac	ct		. 17
Part I- I	ntrod	uction	. 19
1.1.	Cor	ntext	. 20
1.1.	Res	search Objectives	. 25
1.2.	Res	search Design and Methodology	. 30
1.2	2.1.	Study Area	. 30
1.2	2.2.	Research Design	. 31
2. Ge	eneral	theoretical framework	. 35
2.1.	Τοι	ırist satisfaction	. 35
2.2.	Τοι	ırist satisfaction determinants	. 36
2.3.	Imp	pacts of the COVID-19 on tourism	. 40
2.3	3.1.	Tourism demand	. 40
2.3	3.2.	Fear of travel	. 42
2.3	3.3.	Preventive measures	. 44
2.3	3.4.	Effect of Vaccination	. 46
2.4.	Imp	oact of COVID-19 on tourist satisfaction determinants	. 48
Part II-	Case s	studies	. 52
3.1.		vention Measures and reliance under the threat of COVID-19. Relationship with tou	
		າ	
	1.1.	Introduction	
	1.2.	Study area and data	
	1.3.	Methods	
3.1	1.4.	Results	
3.1	1.5.	Discussion and Condusion	. 63
3.2.		urist Satisfaction DURING the Pandemic: An Analysis of the Effects of MEASURES TO COVID-19 in a Mediterranean Coastal Destination	67
	2.1.	Introduction	
	2.1. 2.2.	Background	
	2.3.	Data	
	2.4.	MethodsResults.	
	2.5.	Discussion and Condusion	
	2.6.		
3.3.	HOI	iday plans altered due to COVID-19: The impact on tourist satisfaction	. გვ

3	.3.1.	Introduction	84
3	.3.2.	Literature review	86
3	.3.3.	Data	90
3	.3.4.	Methods	94
3	.3.5.	Results	95
3	.3.6.	Discussion and conclusion	.100
Part III- Discussion and Condusion		ssion and Condusion	.104
4.1.	Mai	n findings	.105
4.2.	4.2. Lessons and recommendations110		.110
4.3. Limitations		.112	
4.4.	4.4. Future Research Lines		.114
5. R	eferenc	es	.118

Tables

Table 4. Describe abisetives acceptions and boundable is after discountation	27
Table 1. Research objectives, questions and hypothesis of the dissertation	
Table 2. Methodological details of the each case study	
Table 3: Showcases the descriptive statistics of the variables of satisfaction that account for overa	
satisfaction	
Table 4: Exploratory Factor analysis of the destination attributes	
Table 5: Assessment of Results of measurement model evaluation	
Table 6: Structural Model with Path coefficients	
Table 7. Descriptive statistics of the profile of tourists in Costa Daurada in 2019 and 2020	
Table 8. Descriptive statistics of variables of tourist satisfaction that account for overall satisfaction	
Table 9. Results of exploratory factor analysis	
Table 10. Results of the pre-COVID-19 measurement model	. 77
Table 11. Results of the post-COVID-19 measurement model	
Table 12. Results for the Fornell–Larcker criterion of discriminant validity pre-COVID-19	
Table 13. Results for the Fornell–Larcker criterion of discriminant validity post-COVID-19	. 78
Table 14. Pre-COVID-19 structural model	
Table 15. Post-COVID-19 structural model	. 79
Table 16. Descriptive statistics of the profile of visitors	. 92
Table 17. Percentage of respondents who altered their holiday plans	. 93
Table 18. Descriptive statistics of the variables of satisfaction	. 94
Table 19. Exploratory factor analysis of the destination attributes	. 95
Table 20. Mann Whitney U tests of differences in tourist overall satisfaction	. 96
Table 21. Kruskal-Wallis test of differences in overall satisfaction of tourists who changed their	
holiday plans	. 97
Table 22. Mann Whitney U test of differences in satisfaction regarding destination attributes	. 98
Table 23. Result of Kruskal-Wallis tests regarding the satisfaction of tourists who changed their	
holiday plans	. 99
Table 24. Result of Mann Whitney U test based on extracted factor in stay period of tourist who	
changed their travel plan	100
Table 25. Recall of research objectives, questions, data and methods and results	
Figures	
Figure 1. Methodological framework for First and second research study	. 32
Figure 2. Determinants of satisfaction influencing the intention to re-visit a destination	
Figure 3: Conceptual framework	
Figure 4: Diagram of the Measurement Model	
Figure 5. Methodology	
Figure 6. Conceptual model	
Figure 7. Proposed PLS path model	

Abstract

Tourism plays a pivotal role in global and local economies, driving growth through job creation,

infrastructure development, and increased economic activity. However, the COVID-19 pandemic has

profoundly disrupted the tourism sector, leading to unprecedented declines in travel and altering

tourist behaviors and satisfaction. This thesis explores the impact of the COVID-19 pandemic on

tourist satisfaction, focusing on Costa Daurada, a renowned coastal destination in Catalonia, Spain.

By analyzing the effects of COVID-19-related restrictions and prevention measures, this study aims

to provide insights into how these factors influence tourist satisfaction during a period of significant

upheaval.

The research is framed around three primary objectives: (1) To investigate the effect of COVID-19

reliance and prevention measures on tourist satisfaction in Costa Daurada during the summer of

2020; (2) To examine how these measures influenced the determinants of tourist satisfaction before

and during the pandemic; and (3) To identify differences in satisfaction levels between tourists who

adjusted their travel plans and those who did not. Utilizing a multi-method approach, this study

combines cognitive and affective perspectives to assess how tourists' expectations and experiences

were shaped by the pandemic.

The findings reveal that COVID-19 prevention measures significantly impacted tourist satisfaction by

altering perceptions of safety and influencing travel behavior. The pandemic led to a shift towards

"slow tourism" and "untact-tourism," emphasizing safety and minimizing contact. This shift also

affected satisfaction levels, with tourists who adapted their plans experiencing different levels of

satisfaction compared to those who did not. The study underscores the importance of building trust

through effective safety measures and adapting destination management strategies to enhance

resilience and sustainability in the face of future crises. Additionally, this thesis contributes to a

deeper understanding of tourist satisfaction dynamics during the COVID-19 pandemic and provides

valuable insights for policymakers and tourism managers aiming to navigate and recover from global

disruptions.

Keywords: COVID-19 Impact, Tourist Satisfaction, Preventive Measures, Tourism Behavior, Safety,

17

trust, reliance, Holiday plans, Expectations.

Part I- Introduction

1.1. Context

Tourism is a remarkable economic driver of growth, both globally and locally. In the 19th century, the need to speed up "the turnover time of capital" (Harvey et al., 1989, p. 285) and the advent of better information technologies led to a "democratization" of travel and the "cultural globalization" that followed, increasing tourism activities in less developed nations (Mowforth & Munt, 2008, p. 45). Tourism has significantly contributed to socioeconomic growth by creating employment opportunities and stimulating demand, leading to infrastructural development. Additionally, its direct and indirect links have the potential to boost various economic and social factors, including GDP, production, foreign exchange, cultural and social development, and investment (Long et al., 1990; MILNE, 2008). Thus, the tourism industry serves as a catalyst for economic growth and regional development.

Several scholars have captured a wide range of evidence highlighting that the tourism industry not only aids in the development of the destination community by creating jobs but also en courages the expansion of the entire economy of a country. Davis et al. (1988) and Durbarry (2002) found that tourism expenditure significantly positively impacts the overall economy. Similarly, Lee and Chang (2008) and Uysal & Gitelson (1994) highlight the contribution of tourism expenditure to expanding the entire economy. In this context, the World Travel and Tourism Council (2020) reported that tourism supported 330 million jobs (10.4% of all employment) and generated 10.3% of global GDP in 2019. Tourism serves as a critical source of aggregate demand, potentially increasing income, employment, and other essential factors, thereby promoting economic growth.

In addition, there are studies suggesting bidirectional causality between tourism expenditure and economic growth. Corrie et al. (2013) conducted a study in Australia and discovered a bidirectional association between tourist expenditure and economic growth. Similarly, Lee and Taylor (2005) revealed that tourism expenditures contributed to the total final demand and GDP in South Korea. Fayissa et al. (2008) also analyzed the causal relationship between tourism expenditure and economic growth in Sub-Saharan African countries, finding a positive contribution to output and economic growth.

Furthermore, several studies emphasize the importance of tourism expenditure for economic growth. Šimundić & Kuliš (2016) highlight the significance of tourist expenditure in measuring tourism development and its subsequent impact on economic growth. Similarly, Otu (2016) and Leitao and Shahbaz (2016) demonstrate the positive relationship between tourist arrivals, expenditure, and economic growth. Jaforullah (2015) also indicates that international tourism expenditure can help reduce poverty. These studies prove that tourism plays a significant role in

economic growth, making it an essential consideration for countries seeking to foster foreign exchange, create employment opportunities, encourage capital formation, and enhance economic independence.

Indeed, tourism is a remarkable economic driver of growth, offering numerous advantages to both the global and local economies. However, no nation is immune to the consequences of artificial and natural crises on its tourism industry. In this regard, tourism demand is acknowledged to be vulnerable to disruptions such as political and economic instability (Eid et al., 2019), terrorism (Araña & León, 2008), crime (Yüksel & Yüksel, 2007) as well as adverse climatic events (Giddy et al., 2017). The consequences of disruptions negatively impact the tourist experience influencing satisfaction (An et al., 2010; Çetinsöz & Ege, 2013; Qi et al., 2009; Sohn et al., 2016).

Recently, The COVID-19 pandemic has had a devastating effect on the tourism industry, creating a "watershed moment" (Higgins-Desbiolles, 2020), as tourism activities have been forced to live with restrictions imposed to slow the spread of COVID-19 and individuals' fear of contracting the illness. The human right to travel and enjoy the services of the tourism industry was limited in an unprecedented way (Tom & Thanh, 2020), while tourist arrivals plummeted by more than 20 per cent in the first quarter of 2020 (UNWTO, 2020). Therefore, the nation's most dependent on tourism were severely affected by the COVID-19 pandemic (Navarro-Drazich & Lorenzo, 2021).

The outbreak of COVID-19 has forced many nations to shut down their borders, thereby preventing domestic and foreign travel, at least for certain periods. In every respect, the constraints such as locked down and social distance have changed the tourism industry environment (Gössling et al., 2021). In this regard, the dissemination of COVID-19 resulted in significant changes in the behaviour of tourists, i.e. hygiene and safety being the primary needs, avoiding the crowded place and minimizing direct physical contact by 2 meters (*UNWTO*, 2020). As per the text, the pandemic seems to exert adverse effects on tourists' daily routine, minimizing their visits to restaurants, coffee shops and other entertainment venues (Kourgiantakis et al., 2021). Similarly, the constraints due to COVID-19 have changed the travel pattern, i.e., tourists decline to travel internationally (Haryanto, 2020) and were opt to use private vehicles for safety and prevention measures (Butler et al., 2022), impacting the travellers' choices and the profiles of travellers who visit specific destinations (Cuomo et al., 2022). However, the COVID-19 did not have a similar impact on all tourist destinations (Duro et al., 2021), which impacted tourist's decisions to rethink their holiday plans and choose the less crowded destination (Cuomo et al., 2022), especially the coastal destination.

Several researchers highlighted that coastal destinations are highly vulnerable to threats from external disruptions and climatic events (Giddy et al., 2017; Moreno & Becken, 2009; Pandy & Rogerson, 2021) and have suffered severe impacts due to COVID-19, resulting in a complete change in their tourism policies and business practices (Clifford, 2020; Daventry, 2020; DeClerq, 2020; Viga Gaier & Farge, 2020; Yeginsu, 2020).

For instance, research study conducted by Wang et al. (2022) examines the impact of the COVID-19 pandemic on tourism in coastal destinations, focusing on regional resilience. By analyzing geota gged photos from Flickr, the study identifies changes in tourist behaviour and the spatial distribution of tourism flow in Indonesia. The findings reveal regional differences in the distribution of geotagged photos before and during the pandemic, i.e., tourist flow patterns in Indonesia were mainly single-node and hierarchical linear routes, concentrating on core nodes and traditional routes, with specific areas, such as Java and the Nusa Tenggara Islands, emerging as main tourist clusters during the COVID-19 pandemic. The study highlights the dominance of single-core node travel patterns and the transformation of the tourism flow network into more superficial structures due to the crisis. Core nodes, representing larger cities with better transportation access, demonstrate higher resistance to disruptions, while marginal nodes, particularly coastal destinations, exhibit greater vulnerability. These insights provide a valuable understanding of the network dynamics and resilience of tourism flow during the COVID-19 pandemic, emphasizing the importance of strengthening core nodes and addressing vulnerabilities in coastal destinations for sustainable tourism development.

Similarly, Rogerson and Rogerson (2022) explores the impact of the COVID-19 pandemic on tourism flows in coastal destinations, focusing on South Africa as a case study. The research study highlights that traditional mass coastal destinations had highly adverse effects of the pandemic. However, smaller coastal destinations have experienced relative improvement, especially those with good access to domestic markets. In this sense, smaller coastal destinations may be perceived as less crowded, providing an opportunity for tourists to spend their holidays. These findings suggest potential changes in consumer mindset and travel behaviour due to COVID-19, indicating the need for further investigation into the long-term effects of coastal tourism.

COVID-19 has demonstrated that the challenges faced by coastal tourism destinations go beyond the usual problems caused, by climate change, political conflicts, or economic crises, resulting in new global shocks and stressors that affect these destinations differently. Hence tourism destinations must effectively manage increasing uncertainty and adapt accordingly (Valls & Sardá, 2009). During the early phase of the COVID-19 pandemic, Phillips et al. (2020) pointed out that governments must create and adopt policies to address the pandemic and how it interacts with other regional or global

crises. It is important to note that during the easing phase of the pandemic, the shift in customer preferences for small coastal destinations was more significant than the popular and urban locations due to the risk of COVID-19 transmission was noticed (Carvache-Franco et al., 2021; de Aldecoa Fuster, 2021; Pereira et al., 2021). This change in tourist behaviour has posed challenges for coastal destinations, forcing them to make difficult decisions regarding lockdowns and partial reopening for the tourists to support the economy and livelihoods at the destination (Lamers & Student, 2021). On the other hand, few research studies suggest that coastal communities that typically attracted fewer tourists were the places least hit by the pandemic's effects (Donaire et al., 2021; Gabe, 2021; Kane et al., 2021). However, the change in tourists' decision to visit a less crowded destination, such as a coastal destination, due to COVID-19 constraints might not have the best experience during their stay.

Regarding tourism industry, tourism is commonly viewed as a pleasurable experience (Goossens, 2000); the marketing and management literature treats it as consumer (tourist) behaviour and emphasises the importance of the consumer (tourists) service experience (Quan & Wang, 2004). Nickerson (2006) highlighted the subjective nature of tourist experiences, which are derived from the quality of services that are more objective and determine tourist satisfaction, ultimately influencing their decisions to revisit a destination and use available goods and services (Global Rescue and World Travel & Tourism council, 2019). Hence, any unfavourable changes in the tourism industry's service can significantly impact tourists' satisfaction. In the context of COVID-19, pandemic has caused mental stress, leading many people to seek travel as a means of escape and shift their preferences from mass tourism to "slow tourism" (Wen, Kozak, et al., 2021) and "untacttourism" (Bae & Chang, 2021). However, measures aimed at slowing the spread of COVID-19 have constrained tourism activities, affecting tourists' ability to have a better holiday experience and altering their satisfaction. Thus, to provide a better experience, it is crucial to focus on tangible and intangible factors or determinants of tourist satisfaction, such as accommodations, activities, tourist information, and locals' behaviour (Novelli et al., 2018).

Considering the global situation and the fear of contagion due to the COVID-19 pandemic, providing tourists with a safe and secure environment is essential. The travel and tourism sector must adapt and create a framework that ensures the safety and security of travellers while providing an enjoyable experience. A heightened emphasis on tourist education and guidance is also necessary to promote responsible and sustainable tourism practices.

However, the COVID-19 measures implemented to slow down the infection or prevent it from getting infected resulted in a decline in tourist arrivals, and it also led to modifications in the profile

(Arbulú et al., 2021) and behaviour of tourists during their stay (Sánchez-Pérez et al., 2021), which significantly influenced tourist satisfaction. Notably, Sánchez-Cañizares et al. (2021) found that the attitude toward travelling during the pandemic is negatively impacted by perceived COVID-19 risk, which affects the intention to travel to a destination and is associated with tourist satisfaction. In this sense, due to strict restrictions on international mobility and other COVID-19 restraint measures, domestic tourism activity became the only alternative, at least temporarily, leading to changes in tourist consumption behaviour and impacting tourist satisfaction.

Indeed, tourist satisfaction is critical in the tourism industry, influencing destination selection, consumption patterns, and the likelihood of return visits (Jang & Feng, 2007). The attainment of customer satisfaction is vital for the success of the tourism sector, as satisfied tourists are more inclined to recommend and revisit destinations (Chen & Chen, 2010; Lee et al., 2010). Thus, to enhance satisfaction, it is essential to understand tourists' needs deeply, provide exceptional services, and cultivate a positive image of the destination (Marinao Artigas et al., 2014; P. Stevens et al., 1995). However, the emergence of the COVID-19 pandemic has brought significant changes to the profiles and behaviours of tourists, resulting in a discernible impact on their satisfaction levels. In this context, an intriguing question arises: How is tourist satisfaction with a destination related to COVID-19 restrictions and measures? What kind of relationship exists between the destination construct, COVID-19, and satisfaction?

Delving into the impact of COVID-19 restrictions and measures on tourist satisfaction with a destination is crucial for comprehending the dynamics of the tourism industry amid the pandemic. This research endeavour holds the potential to provide valuable insights into the factors shaping satisfaction in the face of the on-going crisis, inform destination management strategies, and contribute to the development of a resilient and sustainable tourism industry. Therefore, this dissertation emerges from the need to delve into the knowledge of tourists' satisfaction concerning COVID-19, identify the determinant of satisfaction during COVID-19, and recognize and investigate the effects of COVID-19 on tourist satisfaction at the destination. To address these research questions effectively, Costa Daurada has been selected as the case study. This region exemplifies the challenges faced by mature tourism destinations, making it an ideal context for examining the nuanced effects of COVID-19 on tourist satisfaction. In order to achieve this, the present work raises various research goals that are accomplished using a multi-method approach. Costa Daurada has been selected as the case study to address these research questions effectively, as this region, being a mature tourism destination, faces several challenges, making it an ideal context for examining the

effects of COVID-19 on tourist satisfaction. Various data sources were used to investigate the impact of COVID-19 on tourists' satisfaction.

Costa Daurada, situated in the Catalonia region of Spain, is a renowned coastal area distinguished by its gentle Mediterranean climate that serves as a prominent summer tourist destination. It attracts more than 5 million visitors annually (Patronat de Turisme de La Diputació de Tarragona, 2018). Costa Daurada, known primarily for its beaches, is near several renowned UNESCO World Heritage Sites, cultural attractions, and Port Aventura World, a preeminent theme park in Europe (Clavé, 2010). Additionally, the region is strategically well connected both regionally and internationally by road, rail, and air, with Reus Airport as a critical transportation hub (Gutiérrez & Miravet, 2016). Tarragona, being the primary port of the region, has recently begun to attract international cruise ships, thereby adding to its allure as a popular tourist destination (Domènech et al., 2020). However, being a mature coastal destination facing contemporary challenges characterized by overcrowding and negative external cost presents a unique context for exploring how COVID-19 has influenced tourist satisfaction (Almeida & Garrod, 2018; Domènech et al., 2023). Additionally, Tourist arrivals and overnight stays plummeted by 70% and 75%, respectively, compared to 2019. Salou, Cambrils, and Vila-seca municipalities are the main tourism hubs, comprising over 70% of the region's tourism capacity. Given its strategic location and the pandemic's significant impact, Costa Daurada is an ideal area for studying tourist satisfaction dynamics during challenging times. In this sense, the thesis project will contribute to developing destination management strategies that enhance resilience and sustainability. Additionally, these insights will also be vital for local and regional policymakers, researchers, and tourism managers seeking to create more adaptable and effective strategies in similar contexts.

1.1. Research Objectives

The COVID-19 pandemic has significantly impacted the tourism industry, leading to the implementation of prevention measures and mobility restrictions that prevented people from travelling. Consequently, there has been a global increase in anxiety levels, depression, and stress (Joshi et al., 2021; Karlsson et al., 2021). Despite the risks associated with contracting COVID-19, some individuals have chosen to travel during the pandemic, with the choice of destination playing a crucial role in their decision-making process (Roman et al., 2020b). Notably, several scholars have emphasised that travelling can help individuals emotionally recover from the anxiety and stress caused by the pandemic (Buckley, 2023; Buckley & Westaway, 2020), which, in turn, influences their behaviour at the destination and impacts tourist satisfaction (Shin et al., 2022). Therefore, this dissertation aims to investigate the effect of the COVID-19 pandemic on tourist satisfaction. The study adopts the cognitive-affective view approach (del Bosque & Martín, 2008), which combines

cognitive and emotional perspectives—two critical factors in understanding decision-making and behaviour processes (Decrop, 1999) that contribute to the formation of satisfaction.

In the context of the cognitive approach, tourism satisfaction results from individuals' cognitive process of comparing their expectations with the actual performance (Oliver, 1980). Regarding analysing tourist satisfaction formation, the widely used confirmation/disconfirmation paradigm is employed (Wirtz et al., 2000). This paradigm compares pre-consumption standards to perceived performance to determine satisfaction. However, there is a growing argument that satisfaction primarily stems from emotions. Westbrook and Oliver (1991) assert that satisfaction is an emotional outcome derived from the consumption experience. Recognising the significance of both cognitive judgments and consumption experiences, Bosque and Martín (2008) introduced a combined approach, i.e. cognitive-affective view, which is particularly relevant in the service industry where emotions play a critical role in shaping the overall experience (Barsky, 2002; E. Bigné et al., 2000; Oliver, 1993). Additionally, Adam (2015) highlighted that tourists' cognitive risk perception can emotionally impact their travel experiences and overall satisfaction. Therefore, it is essential to incorporate emotions into the theoretical framework of tourist satisfaction, particularly in the service industry.

The COVID-19 pandemic, along with the strict restrictions and preventive measures implemented worldwide, has caused significant damage to the tourism industry, prompting researchers to examine the actions of tourists and the various risk factors associated with the virus (Bae & Chang, 2021; Neuburger & Egger, 2021; W. Xu et al., 2021; Zhu & Deng, 2020). In light of this, the impact of COVID-19 on the tourism industry has sparked research interest in understanding the extent to which tourist satisfaction has been affected by the disease outbreak. Considering this research context, the cognitive-affective view approach (del Bosque & Martín, 2008) is particularly relevant in providing insights into the consequences of COVID-19 on tourist satisfaction.

Given that this section aims to describe the research objective, it is essential to note that this thesis shifts from a broad research objective to numerous more focused objectives connected to this dissertation's three articles. Thus, the main research objective is:

To analyse the impact of the COVID-19 pandemic on tourist satisfaction at Costa Daurada, a prominent coastal destination in Catalonia.

Main research objective

Considering the project's main objective, it delves into several specific research aims associated with three articles that comprise the dissertation presented in Table 1. Each case study is nourished by research questions and hypotheses.

Table 1. Research objectives, questions and hypothesis of the dissertation

Research Objective	Research Question	Hypothesis
To disentangle the effect of COVID- 19 reliance and COVID-19 prevention measures on tourist satisfaction during the Summer of 2020 at Costa Daurada	To what extent do COVID-19 reliance and COVID-19 prevention measures impact tourist satisfaction in a mass coastal destination during the Summer of 2020?	H1. The COVID-19 prevention measures have a significant impact on COVID-19 reliance. H2. The COVID-19 reliance has a positive effect on tourist satisfaction.
To investigate the impact of COVID- 19 safetyand prevention measures on tourist satisfaction and to identify the determinants of tourist satisfaction before and during the pandemic.	To what extent do the safety and prevention measures imposed due to the COVID-19 pandemic impact tourist satisfaction in a mature coastal destination in Catalonia during the peak tourist season of 2020?	H3. COVID-19 has yielded changes in the effect of the determinants of tourist's satisfaction, especially with the regard to the importance of safety. H4. The COVID-19 prevention measures have a significant impact on tourist satisfaction.
To investigate whether there are significant differences in the satisfaction levels of tourists who changed their initial travel plan and who did not during 2020.	To what extent was tourist satisfaction of those visitors who changed their holiday plans affected by the incidence of the COVID-19 pandemic, compared to those who did not?	H5. Tourists who couldn't undertake their holidays as planned initially were less satisfied than the ones who could undertake their holidays due to the COVID-19 pandemic. H6. Tourists who changed their holiday plans might be more satisfied because they diminished their perceived risk of contagion

The first objective of the thesis related to COVID-19 prevention measures, COVID-19 reliance and satisfaction (See table 1). Thus the first specific objective is:

To disentangle the effect of COVID-19 reliance and COVID-19 prevention measures on tourist satisfaction during the summer of 2020.

First objective

Trust is crucial in attracting tourists and addressing their safety concerns at destinations (Rousseau et al., 1998). Establishing trust between travellers and destinations is essential in promoting travel and attracting visitors (Crotts et al., 2001). Moreover, it is crucial for successful marketing and sustainable tourism development to establish trust in a destination's ability to meet tourists' expectations.

In the context of the COVID-19 pandemic, destination managers have recognized the critical role of trust, particularly as health safety has become a primary concern for tourists. Therefore, various COVID-19 prevention measures such as using masks, adherence to social distancing guidelines, and frequently getting hygiene, i.e., hand washing and avoiding crowded places, were implemented to build tourists' safety and gain their trust of not getting infected. These measures inevitably had an impact on tourists' overall experience. Additionally, several researchers have emphasized the importance of implementing preventive measures to enhance the sense of trust in potential tourists and attract visitors, as tourists would only travel again if they feel safe (Z. Li et al., 2021; O'Malley et al., 2023; Sarfraz et al., 2022; Shin et al., 2022; Wachyuni & Kusumaningrum, 2020).

In the current context of COVID-19, conducting an in-depth analysis of tourist satisfaction concerning the restrictions and preventive measures related to the pandemic is of utmost importance in research endeavours. Therefore, the primary research objectives of this study were to disentangle

the effect of COVID-19 reliance and COVID-19 prevention measures on tourist satisfaction. Specifically, the study aims to investigate whether COVID-19 reliance and individuals' perception of the actions implemented at the destination to prevent the risk of getting infected took a central role in determining overall tourist satisfaction. Two main hypotheses are put forward. In the first place, the COVID-19 prevention measures have a significant impact on COVID-19 reliance. Secondly, COVID-19 reliance has a positive effect on tourist satisfaction.

The second research aims at specific research objective associated with tourist satisfaction in pre-COVID-19 and during COVID-19. Thus the second specific objective:

To investigate the impact of COVID-19 safety and prevention measures on tourist satisfaction and to identify the determinants of tourist satisfaction before and during the pandemic.

Second objective

Tourism demand is acknowledged to be vulnerable to disruptions such as political and economic instability (Eid et al., 2019), terrorism (Araña & León, 2008), crime (Yüksel & Yüksel, 2007) as well as adverse climatic events (Giddy et al., 2017), affecting tourist experience (An et al., 2010) and disrupting in satisfaction process. At the same time, actions implemented to mitigate the effects of those disruptions can also significantly impact tourist satisfaction, i.e., the impact can be positive if the actions are perceived by tourists to relieve their perception of risk (Payam, 2016b) or negative if they are perceived as too forceful or ineffective. Risk perception is an intrinsic part of an experience that has a strong association with emotion influencing satisfaction (Chaudhuri, 1997; Mano & Oliver, 1993) and has to be taken into consideration when analysing the determinants of tourist satisfaction (Xie et al., 2020).

In the context, the COVID-19 pandemic has changed the tourism industry by introducing mobility restrictions and prevention measures influencing tourist satisfaction. Indeed tourist satisfaction is a crucial aspect of the tourism industry, as it influences destination choice, product and service consumption, and the decision to return (Jang & Feng, 2007). In light of the pandemic, a critical research question arises: Do the traditional determinants of satisfaction with a destination, including safety, have the same influence on tourist satisfaction as the preventive measures introduced due to COVID-19? In this sense, the current work aims to examine the determinants of tourist satisfaction and assess the impact of safety and prevention measures of COVID-19 on satisfaction before and during the pandemic. Thus, two main hypotheses put forward. First, COVID-19 has yielded changes in the effect of the determinants of tourist satisfaction, particularly regarding the importance of safety and secondly, COVID-19 prevention measures have a significant impact on tourist satisfaction.

Therefore, analysing tourist satisfaction during the peak tourist season of 2020 in a mature coastal destination characterised by mass tourism destination was expected to allow us to disentangle the role of safety and COVID-19 prevention measures such as disinfecting one's hands, social distancing, proper mask usage, and restrictions on gathering in closed areas, as determinants of tourist satisfaction.

In third place, this thesis also aims to contribute to the stream of studies focused on detecting the difference in satisfaction between the tourists who changed their initial travel plan and those who did not change due to COVID-19. Thus the third specific objective is:

To investigate the impact of COVID-19 on tourist satisfaction between tourists who changed their travel plans and those who did not.

Third objective

The COVID-19 pandemic has significantly impacted tourists' daily routines, decreasing visits to restaurants, coffee shops, and other entertainment venues (Kourgiantakis et al., 2021). Due to the imposition of strict restrictions on international mobility and other COVID-19 restraint measures, domestic tourism activity had become the only alternative, at least temporarily (DNA, 2020; EY, 2020; Interface Tourism, 2020). Several studies have shown that relaxation of internal movement restrictions and other COVID-19 restraint measures have changed tourist destination preferences (Eurostat, 2020; Ivanova et al., 2021; Wen, Wang, et al., 2021) and trip durations (DNA, 2020; Krouskos, 2020).

It is important to note that tourist satisfaction is closely associated with their experience (Bowie & Chang, 2005; Kozak & Rimmington, 2000). In the COVID-19 context, the availability of alternative tourism activities can be persuaded as a "blessing" for some tourists, providing a means to escape from COVID-19 restrictions partially. However, tourists who changed their destination over their initial preference due to frustration may feel different experiences. Considering that the experience may not meet their initial expectations, which could impact their overall satisfaction.

The primary objective of the current work aims to investigate whether were significant differences in the satisfaction levels of tourists who changed their initial travel plan and who did not during 2020. Two main hypotheses are assessed. In the first place, tourists who could not undertake their holidays as planned initially were less satisfied than the ones who could undertake their holidays due to the Covid-19 pandemic. According to the theories which provide a theoretical framework to account for the process of tourist satisfaction formation, this situation should result in a decline of satisfaction (J. E. Bigné et al., 2005; Engel et al., 1993b; Oliver, 1980, 1993). The second hypothesis stems from the empirical evidence that states that during the pandemic, there has been a

substantial growth of tourists' preferences for health and safety during their travels (Ma et al., 2022; Srivastava & Kumar, 2021). Therefore, visitors who changed their plans may experience a certain sense of relief, which could contribute to a better enjoyment of their holidays. As a result, analysing the impact of alterations of visitors' plans on tourist satisfaction will provide valuable insights for firms operating within the tourism industry, as well as destination managers, in effectively dealing with future disruptions.

The research questions and hypotheses are addressed by different types of empirical analysis and using different data sources, as shown in the following sections and each methodological section of the case study.

1.2. Research Design and Methodology

This part of the thesis project provides an overview of the study area and presents the overall research design. Although the dissertation is based on a collection of articles, each case study follows its methodological framework.

1.2.1. Study Area

Costa Daurada, situated roughly 100 kilometres southwest of Barcelona, is an enchanting travel destination in Catalonia, renowned for its golden sandy shores, mild Mediterranean climate, and abundant cultural legacy. Salou, Cambrils, and Vila-seca municipalities are the main tourism hubs, comprising over 70% of the region's tourism capacity. These cities have populations ranging from 20,000 to 35,000, while nearby midsized cities, Tarragona and Reus, have over 134,000 and approximately 100,000, respectively. The appeal of the region is primarily centered on its beaches, which draw sunbathers and swimmers who seek to relax in the sun and swim in its calm, shallow waters. The beaches are particularly renowned among visitors for its pristine sands and family-friendly environment. The destination is also ideal for individuals seeking a thrilling adventure, as it provides a range of exciting water sports, accommodating both beginners and experienced experts. The appeal of Costa Daurada's was further enhanced by the presence of PortAventura World, a renowned theme park situated in Europe. PortAventura being a significant attraction draws millions of visitors annually with its exciting rides, themed areas, water parks, and Ferrari Land (Clavé, 2010).

The cultural and historical relevance of Costa Daurada extends beyond its well-known beaches and theme parks. The destination is home to several UNESCO World Heritage Sites, such as Tarragona's historic Roman ruins, which provide an enthralling look into the past. The Prades Mountains and Serra del Montsant Natural Park provide an ideal background for hiking, mountain riding, and bird watching, showcasing the Costa Daurada's inland natural beauty (TURESPAÑA, 2024). Birdwatchers are particularly drawn to the Ebro Delta because of its diverse biodiversity, which includes the

chance to witness exotic species such as flamingos (Associació d'Allotjaments Turístics de la Costa Daurada i Terres de l'Ebre, 2024; TURESPAÑA, 2024). Another aspect of the culinary scene is the regional Mediterranean cuisine, which includes fresh seafood and traditional dishes and can be found in a range of restaurants and beach cafés (TURESPAÑA, 2024). Costa Daurada is an immensely versatile and enticing vacation destination, attracting people from all over the world not only for its natural beauty and cultural richness but also for its excellent accessibility by air, rail, and road (Gutiérrez & Miravet, 2016).

Costa Daurada has a diverse tourist profile, but it is mostly visited by family tourists, who account for more over 40% of visitors. Domestic tourists, who account for the vast bulk of visits, are particularly drawn to the location (Delclòs-Alió et al., 2022; Domènech et al., 2023; Gutiérrez & Miravet, 2016; Mallick et al., 2022). Many of these tourists are repeat visitors, with more than 50% returning to the area, indicating a strong connection to the area. The most typical age range for visitors is 25 to 64 years, drawn by the variety of activities and attractions ideal for both young adults and families. Tourists typically stay in the region for a long period of time, with more than 40% staying for four to fourteen days (Delclòs-Alió et al., 2022; Domènech et al., 2023; Gutiérrez & Miravet, 2016; Mallick et al., 2022). This extended stay enables them to fully enjoy the various offerings of Costa Daurada, from its beaches and cultural sites to its outdoor activities and vibrant nightlife.

1.2.2. Research Design

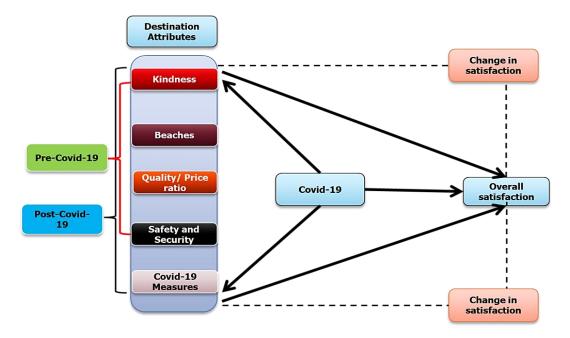
The primary methodological information of each case study is summarised in Table 2. Various analytical techniques were employed to address the study's research questions, utilizing the gathered data. Additionally, Figure 1 presents a conceptual diagram that outlines the different stages of the research, particularly the first and second research, accompanied by a description of the empirical analysis conducted to address each research topic.

Table 2. Methodological details of the each case study

Case study	Tourist's reliance of not getting infected is part of tourists' satisfaction- the effect of the pandemic COVID-19?	Tourist Satisfaction amid the Pandemic: The Effect of COVID- 19 Prevention Measures	What happens to tourist satisfaction when tourists have to change their plans: the effect of the pandemic COVID-19?
Data source	Surveys	Surveys	Surveys
Year of data	2020	2019 And 2020	2020
Target	Tourist	Tourist	Tourist
Sample size	225	1,556 (2019) And 2,220 (2020)	2,009
StudyArea	Salou, Cambrils and Vila- seca, Reus and Tarragona. (The Costa Daurada region)	Salou, Cambrils and Vila-seca, Reus and Tarragona. (The Costa Daurada region)	Salou, Cambrils and Vila-seca, Reus and Tarragona. (The Costa Daurada region)

Analysismethod	Factor Analysis using EFA+ Partial Least Square Path Modelling (PLS-PM)	Factor Analysis using EFA+ Partial Least Square Path Modelling (PLS-PM)	Factor Analysis using EFA+ Mann- Whitney U test + Kruskal-Wallis Test
Descriptive analysis	Yes	Yes	Yes
Understanding tourists satisfaction in relation to COVID-19	Yes	Yes	Yes
Identification of Attributes pre-COVID-19	No	Yes	No
Identification of Attributes during-COVID-19	Yes	Yes	Yes

Figure 1. Methodological framework for First and second research study



Costa Daurada, experienced a drastic decline in tourism in 2020 due to the COVID-19 pandemic. Tourist arrivals and overnight stays plummeted by 70% and 75%, respectively, compared to 2019. Costa Daurada benefits from excellent road and public transport connections, facilitating convenient travel. However, given its strategic location and the pandemic's significant impact, Costa Daurada is an ideal area for studying tourist satisfaction dynamics during challenging times.

As part of this thesis project, the primary research objective is to analyze the impact of the COVID-19 pandemic on tourist satisfaction at a coastal destination, specifically Costa Daurada. The data sources include two surveys conducted in the Costa Daurada region. Given the context of COVID-19, the timing of the interviews is a crucial element of this research, as the evolution of the pandemic significantly influenced the tourist season. After the total lift of the lockdown, enforced in Spain from the spring of 2020 until the 23rd of June, tourist activity began to rebound during the summer. To this end, the first research study utilized data collected through a survey with 220 respondents in

August 2020. The second research study used microdata from a tourism demand survey conducted from June to September by the Costa Daurada Tourism Observatory, with 3,776 respondents: 1,556 from 2019 and 2,220 from 2020. It is important to note that the Eurecat Tourism Observatory in Costa Daurada prepared the microdata of the surveys used in this study. Additionally, access to the microdata was obtained by means of the research cooperation agree ment between Eurecat and the Research Group on Territorial Analysis and Tourism Studies (GRATET).

In the third research study, data from the year 2020, drawn from the second article, were utilized with a distinction made by including variables that indicated whether visitors had altered their travel plans due to the pandemic. These plan changes encompassed five aspects: change in destination, change in mode of transportation, change in length of stay, change in accommodation, and change in activities. The study considered 2,009 valid questionnaires from tourists who stayed overnight in Salou, Cambrils, and Vila-Seca. It's important to note that interviews were conducted by the Costa Daurada Tourism Observatory throughout the entire week during the high tourist season (from June to September) and on weekends during the rest of the year. Questionnaires were completed daily during various time slots, including weekends and public holidays during the off-peak season. The overall distribution of surveys across municipality districts was determined by considering the number of tourists hosted in each area, with key locations attracting the majority of tourist influx chosen as survey sites. The selection of individual tourists to be surveyed at each location was randomly defined to ensure a representative sample.

The questionnaire collected detailed information on the characteristics of the tourists' stay, including the type of accommodation, duration of stay, travel companions, whether the tourists had visited Tarragona before, and their expenses during the stay. Data on the mode of transportation to the tourist destination from the point of origin were also gathered. Additionally, the survey provided insights into tourists' characteristics and demographic profiles, such as sex, age, and country of origin. Tourists were also asked about their activities, mobility patterns at the destination, and places visited during their stay. This comprehensive approach allowed the study to capture a wide range of variables essential for understanding the impact of the COVID-19 pandemic on tourist satisfaction and behaviour in Costa Daurada.

Additionally, the data sources used in the three research studies provided information about the following satisfaction attributes: overall satisfaction, cleanness of the public areas, safety, the kindness of the people, facilities for pedestrians, green areas – nature, signposting, cleanness of beaches and the sea, facilities on beaches and quality/price ratio that allows the different measuring aspects of tourists 'satisfaction. The selection of these attributes was driven by their significance in

shaping tourists' satisfaction and their relevance to the research objectives. Additionally, amid the COVID-19 pandemic, tourists were also asked to assess the prevention measures implemented for COVID-19. Furthermore, in the first research study, tourists also reported a valuation of their reliance on not contracting COVID-19 in three different situations: at the tourist destination, visiting outside the tourist destination, and visiting the interior (not open-air).

Following the aim of the three research studies, the work is two folded. The first fold of the research studies involves the identification and categorization of satisfaction attributes, including COVID-19 measures, through the Explanatory Factor Analysis (EFA) technique. To achieve the first research objective of disentangling the effect of COVID-19 reliance and COVID-19 prevention measures on tourist satisfaction, as well as the second research objective of examining the determinants of tourist satisfaction and assessing the impact of safety and COVID-19 prevention measures on satisfaction before and during the pandemic, the PLS-PM (partial least squares path modelling) technique was employed as a second fold. PLS-PM is a multi-attribute approach that allows for the assessment of both direct and indirect effects on presumed causal relationships (S.-H. Kim et al., 2013; Nasir et al., 2020; Prayag & Ryan, 2011). In the third research study, the significance of differences in satisfaction levels between tourists who changed their initial travel plans and those who did not change during COVID-19 was assessed using non-parametric techniques as second fold. Specifically, the Mann-Whitney and Kruskal-Wallis tests were applied. The Mann-Whitney test allows for the evaluation of differences between two independent groups when the variable is ordinal or continuous (Mann & Whitney, 1947; McElduff et al., 2010), while the Kruskal-Wallis test extends this analysis to compare more than two independent categories (Corder & Foreman, 2009; Kruskal & Wallis, 1952).

2. General theoretical framework

The general theoretical foundation for this dissertation is presented in the second chapter of this thesis project. As a result, this chapter is divided into three sections, considering the goals stated in the earlier sections. First, some reflections are provided on the understanding of tourist satisfaction. Second, it highlights the tourist satisfaction determinants. The third section highlights the impact of COVID-19 on tourist satisfaction determinants.

2.1. Tourist satisfaction

Tourist satisfaction plays a vital role, not just within the tourism sector but also across various economic activities. It is widely recognized as a fundamental element for achieving business success in highly competitive environments (Morgan et al., 1996). Specifically within the tourism industry, the significance of tourist satisfaction cannot be overstated, as it is considered essential for the sustainability and long-term prospects of any tourism product or service (Gursoy et al., 2003; Kozak et al., 2004).

Tourist satisfaction has been a critical area of research in tourism since the 1960s. Researchers have been interested in understanding tourist satisfaction from the perspectives of quality management and repurchase intention and have developed theoretical models to explain this concept (Cardozo, 1965; Hunt et al., 1977). Pizam et al. (1978) were the first to apply the idea of customer satisfaction to the tourism industry, which quickly became a hot topic.

Tourist satisfaction plays a vital role in examining tourist behaviour as it influences decisions about travel destinations, purchasing choices, and the likelihood of return (Jang & Feng, 2007; Kozak & Rimmington, 2000). Both subjective factors, such as tourists' emotions, and objective factors, such as the quality of products and services at the destination, influence tourist satisfaction (Parasuraman et al., 1985; Pizam et al., 1978). The quality of tourist services is crucial in shaping tourist satisfaction at the destination, making it a critical factor for destination management organizations, as tourist satisfaction is determined by how well destination attributes meet tourists' expectations and serve as a pull factor in attracting visitors (Ryan, 1995). Therefore, academics have increasingly recognized that the evaluation of tourism destinations should include tourists' satisfaction because tourism resources such as products and destinations have evolved to comprehensive strength (Kozak et al., 2004; H. Song et al., 2011; Tsiotsou & Vasioti, 2006). A satisfied tourist is more likely to return and recommend others about the destination, and it also results in fewer complaints from tourists. However, tourists will only be satisfied once they believe their money was well spent (Kozak & Rimmington, 2000).

In tourism research, "tourist satisfaction" is rooted in the marketing term "customer satisfaction". Satisfaction is defined as the consumer's assessment of how well a product or service meets all the expected wants and needs (Czepiel & Rosenberg, 1977). In regards to the definition, Oliver (1980) suggests that satisfaction is the buyer's cognitive state of being adequately or inadequately rewarded for the sacrifice customer has undergone. According to this perspective, satisfaction is a cognitive process that involves individuals comparing their performance to their expectations. The confirmation/disconfirmation paradigm is widely used in analysing the formation of tourist satisfaction, as it establishes a pre-consumption standard compared to the perceived performance that the consumer obtains (Mattila & Wirtz, 2000).

However, some works suggest that satisfaction is primarily rooted in emotions. Westbrook (1980) argues that satisfaction is an emotional response to the experiences associated with particular products or services purchased, while Engel et al. (2011) suggest that it is an emotional response derived from a consumption experience. In this vein, several authors have introduced a combined approach known as the cognitive-affective view, which results from combining individuals' cognitive judgments and consumption experiences (J. E. Bigné et al., 2005; Oliver, 1993). Consumers are highly likely to experience affective responses when interacting with the service and personnel (Zins, 2002). In the service industry, emotions play a critical part in the experience, and thus the introduction of emotions in the theoretical framework of tourist satisfaction is justified (Barsky, 2002). The cognitive-affective view combines cognitive judgments and consumption experiences, acknowledging the role of emotions in shaping satisfaction, particularly in the service industry.

2.2. Tourist satisfaction determinants

Tourists primarily choose their destinations, use the goods and services there, and return to those destinations based on the satisfaction they experience (Bowie & Chang, 2005; Kozak & Rimmington, 2000). Russell and Pratt (1980) highlighted in their study that a destination's physical, social, cultural, technological, political, and economic characteristics directly influence tourist satisfaction. In this regard, numerous research was conducted from the perspective of cause and effect of tourist satisfaction and concluded with the identification of significant antecedents that influence tourist satisfaction: tourist expectations (Rodríguez del Bosque et al., 2006), perceived quality (Baker & Crompton, 2000; González et al., 2007; Heung & Cheng, 2000; Kozak & Rimmington, 2000), perceived value (C.-F. Chen & Tsai, 2007; Gallarza & Gil Saura, 2006; C.-K. Lee et al., 2007), and destination image (Cooper et al., 1993; Lee et al., 2005).

Regarding the tourist satisfaction, it is essential to identify the determinants as antecedents have significant influence on tourist satisfaction formation at the destination. In this vein, Murphy et al.

(2000) revealed in their study that destination environment products: Natural environment, Political factors, technological factors, economic factors, cultural factors and social factors and service infrastructure: shopping service, recreation and attraction services, food services, travel services, transport services and accommodation services are crucial determinants of satisfaction influencing the intention to re-visit a destination (Figure 2). Following the study of Murphy et al. (2000) Truong and Foster (2006) studied the determinants of satisfaction in five dimensions, i.e., "Five A": Accessibility, Attractions, Accommodation, Amenities, Ancillary services; and concluded that determinants may vary due to different characteristics of destination.

Tourist Destination Experience Shopping & Attractilon Transportation Services Food Travel Services Services Service Infrastructure Natural Social Enviroment Factors Political/Legal Cultural Factors Technological Economic Factors Factors **Destination Environments**

Figure 2. Determinants of satisfaction influencing the intention to re-visit a destination

Source: Murphy et al. (2000)

Attraction: Destination attraction is crucial in determining a tourist's decision to visit a destination and their satisfaction. A place's inherent appeal and elements relating to its people can help it retain its allure for travellers (Vengesayi et al., 2009). Krešić and Prebezac (2011) identified natural and cultural attractions such as a pleasant climate, a heritage atmosphere, a green environment, historical sights, archaeological sites, and monuments that enhance tourist satisfaction. In addition, Gnanapala (2015) found that cuisine also acts as a destination's attraction and has a positive association with tourist satisfaction. Udoh's (2019) study revealed that the friendliness of locals also affects a destination's attraction, which is closely associated with tourist satisfaction.

Accommodation: Accommodation is a critical factor in determining tourist satisfaction and boosting tourism, according to Buhalis (2000). Lovely and appealing modern and stylish accommodations have friendly and helpful staff and offer a beautiful view, which can tremendously delight tourists

(Tribe & Snaith, 1998; Truong & King, 2009). Krešić and Prebezac (2011) highlight the significance of accommodations along with natural and cultural attractions that contributes in boosting economy and enhance tourist satisfaction. Additionally, Pjero and Gjermëni (2020) highlighted in their study that tourists' satisfaction on the accommodation provided during their stay is a crucial issue of tourism development and their reviews plays a vital role in attracting new tourist. In this sense, the revolution of technology in terms of information, such as online reviews, search engine optimization (SEO), online travel agencies (OTA), and many more factors, has made selecting accommodation easier for tourists (Varkaris & Neuhofer, 2017).

Accessibility: Accessibility is related to travel-related goods, services, and amenities, which provide business opportunities, welcome all tourists and increase destination revenues (Dwyer & Kim, 2003). Baker and Crompton (2000) found that the time and expenses of transport to the destination is an essential factors influencing tourists satisfaction and their decision to visit a destination. In regards to the accessibility, a modernized transportation network and infrastructure are crucial as it increases the number of travellers and visitors in a location (Mazrekaj, 2020). In this vein, Yang et al. (2017) and Zeng & He (2019) signalled that accessibility at the destination especially, reliable public transit connect more visitor flows. Amenities of infrastructural services of accessibility, such as parking facilities, telecommunications facilities, pedestrian width, and sign postings, also demonstrate a favourable link with satisfaction (C. F. Chen & Chen, 2010; Dwyer et al., 2004). It is important to note that satisfaction in public transportation is greatly influenced by passenger journey time, comfort, and trip length (Hansson et al., 2019). Therefore, accessibility for tourists at the destination should be taken in consideration while promoting a destination and analysing tourist satisfaction.

Activities: Activities play a crucial role in determining tourist satisfaction at a destination. Numerous studies have demonstrated that destinations offering various activities tend to attract tourists more frequently (Abrams et al., 2012; Gosnell & Abrams, 2011; Hall & Page, 2006; Moss, 2006; Sherlock, 2001). Outdoor activities such as events, nightlife, sports, and relaxation are particularly appealing to tourists. Krešić and Prebezac (2011) highlighted the importance of unique activities, such as restful experiences, nature hikes, and uncrowded beaches, which significantly influence tourist decision-making and satisfaction. Furthermore, shopping activities, including purchasing souvenirs and unique items specific to the destination, have been found to enhance satisfaction (Yuksel, 2004). It is worth noting that offering a variety of activities at a destination contributes to a positive tourism experience, leading to more extended stays, increased spending, and positive word-of-mouth on social media and online platforms, attracting new tourists (Marinao, 2018).

Price quality ratio: The price-quality ratio is an essential determinant of customer satisfaction. Customers judge the price and quality of a product or service based on their individual preferences and expectations rather than solely relying on what the suppliers provide (Drucker, 1985; Oliver & Swan, 1989). The concept of the price-quality ratio, introduced by Zeithaml (1988), plays a crucial role in shaping satisfaction, as consumers use price to assess a product's overall quality. Furthermore, Lichtenstein and Burton (1989) highlight that the price-quality ratio focuses on the actual product quality and the consumer's perception of the relationship between price and quality.

In tourism context, tourists also evaluate their satisfaction based on the price and quality of the products or services they receive (Sweeney et al., 1997). Study conducted by Zhou et al. (2002) revealed that price-quality ratio significantly influences tourists' decision-making and, ultimately, affecting their satisfaction. Similarly, Suthathip (2014) found that increasing the prices of accommodations, food and beverage, transportation, goods, and services can lead to a decline in satisfaction. Hence, tourists' assessment of the price and service quality plays a crucial role in shaping their satisfaction and influencing their decisions regarding a destination.

Safety and security: In the tourism industry, safety and security are crucial factors that significantly impact tourist behaviour and the industry's sustainability. Safety and security concerns strongly influence the choice of destination, as tourists are less likely to consider places deemed unsafe (Pizam & Mansfeld, 2006). Early research studies have indicated that crises such as terrorism, crimes, and natural disasters lead to a decline in tourism demand due to reducing safety expectations and confidence (George, 2003; Kapuściński & Richards, 2016; Pizam & Smith, 2000; Seabra et al., 2013). Therefore, tourists prioritize personal safety when travelling and are more likely to visit places where they feel safe and comfortable.

In addition to safety and security, cleanliness and hygiene concerning health risk issues are crucial factors influencing tourist behaviour, ultimately affecting satisfaction (Hasugian et al., 2016; Moreira & Burns, 2017). Safety and security concerns related to health risks arising from pandemics significantly affect the travel decisions of tourists. For example, past outbreaks of SARS (2003) and MERS (2012) spread to more than 30 countries worldwide in a couple of weeks, and suffered a sharp decline in tourism demand (Al-Tawfiq et al., 2014; Mao et al., 2010). Similarly, the global spread of bird flu, swine flu, and the Ebola pandemic had substantially affected tourism movements (Haque & Haque, 2018; C.-C. Lee & Chen, 2011; Mizrachi & Fuchs, 2016). Several authors highlighted in their study that hotel and tour bookings were severely impacted during the pandemics due to safety and security concern including cleanliness and hygiene (Mizrachi & Fuchs, 2016; Poletto et al., 2014).

Recognizing the basic human need for safety and security and making potential visitors feel safe before or during their vacation, especially regarding standards of amenities, accessibility, and environmental quality (Sönmez & Graefe, 1998). Kozak et al. (2007) revealed in their study that tourists are likely to avoid risky destinations due to low safety and security standards and seek safer travel destinations. Therefore, tourists' perception of a destination may change in response to crisis events, emphasizing the importance of safety and security.

Regarding the tourists' perception, a destination's physical, social, cultural, technological, political, and economic has a significant impact on it (Russell & Pratt, 1980), leading to different evaluations of the destination by different tourists at different times. Therefore, tourist perception of a destination might change with crisis events highlighting safety and security as a prior (Kozak et al., 2007). In this sense, the impact of COVID-19 concerning safety and security on the tourist industry has put tourist satisfaction in the spotlight of research to determine how much it has been affected by the disease outbreak (Bae & Chang, 2021; Neuburger & Egger, 2021; W. Xu et al., 2021; Zhu & Deng, 2020). Implementing strict restrictions and preventive measures worldwide has significantly damaged the tourism industry, and tourists who previously perceived a destination as safe and had a great experience or overall satisfaction might feel different.

Understanding how tourists perceive a destination is critical to ensuring their positive experience and meeting expectations. By considering the various determinants contributing to tourist satisfaction, destinations can improve their products and services and enhance the overall tourist experience. In this regard, several determinants of tourist satisfaction were identified, including safety and security, destination characteristics, beaches, price quality, activities, kindness, and COVID-19 measures. Analysing the impact of COVID-19 on tourist satisfaction in the coastal destination of south Catalonia involved examining these determinants. This analysis provides valuable insights for destinations to understand how the pandemic has affected tourist satisfaction and identify improvement areas.

2.3. Impacts of the COVID-19 on tourism

2.3.1. Tourism demand

The COVID-19 pandemic has created both demand and supply-side shocks for the global economy. The demand-side shock is caused by reduced consumer demand, while the supply-side shock results from the disrupted production process caused by lockdowns, travel restrictions, and other measures (Dolnicar & Zare, 2020). The supply-side shock, in particular, has caused supply chain disruptions, leading to a shortage of critical medical supplies and raw materials, among other goods and services (Baldwin & Di Mauro, 2020, p. 13).

The COVID-19 epidemic has forced countries to take unprecedented measures, resulting in a decrease in world tourism by more than 80% and a drop of more than 20% in tourist arrivals in the first quarter of 2020 (*UNWTO*, 2020). The constraints such as lockdowns and social distancing have significantly changed the tourism industry environment (Gössling et al., 2021), and the right to travel was unusually limited (Tom & Thanh, 2020). Therefore, COVID-19 has emerged as a crisis case in tourism (Gössling et al., 2021), causing immense and lasting impacts on the global tourism industry.

However, amidst these challenges, technology has played a crucial role in mitigating the adverse effects of the pandemic. Research findings show that ICT improvements positively impacted tourists' revisit intentions and destination brand image during the pandemic. This impact was significant in promoting destination satisfaction and mitigating the adverse effects of the pandemic (Shabankareh et al., 2023). This reassures us that even in the face of a global crisis, technological advancements can help sustain the tourism industry. Furthermore, a study using data from over 405,000 online reviews of Venetian accommodation facilities between 2018 and 2021 revealed a systematic reduction in customer satisfaction during the pandemic. However, the severity of the impact varied over time, depending on the phase of the pandemic (Leoni & Moretti, 2024). Additionally, the pandemic led to an increased focus on health-related issues, particularly among business travellers, which positively influenced hotel ratings (Y. Xu et al., 2023). While the discussion on ICT improvements highlights how technology influenced tourist behaviour during the pandemic, the broader impact of COVID-19 extends beyond tourism. The pandemic's reach disrupted the global economy, causing significant economic challenges across various sectors. These economic disruptions, in turn, profoundly affected travel budgets and consumer spending, further exacerbating the decline in global tourism.

The COVID-19 pandemic has profoundly impacted global economic activity, leading to significant disruptions across various sectors. Implementing containment measures to curb the spread of the virus has resulted in businesses struggling to operate effectively, leading to a sharp decline in employment opportunities (International Labour Organization, 2020). Research conducted by Eurofound in April 2020 revealed that nearly 30% of the population experienced temporary or permanent job losses, exacerbating the already challenging situation (Boland et al., 2020). Furthermore, negotiations between employees and employers have often resulted in wage reductions and the unfortunate necessity of employee layoffs, reducing working hours and overall wages. These economic hardships have directly impacted travel budgets, as households have experienced a shrinking capacity to allocate funds for tourism and travel (Maiti, 2022). It is important to note that income is positively associated with holiday taking (Van Soest & Kooreman,

1987). In this sense, the combined effect of mobility restrictions and reduced income has contributed to a notable decline in tourist travel, further compounding the tourism industry's challenges.

According to a study by J. et al. (2010), travellers often experience heightened worries about potential dangers during their trips. In this regard, the downturn in tourism demand was further exacerbated by widespread fear and anxiety associated with the pandemic. The fear of contracting the virus has triggered various anxieties among individuals (J. Qiu et al., 2020), resulting in a significant impact on their travel concerns and vacation intentions (Beck & Hensher, 2020; Magano et al., 2021). As highlighted by Zenker and Kock (2020) and Nazneen et al. (2020) highlighted in their study that the fears associated with COVID-19 contribute to increased travel anxiety and negatively affect holiday intentions or the decision to take a vacation.

Furthermore, according to Kahn (1995), tourists are often motivated by variety-seeking behaviour, which means they enjoy trying different types of goods or services (different from their daily life) during their vacations. However, external factors such as uncertainty or disruptions in the tourism industry can influence this variety-seeking behaviour of tourists (Shaffer & Zhang, 2000). In this sense, preventive measures and restrictions are implemented to mitigate the spread of the virus, limiting the tourist from carrying out their activities during their vacation. Additionally, Nazneen et al. (2020) revealed in their study that the pandemic had limited the available travel options for tourists impacting their travel plans, resulting in tourists developing more negative emotional responses to travel for vacation (K. Zhang et al., 2020). Consequently, people may hesitate to travel during the COVID-19 pandemic due to restrictions and limitations on activities that can be carried out.

2.3.2. Fear of travel

Fear is a natural response to the many potential disruptions and is considered one of the central factors influencing tourist behaviour, impacting tourist satisfaction (Fennell, 2017). These disruptions can range from political instability, terrorism, and crime to natural disasters and public health crises. Wiedemann (2015) highlighted that artificial or natural disasters could cause fear in individuals and emphasized its relationship with the inability to adapt to any change in the individual's life. However, when excessive fear arises, it can cause individuals to develop stress and anxiety against the relevant event or disruption (Öhman, 1993), affecting the behavioural intentions of tourists to take a vacation (Reisinger & Mavondo, 2005). In this sense, disruption such as the COVID-19 pandemic has significant impact on tourist behaviour.

Fear and perceived risks have significantly shaped tourist behaviour during the COVID-19 pandemic. Tourists' fear of contracting the virus has been a critical determinant in their decision to travel, often leading to cancellations or the adoption of preventive measures. Empirical evidence from Spanish tourists indicates that pandemic-related risks influence loyalty dimensions, such as the intention to revisit or recommend a destination (Herrero-Crespo et al., 2022). Additionally, perceived health risks during the pandemic were found to be insignificant in influencing tourist satisfaction but significantly impacted behavioural intention, particularly when mediated by satisfaction with technology and innovation (Astor et al., 2024). Moreover, findings from a study on Australian tourists showed that perceived disease and financial risks significantly affected their intention to revisit international destinations like Fiji (J. C. Nair & Pratt, 2024).

Zheng et al. (2021, 2022) highlighted in their study that travellers who perceive the risk of an epidemic as a significant threat may either cancel their trip altogether or adopt cautionary measures during their travel as a form of self-protection. Similarly, Lee et al. (2010) and Yıldırım and Güler (2022) highlighted in their studies that tourists experience greater fear of travel due to perceived emotional risk, resulting in increased anxieties and fears about potential dangers. Consequently, the fear of travel due to the perceived risk of COVID-19 can enhance the likelihood of a negative evaluation, significantly impacting tourists' satisfaction and attitudes towards tourism (Bae & Chang, 2021; H. Han et al., 2019; J. Yu et al., 2021).

In the context of the COVID-19 pandemic, implementing prevention measures and mobility restrictions has significantly impacted people's decision to travel. Moreover, the fear of contracting the virus was crucial in discouraging individuals from embarking on trips. Nevertheless, those who were willing to travel during this challenging period underwent a shift in their attitudes and preferences. Tourists started favouring destinations with less crowding, allowing them to connect with nature and engage in outdoor activities (Luo & Lam, 2020; Rather, 2021b). In this sense, the shift in tourist preferences presents an opportunity for the tourism industry to restore tourists' confidence in travel, but their experience may need to meet their expectations. In this context, Hassan and Soliman (2021) and Rather (2021a) signalled that the fear of COVID-19 negatively moderates people's intentions and attitudes toward travel, which, in turn, negatively moderates the relationship between the intention to revisit and its antecedents. However, different levels of fear may have conflicting consequences (Liu et al., 2019; Witte, 1994).

Regarding the COVID-19 pandemic, tourism stakeholders must be aware of the perceived COVID-19 travel danger, knowledgeable about the risks, and willing to take action following the outbreak and changes in behaviour to rebuild and reform current norms (Sigala, 2020). Government authorities

are essential in implementing laws and measures to prevent the spread of COVID-19 and addressing the emotional component of perceived risk to ease travel fears. However, significant managerial implications are also needed to ease the travel fear of tourists and restore the tourism industry.

2.3.3. Preventive measures

Trust is crucial in attracting tourists and addressing their safety concerns at destinations. According to Rousseau et al. (1998), trust is a psychological state that involves accepting vulnerability based on expectations. Establishing trust between travellers and destinations is vital in promoting travel and attracting visitors (Crotts et al., 2001). Moreover, trust is closely linked to uncertainty and disruption (Lewis & Weigert, 1985), influencing people's behaviour and preferences. The recent outbreak of COVID-19 has underscored the need for destinations to reinforce trust among potential tourists. Building trust is essential to regain their confidence and attract visitors once again. Therefore, trust in prevention measures and vaccines has become crucial for the recovery of tourism activity (Z. Li et al., 2021), as tourists will only travel if they feel safe.

During the COVID-19 pandemic, the implementation of preventive measures played a pivotal role in effectively controlling disease transmission and ensuring public health. These measures encompassed mobility restrictions and the adoption of primary prevention practices, such as regular hand washing, hygiene practices, mask-wearing, avoiding crowded areas, and following social distancing guidelines (World Health Organization, 2020). By diligently implementing these measures, destinations aimed to proactively reduce COVID-19 cases and associated complications, safeguarding the safety and well-being of residents and tourists alike. Importantly, these preventive measures also instilled confidence among tourists, demonstrating destinations' unwavering commitment to prioritizing the health and welfare of visitors (OECD, 2020). Consequently, this commitment creates an environment that promotes tourism demand, thereby supporting the tourism industry's recovery.

The implementation of preventive measures, such as social distancing, mask-wearing, and hygiene practices, has played a crucial role in restoring tourists' confidence in travel. Studies have shown that higher levels of perceived prevention measures correlated positively with tourist satisfaction, while perceived risks of COVID-19 had a negative correlation (Šerić et al., 2023). Additionally, research indicates that hygiene-related services have become more prominent in tourists' evaluations, with hygiene-related aspects being less likely to be perceived as dissatisfiers over time (Yousaf & Kim, 2023). The pandemic has also emphasized the importance of service quality, with findings from a study in Bangladesh revealing that specific service quality dimensions significantly impacted tourist

satisfaction, especially when tailored to the varying levels of COVID-19 fear among guests (Gazi et al., 2024).

Amidst uncertainty and disruption, when preventive measures assume paramount importance, individuals' travel preferences and risk-taking behaviour are significantly influenced by their evaluation of the advantages and disadvantages associated with various options (Kahneman & Tversky, 1979). Perceived risks play a notable role in shaping tourists' behavioural intentions and decision-making processes regarding travel choices (Jonas et al., 2011; Leung & Cai, 2021; Reisinger & Mavondo, 2005). The COVID-19 pandemic is closely associated with travel fear and coping emotions, with preventive measures such as social distancing and quarantine discouraging people from visiting public spaces due to the high risk of infection (Cameron & Shah, 2015; Zheng et al., 2021). Furthermore, travellers perceive the risk of COVID-19 during travel as a significant threat, leading them to either forgo travel or exercise caution by selecting alternative destinations that offer higher safety and security (Zheng et al., 2021, 2022).

Several researchers investigated the impact of COVID-19 on different aspects such as travel risk perception, anxiety, and future travel avoidance (Luo & Lam, 2020; Turnsek et al., 2020), public transportation use (Delclòs-Alió et al., 2022; Vich et al., 2022), post-pandemic travel pattern (H. Han et al., 2020; J. Li et al., 2021; B. B. Nair & Sinha, 2020), perceived risk of dining outside (Dedeoğlu & Boğan, 2021; Foroudi et al., 2021), decision-making factors in the selection of accommodations (Pappas & Glyptou, 2021), and behaviour on user-generated media (Uğur & Akbıyık, 2020). Their results indicated significant changes in travel behaviour derived from the COVID-19 pandemic.

For instance, Fan et al. (2022) examined the impact COVID-19 pandemic concerning residents' travel behaviour and intention to travel. People with a significant perceived risk associated with COVID-19 were less likely to travel or shorten the distance and length of visit. In contrast, people with a lower perceived risk associated with covid-19 were willing to visit domestic tourist destinations with natural/outdoor/un-crowded attractions with longer lengths of stay. Han et al. (2022) investigate the behavioural effects of prospective travellers' perceptions of travel hazards in the context of pandemic threats. The findings revealed that people's perceptions of COVID-19 risk are noticeable at personal and societal levels. The study also identified the positive influence of psychological resilience on people's intentions to adjust to travel during and after the pandemic. Elsayed et al. (2021) investigated domestic tourists' hospitality preferences concerning COVID-19. Their results indicate that safety and health risks related to COVID-19 became essential when choosing a destination and accommodation influencing tourist behaviour. However, the preventive behaviour of tourists varies along with the tourist profile, e.g. nationality. Wu and Lau (2022) investigated how

negative emotions affected COVID-19 participants' protective travel behaviours and personal value orientations. Their study revealed that, depending on their perceived severity, some negative emotions felt during COVID-19 could cause someone to reflect on their values and set priorities (e.g. Preventive measures of COVID-19), compelling them to avoid travelling or doing activities for security reasons.

The COVID-19 fear and the implementation of preventive measures and restrictions to mitigate the spread of the virus significantly shaped personal values and influenced tourist behaviour. It was evident in the study of Wu and Lau (2022) highlighting that fear of the pandemic and preventive measures of not getting infected by the COVID-19 virus indirectly affect travel avoidance behaviour. In this sense, fear of COVID-19 has an insignificant influence on tourists' travel. Preventive measures such as social distancing, wearing masks, hygiene and avoiding gatherings permit tourist activities partially. Meanwhile, Sadiković et al. (2020) stated that COVID-19 preventive measures can be perceived as annoying or cause boredom. However, Orden-Mejía (2022) revealed in their study that following the COVID-19 preventive measures, the tourist would prefer urban tourism and act as responsible tourists while enjoying their activity at the destination. Similarly, González-Reverté et al. (2022) found that tourists prefer urban tourism in coastal cities rather than visiting the beaches, which are typically crowded with tourists. In this sense, tourists avoid visiting overly busy places to maintain a sufficient distance from other tourists.

The outbreak of COVID-19 has prioritized hygiene and safety as tourists' primary needs. However, few researchers regarded COVID-19 as a "social" disease (Beck & Hensher, 2020; Chua et al., 2021) that impacts tourist decision-making. Additionally, the promotion of social distancing has considerably impacted people's preferences (De Vos, 2020) and behaviour, leading to avoiding travel and tourism activity (Bae & Chang, 2021; Neuburger & Egger, 2021; Wachyuni & Kusumaningrum, 2020). Thus, health safety, security, hygiene, and insurance policies are recognized as the primary concerns of visitors and, as a result, priorities for tourism businesses when studying the decision-making characteristics of travellers to increase tourist satisfaction during and post COVID-19 (Lapointe, 2020; Pappas & Glyptou, 2021; Uğur & Akbıyık, 2020).

2.3.4. Effect of Vaccination

The severity of COVID-19 measures and lockdowns may have been critical in limiting the spread of infection or disease impacting physical and mental health, causing increased anxiety levels, depression, and stress worldwide (Joshi et al., 2021; Karlsson et al., 2021). Vaccines are expected to accelerate the recovery of people's physical and mental health and the tourism industry following the epidemic. The announcement and distribution of vaccines at the end of 2020 and the beginning

of 2021, especially in the tourism sector, fuelled economic recovery. Most nations have adopted an open border policy toward vaccinated individuals with vaccine passports, encouraging people to get vaccinated (Helble et al., 2021; Suess et al., 2022; N. L. Williams et al., 2022).

The role of vaccination in mitigating the impact of COVID-19 on tourism cannot be understated. While the initial phase of the pandemic saw a sharp decline in tourist activities due to fear and preventive measures, the introduction of vaccines has gradually restored confidence in travel. However, the pandemic's long-term effects on tourist behaviour are evident in the continued preference for destinations perceived as safe and uncrowded (Delclòs-Alió et al., 2023). Moreover, a study involving Brazilian participants indicated that perceived COVID-19 severity and expected pandemic duration significantly influenced travel intentions, highlighting the critical role of perceived safety in travel decisions (Golets et al., 2023).

Recent research indicates a good correlation between the safety and efficacy of COVID-19 vaccines and vaccination willingness (Joshi et al., 2021; Karlsson et al., 2021). People's willingness to get the vaccine is driven by the desire to protect themselves and their families from COVID-19 infection (Belingheri et al., 2021; Dorman et al., 2021; Štěpánek et al., 2021; Štěpánek et al., 2021), meet their psychological expectations (Joshi et al., 2021; Tiba, 2018, 2021; Tiba & Manea, 2018), and resume travel. Okafor and Yan (2022) found that a lower COVID-19 death rate and high vaccination coverage increase the chances of tourism recovery. Morar et al. (2022) reported a strong positive association between the intention to vaccinate and the intention to travel. However, vaccination inequity may affect tourism recovery in the global tourism market, as developed nations are more likely to recover to their normal situation than developing and underdeveloped nations (Dube, 2022).

Several countries have already vaccinated people for safety and travel purposes (Torjesen, 2021), which is essential for the tourism industry's revival as it depends significantly on reducing the COVID-19 fatality rate through vaccination coverage. Several researchers emphasized the benefit of travel after the vaccination but found an insignificant association between the severity of the infection and vaccine hesitation (M. Du et al., 2021), and the insignificance of COVID-19 risk perception to vaccine intention (Faasse & Newby, 2020; Karlsson et al., 2021). However, low vaccination rates in popular tourist destinations have been identified as a potential challenge that may deter international visitors who prioritize destinations with higher vaccination coverage (Dube, 2022; Okafor & Yan, 2022). As a result, the influence of vaccination coverage on the recovery of tourism remains uncertain, which could potentially impact tourists' behaviour after receiving the vaccine (N. L. Williams et al., 2022).

2.4. Impact of COVID-19 on tourist satisfaction determinants

Understanding the determinants of tourist satisfaction is crucial for the long-term success and sustainability of the tourism industry, as they directly impact businesses and destinations. Addressing these factors can improve tourist satisfaction and increase the likelihood of repeat visits and positive recommendations to others (Kozak & Rimmington, 2000). However, disruptions such as the COVID-19 pandemic can negatively affect the tourist experience and overall satisfaction, as previous studies have shown (An et al., 2010; Çetinsöz & Ege, 2013; Qi et al., 2009; Sohn et al., 2016). Despite the risk of contracting COVID-19, many travellers have continued to venture out during the pandemic, choosing a destination as a critical factor in their decision-making (Roman et al., 2020b). Furthermore, several authors highlighted that travelling can help people emotionally recuperate from the anxiety and stress brought on by the pandemic (Buckley, 2023; Buckley & Westaway, 2020), resulting in behavioural change at the destination (Shin et al., 2022) impacting tourist satisfaction.

The COVID-19 pandemic has significantly impacted the tourism and hospitality industries, affecting the factors that influence tourist satisfaction. Song et al. (2022) conducted a study using online hotel reviews in the region of Chengdu, a top tourist destination in China. The study explores the difference between the influencing factors of tourist satisfaction before and after the COVID-19 outbreak. Their study revealed that tourist satisfaction and its influencing factors concerning hotel services had changed significantly during the pandemic and are strongly influenced by service quality. Similarly, Nilashi et al. (2021) and (2022) analysed online customer reviews concerning the impact of service quality on customers' satisfaction during COVID-19. Their study revealed that service quality is strongly associated with tourist satisfaction and is strongly impacted by COVID-19. In addition, their results showed that although customers always seek hotels with better performance, they are also concerned with the quality of related services during the COVID-19 outbreak such as cleanliness and hygiene. Sun et al. (2022) analysed tourist satisfaction through online reviews concerning hotel management before COVID-19 and after COVID-19. Their study reveals that satisfaction with tourists differed after the pandemic paying more attention to hotel prevention and control measures to reduce health risks after COVID-19. An early research study by Hong et al. (2020) indicated that tourists' concerns about health had increased significantly after the pandemic, including the availability of products for cleaning and disinfection, natural ventilation, and room layouts in hotels. Thus, it can be stated that COVID-19 significantly influenced tourist behaviour impacting their satisfaction towards hotel services, particularly in prioritising prevention and control measures to reduce health risks.

COVID-19 not only affected the hotel service industry but also the restaurant service industry. Ababneh et al. (2022) explored the effect of COVID-19 safety on customer satisfaction and behavioural intentions in the context of fast-food restaurants (FFRs) while accounting for the effect of service quality, perceived value, and food quality. This study revealed that compliance with COVID-19 safety measures is crucial to customer satisfaction and behavioural intentions in the fastfood industry during the COVID-19 pandemic. More importantly, the results revealed that COVID-19 safety and food quality significantly predict customer satisfaction and behavioural intentions. In gastronomy, fast-food and traditional restaurants differ in several attributes and perceptions (Chun & Nyam-Ochir, 2020; Hernández-Rojas & Huete Alcocer, 2021) that might be impacted by COVID-19 differently. In this regard, Huete-Alcocer and Hernández-Rojas (2022) investigated loyalty to a city based on the perception of COVID-19 safety measures in traditional restaurants. Their study indicated that visitors' perception of restaurants' COVID-19 safety measures affects their satisfaction with the restaurant and local cuisine and their loyalty to the destination. Furthermore, the findings of J. M. Kim et al. (2023) validated that the pandemic introduced new dynamics into the relationship between service attribute performance and customer satisfaction in the hospitality industry, magnifying the asymmetric influences of particular attributes on satisfaction. Shum and Ghosh (2022) investigate the impact of employees' prosocial safety rule-breakings on consumer satisfaction amid the COVID-19 pandemic. The study proposes two prosocial safety-rule-breakings consumers' satisfaction, i.e. requesters' and bystanders'. Their findings suggest that prosocial safety rule breakings harm both requesters' and bystanders' perceived safety and reduce consumer satisfaction highlighting the importance of ensuring safety rule compliance in hospitality organizations during and after the pandemic. These studies suggest that maintaining high service quality, value, and safety measures while ensuring compliance with health guidelines is critical for customer satisfaction in the restaurant industry during the pandemic.

Furthermore, the pandemic's impact extended to tourists' behavioural intentions and loyalty. Herrero-Crespo et al. (2022) highlighted that pandemic-related risks differentially influenced tourist loyalty dimensions, such as the intention to revisit and recommend both national and international destinations. Affective image and satisfaction were identified as the main drivers of loyalty in both cases. Additionally, Shabankareh et al. (2023) pointed out that ICT improvements during the pandemic significantly positively impacted tourists' revisit intentions and the destination's brand image, further influencing satisfaction and destination personality.

The significance of perceived safety during the pandemic cannot be understated. Jiang et al.'s (2024) revealed that both government and destination roles are core factors in alleviating tourists' psychological anxiety, with a positive destination image being indispensable. The research also

highlighted the substitution between crisis management effectiveness and destination sustainability, expanding the framework for understanding tourist anxiety influenced by significant crisis events. Addressing how measures to prevent COVID-19 have impacted tourist satisfaction and destination image, Humagain and Singleton (2021) identified the positive impact of satisfaction with anti-COVID-19 practices at destinations with outdoor recreation trips on tourists' perceived value, overall satisfaction, intention to revisit and intention to recommend. The authors also suggested that one critical factor influencing tourists' travel motivations, satisfaction, and future intentions during crisis periods such as COVID-19 is the perception of safety during the visit to the destination. Despite COVID-19 pandemic restrictions and prevention measures, travellers travelling to less crowded destinations where ecotourism emphasizing health protocols would be the best option to increase tourist satisfaction (Orîndaru et al., 2021). Furthermore, Yan et al. (2021) added that health protocols in ecotourism locations could provide positive perceptions of tourists towards the quality of ecotourism and act as an additional service quality during the pandemic to increase satisfaction. Finally, Han et al. (2021) highlighted in their study that tourism with good health and safety services positively impacts tourist satisfaction determinants, trust, and loyalty, with mediating satisfaction role. In the context of COVID-19, ensuring the perception of safety and implementing health protocols during the pandemic is crucial to increase tourist satisfaction and future intentions. Additionally, providing high-quality health and safety services in tourism can positively impact tourist satisfaction, trust, and loyalty. Therefore, it is crucial to prioritize the safety of tourists and maintain high-quality services in the tourism industry during and after the pandemic.

In the restaurant industry, ensuring customer satisfaction requires maintaining high service quality, value, and safety measures while complying with health guidelines (Nilashi et al., 2021, 2022; Y. Song et al., 2022). The COVID-19 crisis has introduced significant uncertainty to the tourism industry, particularly regarding providing security services. During the pandemic, hotel guests have emphasised disease prevention measures and safety, shifting their focus away from traditional hotel services when evaluating satisfaction. Indeed, tourist satisfaction is influenced by various factors, including perceived safety, value for money, and epistemic value. However, prevention measures related to COVID-19 have significantly impacted tourist satisfaction and destination image during the pandemic. Moreover, implementing effective anti-COVID-19 practices positively affects perceived value, overall satisfaction, intention to revisit, and intention to recommend (Humagain & Singleton, 2021). In this context, prioritising ecotourism that emphasises health protocols emerges as the optimal choice for increasing tourist satisfaction (Orîndaru et al., 2021). Therefore, emphasising COVID-19 prevention measures and understanding tourists' satisfaction during the pandemic is crucial for the recovery and long-term success of the tourism industry.

Part II- Case studies

3.1. Prevention Measures and reliance under the threat of COVID-19. Relationship with tourist satisfaction

Abstract

Trust is a key element to attract visitors to a destination. Amid the SARS-CoV-2 pandemic it gained ground as a critical issue for destination managers, as health safety came to the front and conditioned tourists' decisions in many ways. Taking into account the sensitivity of tourists' demand to disruptive events, and more particularly, in mass coastal destinations, tourists' reliance of not getting infected had to be built through COVID-19 prevention measures to deter the spread of the illness. Undoubtedly, both COVID-19 reliance and COVID-19 prevention measures had their impact on the tourist experience. In this sense, it is central to disentangle their effect on one of the most important elements of tourists' demand: tourist satisfaction. This scenario became a tremendous challenge for small businesses operating within the tourism sector, as their capacity of investment is more limited compared to big firms. In this scenario they had to implement measures that generated an additional financial burden, with the uncertainty of whether they would be well received by their customers. Interviews were carried out to tourists of Costa Daurada, a top Mediterranean mass coastal destination during the summer of 2020, the worst year of the pandemic. The impact on tourist satisfaction was assessed by means of a PLS-PM model. Results signal some lessons that can be learnt for the management of undesirable disruptive scenarios like the one brought in by the spread of the virus.

Keywords: SARS-CoV-2, Covid-19, Tourist satisfaction, Prevention measures, Safety, trust, reliance.

3.1.1. Introduction

There is a wide consensus about the harmful and severe effects caused by the COVID-19 on the activity of the tourism sector (Gössling et al. 2021). After the first outbreak and spread of the illness all around the world which led to generalized lockdowns in many countries, tourism establishments started to reopen again. From the supply side, this reopening involved the coexistence of the tourism sector with the virus, which implied a serious threat from a variety of sources: risk of infection that obliges to closures (H. Zhang et al., 2022), reputational risks (Hassan & Soliman, 2021), or insufficient revenue due to the distrust of potential visitors or to the travel restrictions (Tsionas, 2020). From the demand side, even in the context of a pandemic, some individuals continued to travel for recreational purposes (Shin et al., 2022). Indeed, tourism exerted beneficial effects on visitors' wellbeing for those who decided to take a holiday amid the pandemic (Buckley & Westaway, 2020). Though, most of the travellers' behaviour changed, and fear and anxiety could emerge (Rokni, 2021).

This new situation was particularly challenging for the micro, small and medium enterprises (MSMEs) in the tourism industry due to the need of building new capabilities toward being resilient, in a context characterized by multiple uncertainties due to the initial lack of knowledge regarding the infection, that resulted in economic, organizational, and stakeholder barriers for the businesses (John, 2023). According to Kalogiannidis (2020) small businesses were especially sensitive to the threat of the pandemic due to a limited availability amount of cash on hand, which forced them to choose between lowering down on their cost or getting indebted. They were also vulnerable as a result of their lesser availability of skills necessary to adapt to change (Martínez-Román et al., 2015). These particular limitations rose as a barrier to the required process of adaptation. Many MSMEs operating in the tourism industry had to face financial distress that led to solvency problems and finally to bankruptcy (Crespí-Cladera et al., 2021; Kalogiannidis, 2020). Under these circumstances, MSMEs were obliged to adapt to the new situation in order to survive, and those who were able to successfully adapt and seize new opportunities were the ones that remained in the market (Fuchs, 2021). The capacity of adaptation is not the same depending on the type of business. For instance, hospitality establishments found more difficulties compared to restaurant to accessing alternative revenue streams (Türkcan & Erkuş-Öztürk, 2019).

Within a scenario of high vulnerability of MSMEs, researchers have put on the front the need of the sense of trust in potential tourists that was critical to be able to attract again visitors (O'Malley et al., 2022; Shin et al., 2022; Wachyuni & Kusumaningrum, 2020). For this reason, prevention measures were key for the development of the tourism activity (Z. Li et al., 2021), given that tourists would only travel again as long as they felt safe. Previous works which have analysed whether tourists appreciate health safety during the pandemic concurred that it was indeed a central element for

tourist satisfaction (Lasarudin et al., 2022; Ma et al., 2022; Mwesiumo & Abdalla, 2023). While these results should come as no surprise, the question related to the consequences of the actions implemented to reach this feeling of safety arises. One important issue that emerges is the perception of these prevention measures by tourists and how they affected tourist satisfaction. Even though scenarios like the ones brought in by the pandemic are extremely undesirable, taking into account the vulnerability of certain sort of destinations to some particular events (Duro et al., 2021), it is of high interest to shed some light on the tourists' responses to the introduction to this sort of measures.

Literature on this issue is relatively scarce, and most of the times is focused on some particular subsectors of the tourism industry. Regarding restaurants, the effect of prevention measures tended to yield a positive response by tourists (Huete-Alcocer & Hernández-Rojas, 2022), or negative in its absence (Shum & Ghosh, 2022). Results tend to signal to the same conclusions with respect to accommodation (Jiménez-Medina et al., 2022; Szentesi et al., 2021). Davras and Durgun (Davras & Durgun, 2022) introduced a new perspective, as they distinguished different types of prevention measures. Their conclusions were that hotels' costumers reacted differently depending on the type of prevention measure. In this sense, while hotels' hygiene was perceived very positively, it did not occur the same with other measure which could be felt as inconvenient, such as the obligation to maintain physical distance with the rest of the hosts.

Following this latter work, we hypothesise that prevention measures are a coin with two different sides. On the one hand, they needed to enhance COVID-19 reliance, or in other words, the trust in tourists that their holidays were safe. It must be highlighted that safety is a central component of tourist overall satisfaction (Milman & Pizam, 1995), and thus, the destination needed to build a perception of effectiveness of their COVID prevention measures. On the other hand, they could be negative for the visitor experience if they were perceived as invasive or annoying, or they did not allow a complete experience of the destination. All in all, to disentangle the effect of COVID-19 prevention measures on tourist satisfaction is essential to properly understand how to reach against demand disruptions. In this line, tourism managers must take seriously into account the effects of epidemics as well as developing new risk management methods to cope with them (Škare et al., 2021).

The aim of this work is twofold. First, it attempts to explore the effect of the attributes of Costa Daurada, a popular mature Mediterranean mass coastal destination, on tourists' COVID-19 reliance. These attributes, which were valued by visitors, included COVID-19 prevention measures. Second, it also assesses the effect of these characteristics, as well as COVID-19, reliance on overall tourist

satisfaction. To conduct the study, a two-step approach has been developed using Explanatory Factor Analysis (EFA) and partial least squares – path modeling (PLS-PM).

3.1.2. Study area and data

Data were drawn from a survey, which was carried out during the month of August of 2020, to visitors who stayed overnight in the Costa Daurada. Costa Daurada is a top Mediterranean coastal destination, located in the North-East of Spain. Its central area concentrates 80% of the tourist demand of the whole tourist brand. More specifically, in 2019, this central area received 3.7M of tourists with 15M of overnight stays.

A total number of 241 of tourists were interviewed with a total number of 225 valid questionnaires. Along with questions related to the socio-economic characteristics of the tourist, the travel and the stay, the questionnaire included a set of elements related to the valuation of tourists' satisfaction. The range of satisfaction items involved: green areas, overcrowding, kindness of the people, cleanness of beaches and the sea, facilities on beaches, quality/price ratio, restaurants in general, signposting, cleanness of the public areas, safety, facilities for pedestrians, COVID-19 prevention measures, and overall satisfaction. Finally, tourists also reported a valuation of their reliance of not contracting COVID-19 on three different situations: at the tourist destination, visiting outside the tourist destination, and visiting interior (not open-air).

Table 3: Showcases the descriptive statistics of the variables of satisfaction that account for overall satisfaction

	Mean	Std. dev.
Kindness of the people	4.16	0.79
Cleanness of beaches and the sea	4.13	0.90
Fa cilities on beaches	4.07	0.88
Quality/price ratio	3.83	0.84
Signposting	3.84	0.83
Restaurantsingeneral	4.05	0.81
Cleanness of the public areas	3.97	0.84
Safety	4.06	0.85
Facilities for pedestrians	4.20	0.82
Grean Areas	3.97	0.80
Overcrowding	4.24	1.12
Covid-19 prevention measures	3.68	0.98
Covid reliance at the tourist destination	3.83	1.04
Covid reliance at visiting outside the tourist destination	3.86	1.08
Covid reliance at visiting interior (not open-air)	3.68	1.15
Overall satisfaction	4.25	0.64

The time when the interviews took place is a key element of this research given that the tourist season was seriously influenced by the evolution of the pandemic. After the total lift of the lockdown, which was enforced in Spain during the spring of 2020 until the 23rd of June, the tourist activity started to attract demand again during the summer season. The incidence of COVID-19 in the area steadily grew in August of 2020 without exceeding moderate levels. It ranged from 51 active cases per 100,000 people at the beginning of month, to 200 at the end of it.

3.1.3. Methods

In the first stage, exploratory factor analysis (EFA) was conducted for the extraction and selection of latent indicators. The reason underlying the use of factor analysis was to provide estimates of the association between variables and latent constructs (Spearman, 1904), as this technique offers not only the opportunity of gaining a clear view of the data, but also the possibility of using the output in subsequent analyses (Field, 2000). Thus, the relationships between destination attributes in this preliminary analysis are examined, with the goal of grouping them accordingly, not only to reduce the number of elements to be handled, but to suggest relevant destination attribute items to the commonly applicable groups that could better account for the relationship with "Covid Reliance" and "Overall Satisfaction".

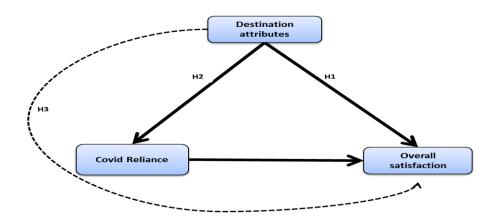
Secondly, the latent construct extracted from EFA are further utilized to develop the model of partial least squares path modeling (PLS-PM) to explore to what extent they determine tourists' "Covid Reliance" and "Overall Satisfaction". PLS-PM is a well-known and very appreciated multivariate technique which differs from other modelling approaches, as it measures the direct and indirect effects on pre-assumed causal relationships (Hair et al., 2011; McDonald, 1996).

PLS-PM consists of two subsequent approaches (Kline, 2015). First, a measurement model determines how observed variables come together to explain latent constructs, departing from those which were identified by means of the EFA. The adequacy and quality of the measurement model were tested by conducting a confirmatory factor analysis (CFA) to ensure constructs' reliability, discriminant validity and convergent validity of structure of latent variables obtained. Second, the structural model gathers the relationships between the latent constructs with "Covid Reliance" and "Overall Satisfaction". Given that the object of this study is to explore the determinants of tourist satisfaction under the pandemic circumstances, together with examining the role of the actions implemented at the destination to mitigate the effect of the COVID-19 and the individuals' reliance of not getting infected, the use of PLS-PM is reckoned as much more appropriate than classic regression models.

The proposed conceptual framework is depicted in Figure 1. The relationships that will be tested are:

- Tourists' valuations of the destination attributes present a direct relationship with overall satisfaction.
- Tourists' valuations of the destination attributes exhibit also a direct relationship on tourists' reliance of not getting infected.
- There exits an additional indirect relationship of the destination attributes within the context of COVID-19, that is mediated through the reliance of not contracting the COVID-19 during the stay at the destination.

Figure 3: Conceptual framework



Note: H1 and H2 indicating direct effects, and H3 indicates mediating and indirect effect.

3.1.4. Results

Factor Analysis

A first step involved the removal of some variables as they did not reach the minimum threshold required of significance (0.4). These variables were green areas and overcrowding. Anyway, these variables were treated as single latent constructs in the PLS-PM analysis. Kaiser-Meyer-Olkin (KMO) sampling adequacy measure of sampling adequacy (Kaiser, 1974) and Bartlett's test of sphericity were applied. The results of both tests were satisfactory. The KMO measure was 0.87, and thus above the 0.5 cutting value, while the probability of the Barlett's test was 0.00.

Factors were extracted using "maximum likelihood" and rotated. Different structures of factors were compared. The structure containing 5 factors outperformed other structures with a lesser or larger number of factors in terms of percentage of total explained variance (67%), eigenvalues, and the values of Cronbachs' Alphas.

The results of the exploratory factor analysis (EFA) produced a clean factor structure with relatively high loadings for the factors, as it is shown in table 4. To test the reliability and internal consistency of each latent construct, a reliability analysis (Cronbach's Alpha) for each of the factors was conducted. All the factors reached satisfactory values above 0.7. Thus, clearly above the threshold of 0.5 established by Nunally (1975).

Table 4: Exploratory Factor analysis of the destination attributes

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality	KMO	Eigenvalue	% variance	C. Alpha
<u>Kindness</u>										
Kindness of the people	0.981	0.001	0.023	0.011	0.022	1.000	0.841	1.081	0.111	1.000
<u>Beaches</u> Cleanness of beaches and										
the sea	-0.022	0.671	0.184	0.015	0.113	0.681	0.833	1.613	0.162	0.844
Facilities on beaches	0.020	0.923	-0.035	0.023	-0.024	0.832	0.822			
Tourist Product Quality										
Quality/price ratio	0.081	-0.014	0.782	0.023	-0.052	0.634	0.862	1.483	0.154	0.742
Signposting	-0.083	0.052	0.623	0.145	0.062	0.532	0.912			
Restaurants in ge)neral	0.064	0.151	0.500	-0.063	0.065	0.371	0.924			
Safety and Security										
Cleanness of the public areas	-0.103	0.145	0.091	0.573	0.145	0.573	0.891	1.443	0.144	0.761
Safety	0.051	-0.076	0.072	0.776	0.043	0.681	0.882			
Facilities for pedestrians	0.181	0.244	-0.092	0.513	-0.153	0.454	0.882			
Covid Measures										
Covid 19 prevention measures	0.022	0.003	-0.014	0.018	0.991	1.000	0.881	1.114	0.112	0.122

Note: Overall KMO= 0.87, Bartlett's test of sphericity= Chi-square- 852.51; p value- 0; df = 45

The five latent constructs of the destination attributes extracted are labelled as "Kindness", "Beaches", "Tourist product quality", "Safety and Security" and "Covid Measures".

As a robustness check, the variables related to the measures of the tourists' reliance of not contracting the COVID-19 during the holiday in three different situations: at the tourist destination, visiting outside the tourist destination, and visiting interior locations were also included in an alternative EFA. The result was that the groups that appear in table 4 remained unaltered, while another category, labelled as "COVID reliance", emerged. As expected, this new category was tightly related to the three previously mentioned elements. All communalities and Cronbachs' alphas were again more than satisfactory.

Partial Least square-Path modelling (PLS-PM)

We followed the suggested guidelines for the usage of PLS-PM in confirmatory and explanatory research for the assessment of the measurement model and the structural model put forward by Henseler et al. (2016). The conceptual model was analysed by means of the "plspm" package (Sanchez, 2013) in "R" Programme (R Core Team, 2019). PLS-PM simulation of the model was carried out by measuring various parameters including item loading, reliability, and validity tests. It involves a 2-step process, as suggested by Henseler et al. (2009).

- Calculating PLS model parameters separately by solving out the blocks of the measurement model.
- Estimating the path coefficients of a structural model.

Measurement model

In the first phase of the analysis, we evaluated the reflective measured constructs and run a confirmatory factor analysis (CFA) through "lavaan" package (Rosseel, 2012) in "R" software (R Core Team, 2019). The variables used in this CFA are the ones incorporated to the EFA, in addition to the three variables connected to the reliance of not catching the COVID-19. The results obtained are in accordance with the tests that were carried out in the EFA, and give additional validity to the factor structure (Table 5).

The confirmatory factor analysis provided an RMSEA value of 0.054, which is below the 0.08 threshold (Browne & Cudeck, 1993). The SRMR value was 0.034, also below the 0.08 threshold (Hu & Bentler, 1995). The CFI and the TLI were greater than 0.9 (Bentler, 1990; Bentler & Bonett, 1980). In order to evaluate model fit, the indicator and construct reliability, convergent validity, and discriminant validity are examined (Müller et al. 2018).

Table 5: Assessment of Results of measurement model evaluation

Factors	Observed Variables	loading	Commu nality	C.alpha	DG.rho	eig.1st	eig.2nd	AVE
Kindness	Kindness of the people (KN)	1.000	1.000	1.000	1.000	1.000	0.000	1.000
Beaches	Cleanness of beaches and the sea (BE1)	0.944	0.891	0.838	0.925	1.721	0.278	0.859
Bedefies	Facilities on beaches (BE2)	0.909	0.832	0.000	0.525	11/21	0.270	0.000
	Quality/price ratio (TP1)	0.823	0.680					
Tourist Product Quality	Signposting (TP2)	0.811	0.663	0.739	0.852	1.972	0.585	0.657
	Restaurants in general (TP3)	0.797	0.641					
	Cleanness of the publicareas (SS1)	0.833	0.694					_
Safety and Security	Safety (SS2)	0.866	0.753	0.758	0.862	2.021	0.571	0.675
	Facilities for pedestrians (SS3)	0.762	0.581					
Covid Measures	Covid 19 prevention measures (CM)	1.000	1.000	1.000	1.000	1.000	0.000	1.000
Green areas	Grean Areas (GA)	1.000	1.000	1.000	1.000	1.000	0.000	1.000
Overcrowding	Overcrowding (OC)	1.000	1.000	1.000	1.000	1.000	0.000	1.000
	Covid reliance at the tourist destination (CR1)	0.963	0.931					
Covid Reliance	Covid reliance at visiting outside the tourist destination (CR2)	0.971	0.942	0.963	0.976	2.793	0.122	0.931
	Covid reliance at visiting interior (not open-air) (CR3)	0.961	0.921					
Overall satisfaction	Overall satisfaction (OS)	1.000	1.000	1.000	1.000	1.000	0.000	1.000

With respect to indicator reliability, manifest variables showing Cronbach's alpha coefficient above 0.7 are considered highly satisfactory (Henseler et al., 2009; Götz et al., 2010). Regarding construct reliability, the criteria suggested by Dijkstra and Henseler (2015), who stated that Composite Reliability (DG.rho) and Cronbach's alpha coefficient should be greater than 0.7, were fully met. In line with Leimeister (2010), communality values are greater than 0.5, and hence acceptable. Related to convergent validity, the communality index and the eig.1st value are higher than the eig.2nd. As a

result, they are considered to be unidimensional (Kaiser 1960). The Average Variance Extracted (AVE) is also greater than the cut-off value of 0.5 (Fornell & Larcker, 1981b; Hair et al., 2016) and we achieved greater than cut-off value. Finally, it has been also checked that the Fornell-Larcker criterion is also met. This criterion determines that discriminant validity is reached when the squared root of the AVE values is greater than the correlation values among the latent variables.

<u>Structural model</u>

Following Hair et al. (2016), bootstrapping techniques with 5,000 samples were applied to analyse the t statistics and the confidence intervals. In terms of the quality of the whole structural model, the Goodness of Fit (GoF) value obtained was 0.5314. Wetzels et al. (2009) stated that GoF of 0.1, 0.25, and 0.36 are considered small, medium and large regarding the baseline values for validating the PLS-PM model.

The results of the structural model assessment which tests the hypotheses of the present work are presented in Figure 2 and Table 6. The results of the PLS-PM model showed very different R² values for "Covid Reliance" and "Overall satisfaction". While the model is capable to account for a high percentage of the variance of the "overall satisfaction", as its R² reaches 0.56, it does not happen the same for "Covid Reliance", with an R² much lower, 0.18. In this sense, Cohen *et al.* (1989) stated that for a good model, the value of R² of the endogenous latent variable should be greater than 0.26. Hence, the destination attributes that succeed to explain the variance of tourists' overall satisfaction, keep a much weaker relationship with the tourists' confidence of not contracting the disease.

Figure 4: Diagram of the Measurement Model.

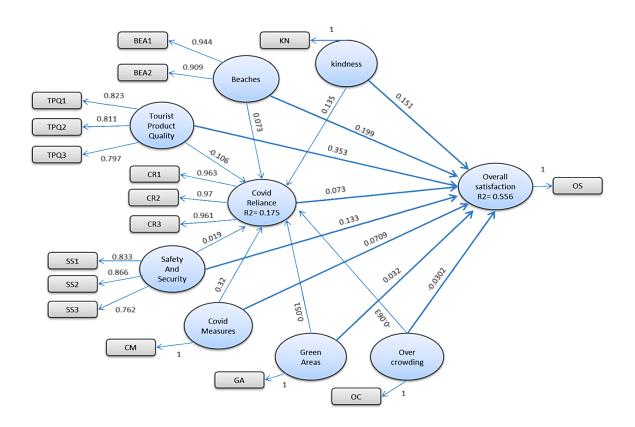


Table 6: Structural Model with Path coefficients

Relationship	Path coef. ($oldsymbol{eta}$)	t value	Pr(> t)	Overall Satisfaction effect size(F ²)	Covid Reliance effect size(F ²)
Kindness-> Covid Reliance	0.1359	1.913	0.056		0.016
Kindness -> Ove rall Satisfaction	0.1605	2.871	0.005	0.038	
Beaches->Covid Reliance	0.0736	0.896	0.371		0.003
Beaches -> Overall Satisfaction	0.2045	3.291	0.001	0.052	
Tourist Product Quality -> Covid Reliance	-0.1062	-1.301	0.194		0.008
Tourist Product Quality -> Overall Satisfaction	0.3458	5.861	0.000	0.159	
Safety and security -> Covid Reliance	0.0196	0.221	0.825		0.000
Safety and security -> Overall Satisfaction	0.1351	2.052	0.041	0.020	
Covid Measures -> Covid Reliance	0.3202	4.244	0.000		0.084
Covid Measures -> Overall Satisfaction	0.0934	1.232	0.221	0.007	
Green areas -> Covid Reliance	0.0513	0.679	0.501		0.002
Green areas -> Overall Satisfaction	0.0358	0.579	0.563	0.002	
Overcrowding -> Covid Reliance	-0.063	-0.987	0.324		0.005
Overcrowding -> Overall Satisfaction	-0.0346	-0.641	0.522	0.002	
Covid Reliance -> Overall Satisfaction	0.0703	1.413	0.161	0.009	

As expected, the R² values attained by the two independents variables are in line by the degree of significance of the path coefficients. In the case of "overall satisfaction", "kindness", "beaches", "tourist product quality", and "safety and security" exert positive and significant influences. Indeed, the strength of the relationship is particularly important for "tourist product quality".

These results contrast with the findings related to the relationships with respect to the "COVID reliance". Neither of the latent factors "kindness", "beaches", "tourist product quality", nor "safety and security" presents a significant association with COVID reliance. On the contrary, the path coefficient associated to the COVID-measures shows a positive and significant connection with "COVID reliance".

The rejected variables (green areas and overcrowding) by EFA were further considered in PLS-PM model, indicating insignificant influences on both "COVID-reliance" and "overall satisfaction".

Finally, "COVID reliance" has no significant impact on "overall tourist satisfaction". This result discards a direct effect of the confidence of not getting infected, but also it discards the indirect effect of the COVID measures through this confidence.

3.1.5. Discussion and Conclusion

The main research objectives of the present work were to ascertain to what extent COVID-19 reliance and peoples' perception on the actions implemented at the destination to prevent the risk of getting infected had an effect on overall tourist satisfaction. Data drawn from a survey conducted in Costa Daurada, a top Spanish coastal destination, were used to fulfil these research questions.

Main results signalled that the traditional determinants of tourist satisfaction still exerted a significant influence under the COVID threat. In fact, the effect attached to "tourist product quality" emerges as particularly intense. In contrast, no direct or indirect significant effect on tourist satisfaction emerges from the actions undertaken to mitigate the spread of the disease at the destination. Besides, the traditional destination attributes have no impact on the tourists' reliance of not getting the COVID-19. Indeed, our empirical evidence points out that this "COVID reliance" is only influenced by the actions undertaken to mitigate the spread of the pandemic, and has no impact on tourist satisfaction. In contrast, it is noteworthy that "safety and security" is a not negligible determinant of satisfaction for tourists who visit Costa Daurada. This result which apparently arises as contradictory with respect to the lack of significance of "COVID reliance" and the "COVID measures" is consistent nonetheless, with prior to the pandemic evidence on tourist satisfaction (Ghose & Johann, 2019).

The lack of effect of "COVID reliance" and the actions implemented at the destination to mitigate the spread of the disease on tourist satisfaction needs particular attention. It is certain that many of these measures, such as the obligation to wear the mask, continual hand hygiene, physical and social distancing, or capacity limitations and even closures ban be in fact perceived as annoying (Davras & Durgun, 2022). In contrast, "safety and security", which includes elements such as hygiene in the beaches and the destination, and the availability of pedestrian facilities which enables on-street physical distance, appears as an important determinant of tourist satisfaction, which is consistent with previous works (Lasarudin et al., 2022; Ma et al., 2022). Assuming that trust was critical for the decisions involving the choice of the destination (Sarfraz et al., 2022), it could be hypothesized that this trust is built before the holiday trip, and during the stay, visitors may simply avoid those actions that can cause the feeling of putting them at risk: moving around crowds of people (Humagain & Singleton, 2021), sharing indoors spaces (Rogerson & Rogerson, 2022), types of accommodation that involve indoor space shared with other people (Dušek & Sagapova, 2021), or even the use of public transport (Delclòs-Alió et al., 2022). In that context, actions that are not seen as invasive by visitors are the ones that receive a positive valuation by visitors.

The capacity of recovering potential visitors' trust was determined by firms' ability of being resilient and adapting to new situations, which has been key for MSMEs to survive during the crisis. In the context of a chaotic and unpredicted scenario, like the one brought in by the infection, global and local disruptions are more likely to impact harder on small businesses, and total damage is a feasible consequence (Boukas & Ziakas, 2013). In this sense, service providers were pushed to reassure costumers about the effective compliance with all health and safety measures within a context of constant changing of the COVID-19 circumstances (Colmekcioglu et al., 2022), and at the same time, not damaging their tourist experience. This sort of firms is characterised by owning and having access to a much lesser amount of resources compared to larger firms (Sullivan-Taylor & Branicki, 2011). As a consequence, they were more vulnerable to sustain their activity during the COVID-19 pandemic within a context of uncertainty (Booyens et al., 2022). On the other hand, their smaller size made them more flexible to provide a faster adaptation to new scenarios (Prayag, 2020). When the introduction of changes was inevitable, especially for small businesses, the ability to innovate was crucial for recovering from the crisis (Zenker & Kock, 2020).

Tourism demand is very sensitive to any disruptions that affect health and safety (E. E. K. Kim et al., 2022). For this reason, the COVID-19 pandemic dramatically changed the conditions of the tourism industry, and obliged the actors that take part in it to introduce substantial adjustments to their activities so as to adapt to a completely new situation. Even though according to the World Health

Organization the pandemic is over now, some of the changes introduced in the way services are provided in the tourism industry are likely to remain in time (Gössling et al., 2021). It is the case of the concerns for hygiene and health and must be born in mind, that the biggest share of firms operating in the tourist sector are indeed MSMEs (Y. Jiang et al., 2019). This implies a complex situation where an economic sector whose performance determines the evolution of the whole economy of many countries of the world, and more particularly developing countries (Gössling & Schweiggart, 2022), depends on the arrival of visitors which is extremely vulnerable to external shocks, and at the same time, the firms that must provide the services tend to be micro and small firms. Abhari et al. (2022) suggest that those MSMEs which were capable of implementing innovative recovery actions, in addition to developing alternative business models and risk reduction strategies were more likely to survive to the chaotic situation caused by the infection during the pandemic and post-pandemic periods. Lessons learnt from the pandemic can assist MSMEs in building resilience for future challenges, especially with regard to long-term and sustainable strategies in enhancing resilience. In the near future, tourism will have to face new challenges, especially the looming threat of climate change that will require the devising and implementation of resilience plans to adapt to its consequences (Filimonau & De Coteau, 2020). Looking back to the response to the COVID-19 crisis, firms' survival depended on the adjustments introduce to make it compatible the recovery of customers' trust with a satisfactory tourist experience. Nonetheless, as stated by Gössling & Schweiggart (2022) the vulnerabilities unveiled by the crisis have not been tackled in a proper way, and the opportunity for change has to some extent been lost.

The main limitations of this study give rise to future research works. In the first place, data prior to the outbreak of the pandemic have not been used. The use of both prior to the outbreak of the pandemic, and amid the pandemic data, would be critical to disentangle the precise effect of the COVID-19 on the influence of the range of traditional determinants of tourist satisfaction. Second, it must be also taken into consideration that the survey was conducted in a very specific moment of time in a particular destination. In this vein, individuals' perception of the pandemic is very dependent on its evolution (Quach et al., 2022). During the period when the field work of the survey took place, the incidence of the COVID-19 in Costa Daurada was relatively low. Regarding the type of destination, Costa Daurada is coastal destination where families are the main target of visitors. For this reason, the same research questions could be applied in future research to different sort of destinations and tourist environments. Similarly, the profile of tourist who dared to travel amid a pandemic was different from the usual "visitor". For instance, tourist demand data signals that while visitors staying at apartments and second homes did not dramatically decreased; figures just plummeted for hotel overnight-stays. Third, the sample size used for our PSL-PM model is relatively

small. Future works should confirm that the lack of significant effect found attached to the "COVID measures" and the "COVID reliance" is consistent with larger samples. A final question that arises is whether safety, has increased its influence on tourist satisfaction compared to prior-to-the-pandemic holidays.

3.2. Tourist Satisfaction DURING the Pandemic: An Analysis of the Effects of MEASURES TO PREVENT COVID-19 in a Mediterranean Coastal Destination

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Abstract: The impact of the COVID-19 on tourist satisfaction is a particular relevant issue, due to the role that elements such as the prevention measures implemented at the destination might play. For this reason, this article examines tourist satisfaction during the peak tourist season of 2020 in a mature coastal destination in Catalonia in relation to safety and prevention measures imposed due to the COVID-19 pandemic. We use explanatory factor analysis and partial least squares path modelling for comparing the determinants of tourist satisfaction prior and during the pandemic based on surveys conducted in 2019 (N = 1556) and 2020 (N = 2220). Results and interpretation: Our results suggest that the determinants of overall tourist satisfaction in 2019 remained significant in 2020. Moreover, although tourists especially appreciated feeling safe in 2020, our results suggest that such a perception was unrelated to measures to prevent COVID-19. Our paper raises concerns towards the management of situations such as the pandemic in tourist destinations, as a proper balance must be found between the need of making visitors feel safe, and avoiding measures that can be felt as invasive or annoying, hampering the tourist experience.

Key words: tourist satisfaction, COVID-19, prevention measures, safety perception, coastal destination

3.2.1. Introduction

Tourism demand is highly sensitive to disruptions such as political and economic instability (Eid et al., 2019), terrorism (Araña & León, 2008), crime (Yüksel & Yüksel, 2007) and adverse climatic events (Giddy et al., 2017). In fact, risk is an intrinsic component of the tourist experience, one that has to be taken into consideration when analysing the determinants of tourist satisfaction (Xie et al., 2020). In that context, tourists' fear and discomfort can affect their experience by way of the negative emotions attached to them (Alegre & Garau, 2010). At the same time, actions implemented to mitigate the effects of those disruptions can also significantly impact tourist satisfaction. That impact can be positive, if the actions are perceived by tourists to relieve their perception of risk (Payam, 2016a), or negative, if they are perceived as too forceful or ineffective.

Though undesirable, many tourist destinations are occasionally affected by disturbances such as those mentioned. Along with those risks, public health crises are another sort of adverse event that can seriously hamper the tourist experience, as demonstrated by the global spread of COVID-19

(Nilashi et al., 2021). The COVID-19 pandemic massively impacted tourist activity around the world in 2020, and the tourism sector remains in recovery to this day. In 2020, the global tourism industry shrunk by more than 80%, and, in the first quarter of that year, tourist arrivals dropped by more than 20% (UNWTO, 2020). The pandemic initially forced many nations to close their borders, which prevented domestic and international travel as well as compelled many hospitality-related establishments such as restaurants, bars, and hotels to shut down, either temporarily or forever. In time, constraints such as lockdowns and social distancing measures began altering the environment of the tourism industry in every aspect (Gössling et al., 2021). Since then, tourism activities have been forced to live with the restrictions imposed to slow the spread of COVID-19 infection, along with individuals' fear of contracting the illness. Within the particular context of the pandemic, not only have tourist arrivals plummeted, but both the profile of tourists (Arbulú et al., 2021) and their behaviour during stays (Sánchez-Pérez et al., 2021) have changed, sometimes dramatically. Beyond that, a wide range of emerging evidence has captured the plummeting of tourism travel and, in international travelin particular (Haryanto, 2020), the existence of uneven effects depending on the sort of destination (Duro et al., 2021) the extent to which the pandemic has affected tourists' choices, the profiles of tourists who visit certain destinations (Cuomo et al., 2022) and the vaccination-associated effects on the recovery of tourism demand (N. L. Williams et al., 2022).

Tourist satisfaction is one of the most important dimensions in the tourist sector. According to Jang and Feng (2007), it is also one of the most important variables to consider when analysing tourist behaviour, largely because it affects destination selection, product and service consumption and the decision to return. For those reasons, tourist satisfaction has attracted the attention of researchers, albeit to a somewhat limited extent. In our case, analysing tourist satisfaction during the peak tourist season of 2020 in a mature coastal destination characterised by mass tourism was expected to allow us to disentangle the role of safety and prevention measures implemented as determinants of tourist satisfaction. Thus, the aim of our study was twofold. On the one hand, we sought to examine whether the determinants of tourist satisfaction have had different effects as a result of the pandemic and, more particularly, whether the role of safety gained ground in that context. On the other hand, we also sought to analyse whether measures to prevent COVID-19 have also played a role, including the compulsory use of face masks outdoors as well as indoors and continuous hand hygiene, restrictions on the number of people who could simultaneously access certain facilities and the time-limited use or closure of certain activities enjoyed by tourists.

3.2.2. Background

Despite the risk of contracting COVID-19, people have not stopped travelling during the pandemic (Roman et al., 2020a). Although their top reasons to travel regardless of the pandemic have been to

relax and to engage in leisure activities, their selection of destinations has played a vital role in their decisions about whether to travel. Consistent with that idea, some authors have signalled the emotional benefits of tourism for recovering from the stress and anxiety caused by the pandemic (Buckley, 2023; Buckley & Westaway, 2020). No matter their basis, tourists' perceptions of the risk of COVID-19 came to the fore in 2020 as one the most important factors in their decision-making (Huang et al., 2021; Huang et al., 2020). In that context, researchers have indeed detected the negative impact of COVID-19 on tourist satisfaction (Hong et al., 2020). A concept able to explain how COVID-19 has altered tourist satisfaction since the pandemic broke out is *psychological risk*, which refers to the probability that tourists' travel and tourism experiences may adversely impact their self-image and satisfaction (Adam, 2015). Within that framework, the spread of the infection threatened not only people's physical health but also their mental health, especially in terms of emotions and cognition, both of which are major sources of tourist satisfaction.

Studies that have analysed the COVID-19 pandemic's impact on tourist satisfaction have been few, and, amongst the ones that have been conducted, many have focused on particular sectors of the tourism industry. Attention has most often been paid to certain types of accommodations. For instance, Hong et al. (2020) and Cai et al. (2021) analysed tourist satisfaction with bread and breakfasts in China, Voon et al. (2022) with homestay accommodations in Malaysia and Cai et al. (2021) with ryokans in Japan, while Srivastava and Kumar (2021), Sun et al. (2022) and Saydam et al. (2022) have all investigated changes for hotel customers caused by COVID-19.

In the context of the pandemic, given that tourists' perceptions of safety and security impact their choice of destinations and satisfaction (Milman & Pizam, 1995), the effect of two elements on overall tourist satisfaction should be taken into account: perceived safety and prevention measures in place at the destination to deter the spread of infection. Evidence related to both elements, however, remains relatively scarce. Concerning perceived safety, Mwesiumo and Abdalla (2023) found that, for tourists in Tanzania, epistemic value, value for money and perceived safety were significantly associated with overall satisfaction. Meanwhile, Ma et al. (2022) concluded that air passengers with positive perceptions of the functionality of facilities, the accessibility of their layout and the cleanliness of airports were more satisfied than their peers with negative perceptions and were relatively prone to report wanting to take more flights in the future. In other work, using a survey launched in June 2020, Lu and Atadil (2021) found that U.S. citizens were reluctant to travel to China largely due to perceptions that the country's destinations were neither safe nor secure. Beyond that, Ababneh et al. (2022) found that undergraduate university students' level of satisfaction with restaurant services could be predicted by service quality, perceived value, COVID-

19-related safety measures in place and food quality. Last, Zaman et al. (2021) have highlighted that destinations with the reputation of being COVID-19-free by means of vaccination programmes were more likely than others to attract tourists and to begin seeing pre-pandemic figures of tourism demand.

Addressing how measures to prevent COVID-19 have impacted tourist satisfaction and destination image, Humagain and Singleton (2021) identified the positive impact of satisfaction with anti-COVID-19 practices at destinations with outdoor recreation trips on tourists' perceived value, overall satisfaction, intention to revisit and intention to recommend. More recently, Huete-Alcocer and Hernández-Rojas (2022) detected the positive effect of COVID-19 safety measures on tourist satisfaction with restaurants in Córdoba, a World Heritage Site in Spain. In other work, Shum and Ghosh (2022) highlighted that restaurant employees' prosocial breaking of public health safety protocols in place to combat COVID-19 can have a substantial negative impact on the establishments' performance ratings. Jiménez-Medina et al. (2022), for their part, concluded that hospitality establishments' adoption of anti-COVID-19 measures positively influences tourist satisfaction and tourists' intention to return. Similar results were obtained by Szentesi et al. (2021), with data drawn from a survey of both customers and employees of hotels in Romania. Added to that, Park et al. (2021) concluded that residents' attitudes towards tourism activity during the pandemic can be improved if anti-COVID-19 measures were perceived to have been implemented. Vich et al. (2022) reached a similar conclusion in the context of public transport services that frequently carry tourists.

In our work, Davras and Durgun's (2022) contribution is especially interesting, for they assessed how different measures to prevent COVID-19 had been rated by Trip Advisor users between June and August 2020. Their results revealed that whereas measures taken by hospitality establishments such as disinfection and hygiene were well-rated, the opposite was observed for social distancing requirements and the mandatory use of masks. Those results suggest that whereas the former did not seem inconvenient for customers, the latter did, even though such practices are more effective at preventing the spread of contagion. Likewise, as reported by Constant et al. (2022), not all anti-COVID-19 measures have received the same degree of acceptance. In that vein, the temporarily closure of certain services and spaces receives the lower approval. The lesson learnt is that measures to prevent COVID-19 can be perceived as being annoying and hamper tourists' experiences. That reality might be a consequence primarily of pandemic fatigue (Boylan et al., 2021), which makes individuals more prone to break socially accepted rules and conventions observed to prevent the spread of contagion (Drody et al., 2022).

With regard to the works that have been previously commented, to the best of our knowledge this is the first attempt to assess to what extent the determination of overall tourist satisfaction has been affected by the outbreak of the pandemic, by means of an analysis involving both the comparison between prior-to-the pandemic data and data collected during the pandemic, and at the same time, the use of data, collected by means of interviews, that gather information on satisfaction of all tourists at a destination and their whole tourist experience, instead of just one particular sector of the tourist product, as it happened with works which were focused just on accommodation.

3.2.3. Data

Study Area

Located in Catalonia, 100 km south of Barcelona, Costa Daurada is one of the most popular coastal destinations in the Spanish Mediterranean. According to data provided by the Costa Daurada Tourism Observatory, in 2019 the area was visited by more than 5 million tourists, who together made approximately 20 million overnight stays. Those figures plummeted in 2020, however, due to the effects of the COVID-19 pandemic. According to data of Tourism Open Knowledge of the Costa Daurada Tourism Observatory, tourist arrivals and overnight stays in the Costa Daurada region dropped by 70% and 75%, respectively, from 2019 to 2020. In Costa Daurada, tourism activity is primarily concentrated in the municipalities of Salou, Cambrils and Vila-seca, which together account for more than 70% of the area's total tourism capacity. All three are small coastal cities with populations ranging from 20,000 to 35,000. Also within the Costa Daurada area, two midsized cities are located not far from the most dynamic tourist municipalities; Tarragona has a population of more than 134,000 and Reus a population of 100,000. All of those cities are well connected by road and public transport. As a result, tourist excursions in Costa Daurada are easy to organise, fast and comfortable.

The area's chief attractions are its beaches and sunny weather, along with several cultural attractions in Tarragona and Reus. On top of that, the Roman remains of Tarragona have been designated as a UNESCO World Heritage Site. Last, Port Aventura, located between Salou and Vilaseca, ranks amongst the top-five theme parks in Europe (Clavé, 2010), one that received approximately 5.2 million visitors in 2019. In Costa Daurada and across Spain, measures to prevent COVID-19 were introduced after the end of the lockdown in the early summer of 2020. People had to wear facemasks indoors and outdoors beginning on 9 July, and nightclubs were forced to close on 25 July.

Data collection

We used microdata from a survey conducted annually by the Costa Daurada Tourism Observatory in the municipalities of Cambrils Salou and Vila-seca. Given our objective to gauge whether the determinants of tourist satisfaction have changed as a result of the COVID-19 pandemic, we used data from 2019 (i.e. pre-pandemic) and from 2020 (i.e. mid-pandemic). We used data from a total 3776 respondents collected during interviews: 1556 from 2019 and 2220 from 2020. The fact that the sample size for 2020 clearly exceeded that for 2019 did not compromise the robustness of the methodology applied. Partial least squares (PLS) was applied to each of the samples separately. During the high tourist season from June to September in both 2019 and 2020, interviews were conducted on all seven days of the week, while during the rest of the year they were conducted only at weekends. The overall distributions of interviews conducted in the districts of each municipality were defined proportionally to the number of tourists hosted in each area. Beyond that, different survey points were chosen in the three municipalities; all are key locations that attract the main tourist flows (e.g. beaches, coastal waterfronts and shopping or leisure areas). The selection of individual tourists to be surveyed at each location was random, the survey was performed by professional staff, and each individual interview took an average of approximately 5 minutes to complete.

In general, the surveys conducted by the Costa Daurada Tourism Observatory gather a massive amount of data purporting tourism demand. The survey items address the characteristics of tourists' trip, their stays and socioeconomic variables, as well as tourists' perceptions of different dimensions of the destination. On the 2019 and 2020 surveys, items that allow measuring different aspects of tourist satisfaction were cleanliness of public areas, safety, COVID-19 prevention measures, the kindness of locals, accommodation services, public transport, facilities for pedestrians, entertainment and night life, green areas, the cleanliness of beaches and the sea, facilities on beaches, quality-to-price ratio, signage, restaurants in general and overall degree of satisfaction. On those surveys, respondents were also asked to rate the level of perceived overcrowding at the destination. Responses for satisfaction ranged from 1 (very poor) to 5 (excellent) on a 5-point Likert scale, whereas ones for overcrowding, on another 5-point Likert scale, ranged from 1 (there is no overcrowding), to 5 (it's totally overrun by tourism).

Descriptive statistics

Table 7 presents the descriptive statistics of the profile of tourists in 2019 and in 2020 and showcases the unprecedented disruptions caused by the COVID-19 pandemic for tourism demand. The share of foreign visitors dropped dramatically from 57% in 2019 to only 14% in 2020. Second homes gained ground in 2020, from 22% to 50%, whereas hotels lost it and dropped from 49% to

23%. In relative terms, the shortest stays (i.e. 1–3 nights) and the longest ones (i.e., >15 nights) also grew, together with the proportion of tourists who had previously stayed overnight in Costa Daurada, which rose from 69% to 90%. In sum, the tourist profile changed significantly in 2020, for in that year the destination was primarily visited by domestic tourists who owned property in the area, whereas international tourists hardly travelled there at all.

Table 7. Descriptive statistics of the profile of tourists in Costa Daurada in 2019 and 2020.

		2019		20	20
		N =	1556	N = 2220	
		Frequency	Percentage	Frequency	Percentage
0	Spain	662	42.54%	1907	85.90%
Origin	France	267	17.16%	161	7.25%
	Other	627	40.30%	152	6.85%
	Couples with no children	581	37.34%	1018	45.86%
Profile	Families with children	661	42.48%	700	31.53%
	Alone	76	4.88%	163	7.34%
	15–44 years	663	42.61%	665	29.95%
Age	45–64 years	537	34.51%	963	43.38%
	>64 years	356	22.88%	592	26.67%
	Hotel	764	49.10%	500	22.52%
	Camping	96	6.17%	157	7.07%
Accommodation	Apartment	276	17.74%	281	12.66%
	Second home	346	22.24%	1121	50.50%
	Other	74	4.76%	161	7.25%
	1–3 nights	179	11.50%	602	27.12%
Length of stay	4–7 nights	675	43.38%	634	28.56%
	8–15 nights	505	32.46%	363	16.35%
	>15 nights	197	12.66%	621	27.97%
Gender	Woman	750	48.20%	1057	47.61%
	Man	806	51.80%	1163	52.39%
Repeat visit?	Yes	1075	69.09%	1994	89.82%
	No	481	30.91%	226	10.18%

Table 8 presents the descriptive statistics of the variables related to tourist satisfaction. Some of the corresponding items listed here were not used in the forthcoming analysis due to large numbers of missing values; they included accommodation services, entertainment and night life, public transport and restaurants in general. Missing values resulted from the fact that not all visitors used or consumed all of the tourist products offered in the destination. For instance, not all visitors ate in restaurants. Overall, visitors in Costa Daurada were highly satisfied and reported an overall level of satisfaction of 4.44 in 2019 and 4.29 in 2020, both on a 5-point scale ranging from 1 and 5. Thus, overall satisfaction slightly declined from one year to the next. In fact, the decline between 2019 and 2020 affected all items presented in Table 8. The kindness of locals and facilities for pedestrians were the items that obtained the highest rates in 2019 and 2020 alike. Whereas there were no rates

less than 4.0 in 2019, with quality-to-price ratio and cleanliness of public areas having the lowest levels of satisfaction, in 2020 four items fell below 4.0: quality-to-price ratio, cleanliness of public areas, facilities on beaches and cleanliness of beaches and the sea. Last, measures to prevent COVID-19, surveyed only in 2020, achieved a rating of 3.74 and was thus the element that received the lowest score.

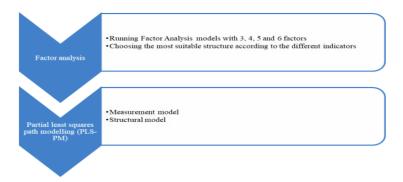
 $Table\ 8.\ Descriptive\ statistics\ of\ variables\ of\ tourist\ satisfaction\ that\ account\ for\ overall\ satisfaction.$

	Full sa	ample	20	19	20	20
	<i>N</i> = 3776		N = 1	N = 1556		2220
	М	SD	М	SD	М	SD
Cleanliness of public a reas	3.98	0.93	4.14	0.82	3.87	0.98
Safety	4.17	0.82	4.29	0.72	4.08	0.88
Kindness of locals	4.27	0.74	4.31	0.76	4.24	0.72
Facilities for pedestrians	4.26	0.81	4.34	0.74	4.20	0.86
Green areas	4.11	0.82	4.25	0.77	4.02	0.85
Signage	4.13	0.73	4.18	0.73	4.10	0.72
Cleanliness of beaches and the sea	4.07	0.92	4.23	0.82	3.96	0.97
Facilities on beaches	4.00	0.91	4.19	0.75	3.87	0.98
Quality-to-price ratio	3.99	0.80	4.09	0.76	3.92	0.82
Measures to prevent COVID- 19	3.74	1.00			3.74	1.00
Overall satisfaction	4.35	0.65	4.44	0.60	4.29	0.67

3.2.4. Methods

The proposed methodology is presented in Figure 5.

Figure 5. Methodology



Factor analysis

Factor analysis is a statistical technique first developed to describe correlations between individuals' mental test scores (Spearman, 1904). Following Yong and Pearce (2013), the model for factor analysis can be expressed as follows:

$$x = \mu + \Lambda f + e \tag{1}$$

For a p-element vector x of observed variables, there is a $p \times k$ matrix Λ of loadings, a k-element vector f of scores, a mean p-element vector f and a vector of error terms f. Thus, vector f denotes the observed data accounted for by the vector f of latent variables, whereas f is assumed to be zero. Scores are uncorrelated and their variance equals 1. Because the error terms are uncorrelated with themselves and with the scores, the loadings can be interpreted as correlations between the original variables and the scores. The factors are obtained by maximum likelihood estimation, and, in that particular case, conducting exploratory factor analysis (EFA) can provide initial estimates of the association between variables and their latent factors.

Partial least squares path modelling (PLS-PM)

PLS-PM is a multivariate methodology that assesses both direct and indirect effects on presumptive causal relationships (Benitez et al., 2020). In PLS-PM, there are two types of models: the measurement model and the structural model. The measurement model, which takes into account the relationships between a latent variable and the corresponding manifest variables, following McIntosh et al. (2014)can be expressed as:

$$x = \Lambda_x \xi + \delta, \tag{2}$$

in which x denotes the observed variables, ξ represents the latent variables, Λ denotes the factor loadings, and δ indicates the error terms. By contrast, the structural model represents the relationships between the latent variables or constructs and following McIntosh et al. (2014)can be expressed as:

$$\eta = \alpha + \beta_{\eta} + \Gamma \xi + \zeta \tag{3}$$

in which η is an m-vector of generic latent endogenous constructs or variables, ξ is an n-vector of generic latent exogenous constructs or variables, α is an m-vector of intercept terms, β is an $m \times m$ matrix of generic path coefficients that place the influence of η on each other, Γ is an $m \times n$ matrix of coefficients of the effect of ξ on η , and ζ is the m-vector of errors that contains the unexplained parts of η .

3.2.5. Results

EFA

To ensure that the factors entered into the PLS-PM models for 2019 and 2020 were identical and that the coefficients of the pre-pandemic and mid-pandemic models were therefore comparable, we ran an EFA with the data from both years. Several well-established parameters for the factorability of the correlations were studied, including the Kaiser–Meyer–Olkin (KMO) sampling adequacy measure (Kaiser, 1974) and Bartlett's test of sphericity, both of which validated a factor structure with four factors. All eigenvalues exceeded 1, and the percentage of total explained variance was 54%. The results of the EFA, shown in Table 9, produced a clean factor structure with relatively high loadings for the factors. The results showed that the alpha coefficients of the four factors ranged from 0.68 to 1 and thus exceeded the minimum value of 0.5 which is considered to be an appropriate indication of reliability in basic research (Nunnally, 1975). The four dimensions of destination attributes extracted were labelled "general safety", "destination characteristics", "beaches" and "quality-to-price ratio".

Table 9. Results of exploratory factor analysis

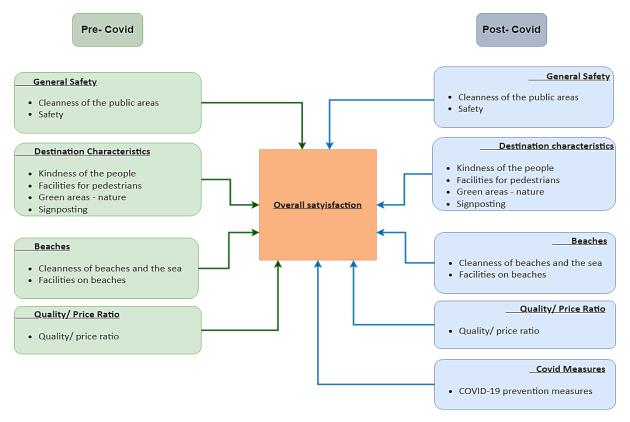
	Factor	Factor	Factor	Factor	кмо	Communality	Eigenvalue	% of	Cronbach
	1	2	3	4				variance	Alpha
General safety									
							1.032	0.110	0.680
Cleanliness of public a reas	0.391	0.15	0.271	-0.013	0.892	0.491			
Safety	0.823	0.003	-0.013	0.021	0.891	0.663			
Destination characteristics									
Kindness of locals	0.211	0.423	-0.032	0.053	0.923	0.332	1.443	0.160	0.711
Facilities for pedestrians	0.023	0.682	-0.031	-0.042	0.931	0.433			
Green areas	0.021	0.441	0.221	0.003	0.932	0.391			
Signage	-0.043	0.541	0.043	0.181	0.910	0.464			
Beaches									
							1.341	0.150	0.723
Cleanliness beaches and sea	0.011	-0.013	0.871	-0.013	0.881	0.741			
Facilities on beaches	0.041	0.121	0.493	0.152	0.883	0.473			
Quality-to-price ratio							1.042	0.120	1.000
Price-quality relationship	0.012	0.000	0.000	0.931	1.000	0.881			

Note: Overall KMO = 0.9, Bartlett's test of sphericity = chi-square- 11281; p - 0; df = 36.

PLS-PM

Because the EFA that we conducted provided an optimal initial structure of the data, the initial PLS path model was modified to improve its fit, and the proposed model, depicted in Figure 6, was thus converged. For 2019, the four latent constructs obtained from the EFA were considered: safety and security, destination characteristics, beaches and quality-to-price ratio. For 2020, in addition to those four latent variables, a fifth element was introduced: how tourists rated measures to prevent COVID-19.

Figure 6. Conceptual model



The PLS-PM simulation of the model was performed by taking into account a large number of parameters, including item loading, reliability and validity. Following Henseler et al. (2009), it involved a two-step process of calculating the PLS model parameters separately by solving out the blocks of the measurement model and estimating the path coefficients of the structural model.

Measurement model

According to (Müller et al., 2018), it is essential to ensure convergent validity and discriminant validity such that the fit indices indicate an appropriate model fit. Cronbach's alphas and average variance extracted (AVE) were used to measure convergent validity; all Cronbach's alpha values exceeded 0.6, the threshold value recommended by Dijkstra and Henseler (2015). Moreover, the AVE of each construct exceeded the threshold of 0.5 (Table 10 and Table 11) recommended by Fornell and Larcker (1981a) and Hair et al (2015). Following Fornell and Larcker (1981a), the square root of the AVE of each latent variable was used to establish discriminant validity. The correlations were all less than the value of the square root of the AVE values and thus indicated an acceptable level of discriminant validity amongst the variables (Table 12 and Table 13). The model therefore fit the data well and had validities at appropriate levels.

Table 10. Results of the pre-COVID-19 measurement model

Pre-COVID-19	Loading	Cronbach's alpha	DG.rho	eig.1st	eig.2nd	AVE
Beaches	0.911	0.784	0.903	1.65	0.355	0.823
	0.903					
Destination characteristics	0.702	0.721	0.827	2.18	0.686	0.544
	0.750					
	0.725					
	0.772					
General safety	0.884	0.715	0.875	1.56	0.444	0.778
	0.880					
Quality-to-price ratio	1.000	1.000	1.000	1.000	0.000	1.000
Satisfaction-19	1.000	1.000	1.000	1.000	0.000	1.000

Table 11. Results of the post-COVID-19 measurement model

Post-COVID-19	Loading	Cronbach's alpha	DG.rho	eig.1st	eig.2nd	AVE
Beaches	0.874	0.684	0.863	1.52	0.48	0.76
	0.869					
	0.738					
Destination	0.711	0.708	0.82	2.13	0.651	0.533
characteristics	0.704					
	0.765					
General safety	0.853	0.655	0.853	1.49	0.513	0.743
	0.872					
Quality-to-price ratio	1.000	1.000	1.000	1.000	0.000	1.000
COVID-19 measures	1.000	1.000	1.000	1.000	0.000	1.000
Satisfaction-20	1.000	1.000	1.000	1.000	0.000	1.000

Note: AVE = a verage variance extracted. RMSEA = 0.061 pre -COVID-19 and 0.055 post-COVID-19; SRMR = 0.027 pre -COVID-19 and 0.028 post-COVID-19; Goodness-of-fit index value = 0.5293 pre -COVID-19 and 0.4865 post-COVID-19.

Table 12. Results for the Fornell-Larcker criterion of discriminant validity pre-COVID-19

				, ,	
Pre-COVID-19	General safety	Destination characteristics	Beaches	Quality-to-price ratio	Satisfaction-19
General safety	0.882				
Destination	0.628	0.737			
Beaches	0.541	0.568	0.907		
Quality-to-price	0.443	0.574	0.488	1.000	
Satisfaction-19	0.457	0.622	0.452	0.474	1.000

Table 13. Results for the Fornell–Larcker criterion of discriminant validity post-COVID-19

Post-COVID-19	General safety	Destination characteristics	Beaches	Quality- to-price	COVID-19 measures	Satisfaction- 20
General safety	0.861					
Destination	0.563	0.728				
Beaches	0.511	0.562	0.872			
Quality-to-price	0.404	0.553	0.487	1.000		
COVID-19 measures	0.475	0.44	0.327	0.297	1.000	
Satisfaction-20	0.431	0.577	0.409	0.442	0.297	1.000

Structural model

Table 14, table 15 and Figure 7 present the results of the structural models for 2019 and 2020. Following Hair et al. (2016), we used bootstrapping techniques with 5000 samples to evaluate t statistics and confidence intervals (p). The goodness-of-fit values obtained in the PLS-PM analysis were 0.5293 before the COVID-19 pandemic and 0.4865 during it, whereas the respective R^2 values were 0.417 and 0.368. Both indicators point to a downward trend in the capacity of traditional measures of tourist satisfaction to account for overall satisfaction.

The results of the model suggest that the four latent variables considered (i.e. general safety, destination characteristics, beaches and quality-to-price ratio) were all significant in the models for 2019 and 2020. Although a stronger effect was attached to destination characteristics (i.e. 0.45 in 2019 and 0.40 in 2020), the rest of the variables presented far smaller correlations. Second in importance was the quality-to-price ratio (i.e. 0.14 in 2019 and 0.15 in 2020), whereas the lowest correlations were associated with beaches (i.e., 0.10 in 2019 and 0.05 in 2020) and general safety (i.e. 0.06 in 2019 and 0.12 in 2020). Even so, the most outstanding result was that measures to prevent COVID-19 did not exhibit any significant association with satisfaction in 2020. The comparison between data from 2019 and 2020 allows disentangling the extent to which the pandemic affected tourist satisfaction. Figure 2 and Table 3 shown that the effect of the latent variables on overall satisfaction tended to vary from one year to the next. To begin, the path coefficient of general safety nearly doubled from 2019 to 2020. Conversely, the correlation with beaches was almost halved, whereas the effect associated with destination characteristics also diminished, albeit to a far lesser extent. By contrast, the path coefficient of the quality-to-price ratio increased slightly. It should be highlighted that although general safety was the least important element for tourists in 2019, it surpassed beaches in 2020.

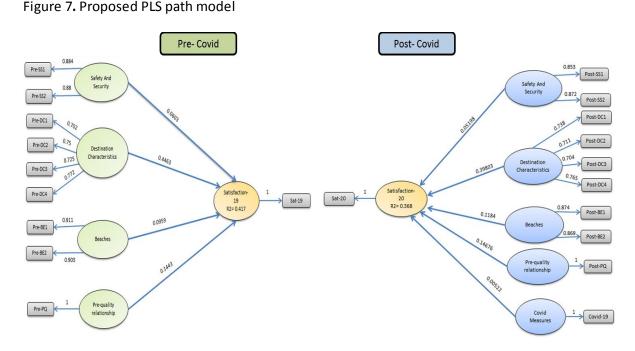
Table 14. Pre-COVID-19 structural model

Relationships pre-COVID-19	Effects	t value	Pr (> t)	Result
Beaches -> Satisfaction-19	0.096	3.812	0.000	Significant
Destination characteristics -> Satisfaction-19	0.446	15.703	0.000	Significant
Quality-to-price ratio -> Satisfaction-19	0.144	5.902	0.000	Significant
General safety -> Satisfaction-19	0.060	2.310	0.021	Significant

Table 15. Post-COVID-19 structural model

Relationships post-COVID-19	Effect	t value	Pr(> t)	Result
Beaches -> Satisfaction-20	0.052	2.381	0.018	Significant
Destination characteristics -> Satisfaction-20	0.398	16.62	0.000	Significant
Quality-to-price ratio -> Satisfaction-20	0.147	6.981	0.000	Significant
General safety -> Satisfaction-20	0.118	5.313	0.000	Significant
COVID-19 measures -> Satisfaction_20	0.005	0.264	0.792	Notsignificant





3.2.6. Discussion and Conclusion

In our work, we sought to discern the extent to which the COVID-19 pandemic altered the determination of tourist satisfaction in Costa Daurada, a very popular Mediterranean coastal destination, during the peak tourist season in 2020. The conclusions of our research are necessarily limited to the particular circumstances brought about by the spread of the coronavirus that included restrictions on travelling, especially to international destinations, as well as limitations on activities at destinations and individuals' logical fear of contracting the virus. Analysing the COVID-19 impact on such popular coastal destinations is particularly relevant, as they have proven to be particularly vulnerable to the effects of the pandemic (Duro et al., 2021). Given such specific vulnerability, it is critical to pinpoint the extent to which the determination of tourist satisfaction has been affected by the pandemic while taking into consideration that tourist satisfaction is key for individuals' decisions, including about whether or not to return to destinations (Jang & Feng, 2007).

EFA and PLS-PM were applied to two sets of data regarding tourists. The first contained data drawn from a survey of tourists at Costa Daurada in 2019 (N = 1556), whereas the second was based on the same survey that was replicated in the summer of 2020 (N = 2220). The questionnaire for both surveys along with the traditional items used to characterise tourists' demand included how tourists rated different elements of the destination and their overall level of satisfaction. Beyond that, the questionnaire in 2020 also contained items specifically related to COVID-19, including how tourists rated the measures in place to prevent COVID-19.

Four factors emerged from the EFA—general safety, destination characteristics, beaches and quality-to-price ratio—all of which were found to be significant determinants of overall tourist satisfaction

UNIVERSITAT ROVIRA I VIRGILI
ANALYSIS OF THE IMPACT OF COVID-19 PANDEMIC ON TOURIST SATISFACTION. A CASE STUDY OF VISITORS OF
COASTA DAURADA, SOUTH CATALONIA
Indrajeet Mallick

in both 2019 and 2020. Especially important was the effect associated with the characteristics of the destination that embraced elements such as the kindness of locals, facilities for pedestrians, green areas and signage. Probably the most outstanding result was the non-significance of the measures to prevent COVID-19 at the destination, which contradicts published findings (Huete-Alcocer & Hernandez-Rojas, 2022; Humagain & Singleton, 2021; Jiménez-Medina et al., 2022).

In view of that result, the question arises whether tourist satisfaction has had anything to do with measures to prevent COVID-19 during the pandemic. Along those lines, the PLS model provided evidence that even though there was no direct effect of the measures to prevent COVID-19 on tourists' overall satisfaction, there was sufficient evidence of its indirect effect. For one, the results indicate the substantial growth of the path coefficient of general safety compared with 2019. Thus, feeling safe in 2020, which primarily included the original variables of the cleanliness of public areas and safety, gained considerable importance during the pandemic. For another, the factor loading of pedestrian facilities with respect to general safety also grew in 2020 compared with 2019. In sum, although visitors were eager to feel safe during their stays at the destination in 2020, that sense of safety did not directly derive from measures to prevent COVID-19. In fact, such measures (e.g. compulsory use of face masks or hand washing, physical distance, capacity limitations or even closure of activities) were liable to be perceived as annoying and mundane (Sadiković et al., 2020).

Tourists who visited the Costa Daurada in 2020 appreciated a feeling of safety more than in previous years. How that feeling of safety was achieved, however, is another question. Direct measures to prevent COVID-19 did not exert a significant influence on tourist satisfaction, meaning that such a feeling of safety could be more effectively achieved in a more indirect way by expanding pedest rian facilities, promoting outdoor tourist activities instead of indoor ones and/or implementing actions to diminish the density of visitors in certain crowded locations. Those sorts of actions should generate a spillover effect on other dimensions of tourist satisfaction. By contrast, the absence of any significant impact attached to measures to prevent COVID-19, despite not increasing tourist satisfaction, at least signals that they were not perceived as being overly annoying for tourists.

In terms of destination management, the results indicate that phenomena such as health crises, including the COVID-19 pandemic, are especially difficult to handle at mass tourism destinations. Aside from guaranteeing tourists' and residents' health, tourists' perceptions are also important. On the one hand, visitors need to feel safe, as proven by its increased weight in 2020 compared with 2019 in the PLS path model. Previous works have shown that the absence of health safety is a powerful deterrent of the intention to travel for tourism (Chua et al., 2021) and leads to negative experiences for tourists (Jonas et al., 2011). On the other hand, an excess of prevention measures

UNIVERSITAT ROVIRA I VIRGILI
ANALYSIS OF THE IMPACT OF COVID-19 PANDEMIC ON TOURIST SATISFACTION. A CASE STUDY OF VISITORS OF
COASTA DAURADA, SOUTH CATALONIA
Indrajeet Mallick

could be perceived as unpleasant and/or invasive or could convey the idea that the destination poses a serious threat. Given the dynamic evolution of the coronavirus responsible for COVID-19, which is highly related to individuals' perceptions of risk, a working balance between X and Y has been particularly difficult to strike. Added to that, the diversity of individuals' perceptions of the pandemic has further complicated the implementation of a proper response.

Several elements suggest approaching our results with caution. For one, the incidence of the pandemic, even though increasing, was relatively low during that summer after the spring lockdown in Spain. Thus, data related to other destinations with different levels of incidence are required in order to prove the consistency of the results. For another, the prevention measures implemented were specific to Catalonia, whose government was responsible for COVID-19 policy during the period examined, whereas other preventive measures could have led to different reactions amongst tourists. Last, the tourist profile dramatically changed from 2019 to 2020, and, likewise, the samples of tourists differed greatly from one year to the next. The fact that many individuals ruled out the idea of travelling to a popular coastal destination under the threat of COVID-19 warrants consideration. In fact, most of those who did stayed in an apartment or a second home, which considerably minimised their risk of contracting the illness. Last, restrictions on international travels were imposed, which has to be taken into account. All of those caveats and limitations, however, leave the door open to future research able to provide further evidence of the effect of preventive measures on satisfaction, the results of which would be highly valuable for destination managers needing to cope with future critical situations, no matter how undesirable.

3.3. Holiday plans altered due to COVID-19: The impact on tourist satisfaction

Abstract: The COVID-19 pandemic altered the holiday plans of many people. Whether it was due to travel bans or to the fear of contracting the infection, people modified, among other aspects, the chosen destination, the travel transports, accommodations, the length of stay and the activities to be undertaken during the stay. In this context, we aim to disentangle the effect of these changes on tourist satisfaction. Two main hypotheses have been put forward. First, tourists might be dissatisfied given that they could not attain their holiday expectations. In contrast, the second hypothesis suggests that those individuals who changed their holiday plans might be more satisfied because they diminished their perceived risk of contagion. We have used data drawn from a survey of tourists (N=2,009) who visited a very popular Mediterranean coastal destination just after the end of the Spanish lockdown. Results signal that tourists were not more dissatisfied when they had modified their initial holiday plan. On the contrary, in some cases, these changes apparently contributed to mitigate the risk perception and led them to a better tourist experience. Results also suggest that tourists were willing to adapt to a new situation in order not to renounce their holidays.

Keywords: COVID-19, Tourist satisfaction, Safety, Holiday plans, Expectations.

UNIVERSITAT ROVIRA I VIRGILI
ANALYSIS OF THE IMPACT OF COVID-19 PANDEMIC ON TOURIST SATISFACTION. A CASE STUDY OF VISITORS OF
COASTA DAURADA, SOUTH CATALONIA
Indrajeet Mallick

3.3.1. Introduction

The spread of SARS-CoV-2 caused a profound depression in activities of the tourism sector throughout the world. The impact was particularly strong during the first months of the pandemic, when severe restrictions to mobility, economic activities and the gathering of people were imposed (Gössling et al., 2021). According to GWI (2020), approximately 50% of American consumers and 38% of British consumers voluntarily cancelled, delayed, or were forced to cancel their initial holiday plans during the COVID-19 pandemic. Nevertheless, and in spite of the difficulties faced by the tourism industry, its activities did not come to a complete halt; rather, the industry responded to the demand of visitors who wished to travel notwithstanding the barriers to mobility and the fear of contracting the illness (Roman et al., 2020b). Restrictions to mobility, to certain activities, and more restrictive capacity limitations, as well as fear of infection resulted in holiday changes, as the incidence of COVID-19 became a key element in the potential tourists' decision-making process (Pappas & Glyptou, 2021).

In a context where tourists were not having the holidays that they initially intended, the process of tourist satisfaction formation could have been seriously hampered. In this vein, following Oliver (1980) and Castañeda et al. (2007), consumer satisfaction depended on the comparison between perception of services or products and previous expectations. Within the tourist industry, the comparison takes place between the real experiences that tourists had at the destination and those expectations (Montero & Fernandez-Aviles, 2011). COVID-19 introduced a new scenario in which the expectations attached to the holidays were more difficult to meet, as the initial holiday plans might have been modified in several ways. In this sense, the tourist might have had to change the destination, the mode of transport chosen to reach it, the length of stay, the accommodation, the activities undertaken, and other aspects related to the holiday. These changes at times were the result of the restrictions imposed by governments at different levels to deter the expansion of the virus, which obliged visitors to amend some or all of the characteristics of the holiday (Seyfi et al., 2023). Altered plans were also the consequence of fear of the illness, which made visitors more likely to reject certain aspects of the trip or the stay that they deemed risky to their safety (Matiza, 2022; Shin et al., 2022). As a result, modified holiday plans could lead to frustration.

In contrast, some tourists experienced relief, which enhanced their satisfaction due to the feeling of attained safety stemming from the change of plans. This occurred since tourists' psychological needs were changed as a result of the pandemic (Cheung et al., 2021). In this sense, empirical evidence has signalled that during the COVID-19 crisis, the feeling of safety was critical for tourist satisfaction (Lu & Atadil, 2021; Mallick et al., 2022; Mwesiumo & Abdalla, 2023). Moreover, tourist's priorities

before and after the pandemic regarding tourist services changed, and the preference for health safety has gained ground (Nilashi et al., 2022; Srivastava & Kumar, 2021).

Disruptions like those caused by COVID-19 obliged both the provider of tourism services and the consumer to adapt to the new situation. Within this process of adaptations, the negative effect on satisfaction associated with the frustration caused by the changes on the initial tourists' plans opposed the positive effect attached to the gain in safety that stemmed from it. Depending on which of these two drivers prevailed, the effect on satisfaction took one direction or the other. The effect of the disruption on the activity of the tourism sector was more intense at the beginning of the pandemic, when knowledge about it was very limited, and the massive production of an effective vaccine was still far off. It must be taken into consideration that the demand of the tourism industry is very sensitive to any disruptions that emerge as a threat to the visitors' physical health (Yüksel & Yüksel, 2007). As a consequence, the spread of SARS-CoV-2 put some specific types of destinations into a more vulnerable position (Duro et al., 2021). All in all, tourist satisfaction can be seriously damaged if the visitor does not feel sufficiently safe (Alegre & Garau, 2010).

In this context, to gain insight into the consequences of altered visitors' plans on tourist satisfaction will be of great aid for the managers of firms operating within the tourism industry as well as destination managers to properly cope with future disruptions. Data generated during the year 2020 is highly useful to this object, as the difficulties encountered in enabling a feasible coexistence of tourist activities with the constant threat of contracting the illness and the efforts to deterits spread reached its climax.

Hence, the main aim of this paper is to shed light on whether there were significant differences in the satisfaction levels of tourists who changed their initial travel plans and those who did not in 2020. Two main hypotheses are examined. The first hypothesis states that those visitors who changed their plans were less satisfied compared to the ones who did not, due to the frustration of the initial plans. The second hypothesis puts forward the opposite: tourists who changed their plans were more satisfied as they felt safer. The current research endeavour focuses on Costa Daurada, a top coastal tourist destination, as the case study. Costa Daurada is located in Catalonia in the North of Spain, and it is a popular destination for international and domestic tourists. A survey of tourists who visited Costa Daurada was conducted (N=2009), and tests to assess the significance of satisfaction between tourists have been calculated. Prior to the analysis, a theoretical review on satisfaction and tourism during COVID-19 was carried out. Finally, a discussion on the work and significant findings are presented.

UNIVERSITAT ROVIRA I VIRGILI
ANALYSIS OF THE IMPACT OF COVID-19 PANDEMIC ON TOURIST SATISFACTION. A CASE STUDY OF VISITORS OF
COASTA DAURADA, SOUTH CATALONIA
Indrajeet Mallick

3.3.2. Literature review

Tourist satisfaction

Tourist satisfaction is a key factor, not only in the tourism economy but also in general for most economic activities. In this vein, it is conceived as a cornerstone to attain business success in competitive environments (Morgan et al., 1996). In the specific context of the tourism industry, tourist satisfaction is regarded as essential for the survival and future of any tourism product or service (Gursoy et al., 2003; Kozak et al., 2004). Several scholars have found that it has a substantial impact on destination selection, product and service consumption, and the decision to revisit (Jang & Feng, 2007; Kozak & Rimmington, 2000; Wong & Law, 2003; Yoon & Uysal, 2005).

Even though there is no dispute about its importance in the tourist industry, the sources of satisfaction have yielded a diversity of theoretical frameworks (Giese & Cote, 2000). Following the cognitive approach, satisfaction is the result of a purely cognitive individual process where expectations are compared to performance (Oliver, 1980). Within this framework, the confirmation/disconfirmation paradigm has been widely considered as the most suitable framework to analyse the formation of tourist satisfaction (Wirtz et al., 2000). The aforementioned paradigm establishes the existence of some pre-consumption standard that is compared to the perceived performance that the consumer obtains (Mattila & Wirtz, 2000). In contrast, other works have suggested that satisfaction stems basically from emotions. In this vein, Westbrook (1980) signals that it is the result of an emotional evolution, while Engel et al. (1993a) suggest that it is an emotional response derived from a consumption experience. Posteriorly, other authors introduced a combined approach, which was referred to as the cognitive-affective view by Rodríguez del Bosque and San Martín (2008). According to this point of view, satisfaction is the result of the combination of individuals' cognitive judgements and consumption experiences (J. E. Bigné et al., 2005; Oliver, 1980, 1993). The introduction of emotions in the theoretical framework of tourist satisfaction is fully justified, and more particularly, in the service industry where emotions are a critical part of the experience (Barsky, 2002). The reason lies in the fact that consumers are highly likely to experience affective responses when they interact with the service and the personnel (Zins, 2002).

The effect of the pandemic on tourist satisfaction

The number of works which have examined the incidence of the pandemic on tourist satisfaction is relatively limited, and these are most often centred on assessing variations in the main determinants by comparing the situation before and after the spread of the virus. The underlying reasons that account for these changes have received less attention. Srivastava and Kumar (2021) pinpoint three elements that are likely to mediate the determination of satisfaction: the negative health

indiajeet Mailick

consequences of the disease, the guidelines and advisories issued by health agencies and media coverage of the pandemic. Years before the breakout of the SARS-CoV-2, Adam (2015) signalled that cognitive risk can damage the tourists' travel and tourism experiences. Cognitive risk can be attached to the individuals' risk perception, which has an emotional impact on the tourist experience, and hence, an impact on tourist satisfaction.

With respect to empirical works that have explored the changes in tourist satisfaction scores caused by the pandemic, it must be considered that this type of analysis is not easy to develop, as it requires the availability of comparable satisfaction scores gathered prior to the pandemic as well as once it started. To the best of our knowledge, only Mallick et al. (2022) have made this comparison. Their results show a slight decline of tourist satisfaction after the spread of COVID-19. Many other works have studied whether the determinants of tourist satisfaction changed during the pandemic. Most of the contributions in the analysis of factors that account for tourist satisfaction have used data drawn from customers' hotel evaluations on Trip Advisor to discern whether there has been a change in the most frequently used words connected to satisfied and dissatisfied customers.

These works concur that there are many elements that were irrelevant prior to the pandemic, but became critical for the satisfaction of hotel customers, such as guarantees of health safety (Hong et al., 2020; Y. Song et al., 2022; Srivastava & Kumar, 2021). Mallick et al. (2022) analysed the impact of the pandemic on tourist satisfaction by means of a survey launched in Costa Daurada both in 2019 and 2020, and found that despite the fact that significant determinants of tourist satisfaction were the same in both years, the intensity of their influence on tourist satisfaction had changed. In this sense, there was a non-negligible increase of the importance of safety.

The present contribution focuses on the effects of changes in initial holiday plans on tourist satisfaction. As stated by Wen (2005) under the threat of SARS, these changes might be voluntary or non-voluntary. Voluntary changes of plans could be, for instance, the consequence of either visitors' fear of contagion or the belief that the restrictions and other prevention measures imposed were going to impinge on the tourist experience. On the other hand, non-voluntary changes would be a direct consequence of the prohibitions implemented (for instance, entry bans imposed by some countries). Departing from the definition of tourist satisfaction, which involves the cognitive and affective comparison between expectations and posterior service performance, when assessing alterations of tourists' plans because of COVID-19, the tourists' decision-making process and the implications derived from the changes in holiday plans must be considered.

The tourist decision-making process and the pandemic

Consumer decision-making is an on-going problem-solving process in the search, purchase, use, evaluation and disposal of products and services (Belk & Coon, 1993; Valaskova et al., 2015). Schiffman et al. (2010) concluded that consumers decide to buy products not only to solve their problem but also to meet their expectations, which is strongly associated with satisfaction (Jing & Rashid, 2018). From the point of view of the tourism industry, the decision-making process of consumers is complex and involves several factors, such as why, where, when, how and with whom to travel to seek holiday experiences (activities) along with the length of stay and the budget (Smallman & Moore, 2010). The process becomes even more complicated under circumstances of uncertainty and rapid change (Pappas, 2019).

The decision-making process can be deeply impacted by external disturbances that make the potential visitor modify the intended plans. In this vein, the stress theory ascertains that a public health emergency such as the COVID-19 pandemic creates negative emotions and influences cognitive assessment resulting in excessive avoidance behaviour and blind obedience (Afouxenidis & Chtouris, 2020). In previous crises, changes in tourism behaviour also became apparent. Cai (2003) identified an array of changes in tourists' decisions as a result of the threat of SARS. These included an increase in ecotourism and a growth of the importance of elements, such as characteristics of the accommodation, period of time, tourist density, potential interactions with other visitors and deeper searches on the internet seeking information. In the context of risk perception, travel avoidance becomes a feasible scenario (Cahyanto et al., 2016; Jónsdóttir, 2011).

During the COVID-19 pandemic, risk perception and risk aversion were again critical predictors of peoples' travel intentions (Yang et al., 2020). Williams et al. (2022) conducted an international survey in the five most powerful source tourist markets (USA, China, France, Germany and UK) where respondents were asked about the hypothetical holidays that they would have taken in the absence of COVID-19. The authors concluded that people's intention to take an international holiday was sooner or later affected by the tolerance of COVID situational risk, tolerance of general risk, and perceived competence to manage COVID situational risk. Risk perception and risk aversion were reflected in changes in consumer preferences. People were willing to travel to destinations with lower tourist densities and better sanitary conditions; tourists also altered their usual trip durations, and domestic travel gained ground by comparison to international travel (DNA, 2020; EY, 2020; Interface Tourism, 2020).

The influence of COVID-19 has driven the preference for avoiding closed spaces. In this vein, empirical evidence has highlighted a growing trend of travelling to the destination by private modes of transport instead of alternatives that involve sharing closed spaces with other people (Ivanova et

al., 2021) or spending the holiday in outdoor spaces such as national parks (Seong & Hong, 2021). It has also led tourists to delay their purchase decisions (Hall et al., 2020), given their hesitance regarding late bans to mobility or other sort of restrictions. Influence on daily routines during the stay is also relevant. Visitors considerably reduced their visits to restaurants, coffee shops and other entertainment venues (Kourgiantakis et al., 2021). Finally, destination choice and avoidance of certain places were clearly influenced not only by the real incidence of the illness, but also by subjective conjectures formed in the collective worldview (Lu & Atadil, 2021).

Some studies have focused on the underlying psychological motivations that account for behavioural changes with respect to holiday decisions. According to Kock et al. (2020) the threat of infection makes travellers more xenophobic and thus more reluctant to travel to foreign countries. Many tourists became oversensitive to crowds, as well as more ethnocentric and developed a preference for group travel, travel insurance and destination loyalty that built a feeling of safety, thus diminishing the risk perceptions attached to the holiday. Similarly, Zhang et al. (2020) found the circumstances of the pandemic can act as a magnifier of tourists' negative emotional reaction and risk perception when making decisions.

Effect of the alteration of holiday plans on satisfaction

A limited number of works has tried to measure to what extent tourists changed their initial holiday plans due to the pandemic. Altınay Özdemir and Yildiz (2020) stated that a great proportion of potential Turkish tourists who were affected by time and financial restrictions postponed or even cancelled their holidays because of the pandemic during 2020. Some surveys have tried to quantify the proportion of people who changed their initial holiday plan. Cvijanović et al. (2021) found that 46.5% of respondents of a semi-structured questionnaire conducted in September of 2020 had modified to some extent their holiday plans as a result of the pandemic. Similar conclusions were reached by Kourgiantakis et al. (2021). Of the respondents of their snowball survey, 46% stated that they had cancelled or modified their initial holiday plans in 2020. Pásztor et al. (2020) found by means of a detailed survey that one-third of responders totally abandoned the idea of having holidays in 2020, 24% switched from an international destination to a national one, 24% changed the country and destination but still travelled to an international destination, and only 10% of the respondents stuck to their initial times and choice of destination.

The hypotheses of the present study are that the main expected outcomes derived from the alteration of the tourists' holiday plans are, on the one hand, frustration, due to the impossibility of having the desired holidays, or on the other hand, relief, as the risk of contracting the illness diminished as a result of the changes.

Following the tourist satisfaction theories, tourist dissatisfaction should arise when the expected holiday performance is not attained (Oliver, 1980, 1993). Several studies have explored to what extent each of the different dimensions of the products and services that the visitors consume at the destination account for overall tourist satisfaction. However, this approach tends to ignore the effect of negative features (Alegre & Garau, 2010). Among the negative features, the impossibility of having the holiday that was initially planned must be considered. In this sense, bad weather encountered by visitors has been identified as an element that obliges them to make changes in their trips, which results in a decline in satisfaction (Becken & Wilson, 2013; Hübner & Gössling, 2012; S. Kim et al., 2017). The amount of research exploring the impact of holiday plan changes on tourist satisfaction is very scarce. And in the specific context of the COVID-19 pandemic, to the best of our knowledge, there is still no study that focuses on the effect of the alterations of holiday plans on tourist satisfaction.

On the one hand, there is a body of research that has provided evidence of the increasing positive influence of safety in tourist satisfaction during the pandemic. Under the threat of COVID-19, positive ratings of hospitality facilities in Trip Advisor and similar platforms were highly dependent on safety (Nilashi et al., 2022; Y. Song et al., 2022; Srivastava & Kumar, 2021; Sun et al., 2022; M. Yu et al., 2022). The aforementioned studies shared the same methodology, which involved the study of the prevalence of the most frequent words used in customers' reviews in the ratings of satisfied and dissatisfied guests. There is also empirical evidence on the positive role of safety during the pandemic on satisfaction beyond the specific domain of the hospitality sector. This includes restaurants (Ababneh et al., 2022), airport facilities (Ma et al., 2022) and tourist destinations as a whole (Mallick et al., 2022; Mwesiumo & Abdalla, 2023). This latter work concluded that the influence of safety during the COVID-19 pandemic on tourist satisfaction had doubled compared to the situation prior to the spread of the disease.

3.3.3. Data

Study Area

Costa Daurada is a stretch of the Mediterranean coastline located southwest of Barcelona, in the Spanish region of Catalonia. It is a popular mature coastal destination (Domènech et al., 2023). According to data provided by the Costa Daurada Tourism Observatory, the area was visited by over 5.1 million tourists in 2019, who accounted for around 19.7M overnight stays. These figures sharply dropped in 2020 due to the pandemic. The number of visitors fell to 1.5M, while the number of overnight stays dropped to 5M. Tourism activities are mostly centred in the municipalities of Salou,

UNIVERSITAT ROVIRA I VIRGILI
ANALYSIS OF THE IMPACT OF COVID-19 PANDEMIC ON TOURIST SATISFACTION. A CASE STUDY OF VISITORS OF
COASTA DAURADA, SOUTH CATALONIA
Indrajeet Mallick

Cambrils, and Vila-seca, which concentrate around 75% of the total tourism capacity of the tourist region. The population of the three coastal cities ranges from 20,000 to 35,000. Moreover, medium sized cities, Tarragona (132,000 inhabitants) and Reus (104,000) are well connected through public and private transport with the main tourist municipalities. The main top attractions in this area include the beach and the theme park Port Aventura, located between Salou and Vila-seca, which is one of the top five European theme parks (Clavé, 2010); and to a lesser extent, cultural attractions and the Roman remains of Tarragona, which are rated as a UNESCO World Heritage site.

Data collection

The data were drawn from a survey of tourism demand conducted by the Tourism Observatory of Catalonia in 2020. A total of 2,009 valid questionnaires were collected by means of interviews with tourists who stayed overnight in Salou, Cambrils and Vila-seca. The representativeness of the data was ensured by the random selection of the tourists who were interviewed and the choice of the places where the interviews took place, which comprised the main accommodation sites and key attractions. These interview locations had previously been identified by the professional staff of the Tourism of Catalonia. The surveying period comprised the peak tourist season (from June to September), as well as weekends and public holidays during the rest of the year. Obviously, no interviews were conducted until the end of the lockdown, which in Spain ended on 23 June 2020. The tourist season of 2020 started in Costa Daurada with the lift of the lockdown. At that time, the incidence of COVID-19 measured as the number of cases per 100,000 inhabitants was close to 0. During the summer months the number of cases started to grow again, and new preventative measures such as the compulsory use of face masks were introduced.

Respondents were asked several questions to allow the gathering of information with regard to their socio-demographic features (gender, age and place of origin), trip characteristics (length of stay, whether it was the first time they visited the destination, type of accommodation, with whom they were travelling and the means of transport used to reach the destination). Tourists were also asked to report their level of satisfaction based on a 5-point Likert scale (from 1, very low, to 5, very high) with respect to a total number of 14 elements: cleanliness of public areas, safety, the kindness of locals, accommodation services, public transport, facilities for pedestrians, entertainment and night life, green areas, the cleanliness of beaches and the sea, facilities on beaches, price-to-quality ratio, signage, restaurants in general and the overall degree of satisfaction. In addition to these items, tourists were asked to assess the degree of overcrowding at the destination. Finally, the questionnaire also included some questions that signalled whether the visitors had changed their travelling plans as a consequence of the pandemic. This change of the holiday plan involved five

possible items: destination, transport used to travel to the destination, length of stay, accommodation, and activities undertaken.

Descriptive statistics

Table 16 presents the descriptive statistics of the variables, which portray the socioeconomic characteristics of the tourists as well as the characteristics of the trip for the whole sample of tourists who visited Costa Daurada in 2020. The variables exhibited in the table are dichotomous, and each sample observation can only be equal to 1 or 0. Therefore, the means should be interpreted as percentages of respondent who gave a specific answer.

Regarding the tourist demographics, Spain was the dominant country of origin (89%), followed by France (6%). Furthermore, 55% of tourists travelled with their partner (couple with no children), while 33% travelled with children. In terms of accommodations, half of the tourists stayed in second homes (50%) and 24% in hotel accommodation. Overall, a majority of the sample spent 4 to 7 nights and over 15 days (29% in both cases). The largest share of tourists was between 46 and 65 years old (42%), followed by those younger than 45 years old (36%). The most common means of arrival to the destination was private transport (91%). Finally, the percentage of tourists who had previously been to Costa Daurada was 90%.

Table 16. Descriptive statistics of the profile of visitors

_		Freq.	Percentage
Gender	Male	1053	0.52
	Female	956	0.48
Repeat Visit	Yes	1816	0.90
	No	193	0.10
Profile	Couples with no children	1104	0.55
	Families with children	672	0.33
	Travelling with friends	93	0.05
	Alone	140	0.07
Origin	Spain	1779	0.89
	France	127	0.06
	Other	103	0.05
Age	0-45	723	0.36
	46-65	844	0.42
	>66	442	0.22
Accommodation	Hotel	480	0.24
	Camping	131	0.07
	Apartment	246	0.12
	Second home	1011	0.50
	Other	141	0.07
No. of nights	1-3	525	0.26
	4-7	577	0.29
	8-15	334	0.17

	> 15	573	0.29
Trans portation	Public Transport	136	0.07
	Private	1827	0.91
	Flights	46	0.02

The spread of COVID-19 deeply altered the dynamics of the tourism activity of Costa Daurada in 2020. The sudden outbreak of the disease disrupted the demand for visitors in terms of the total number of arrivals and their characteristics. The availability of a very similar survey, which was launched in 2019 in the same territory, allows the comparison between the dominant tourist profiles of both years. In this vein, the percentage of foreign visitors fell significantly (from 57% in 2019 to 11% in 2020); second homes became preponderant (from 22% to 50%); while hotels lost popularity (from 49% to 22%). In terms of the length of stay, the shortest stays (1 night to 3 nights) and longest ones (>15 nights) gained ground. Similarly, the proportion of visitors who had previously stayed in Costa Daurada also rose. In summary, national tourists who owned a property in the area tended to replace international visitors who could not travel due to travel bans or were simply afraid of contracting the illness.

Table 17 exhibits the proportion of respondents who visited Costa Daurada in 2020 and reported having changed their holiday plans in 2020. A total of 23% of tourists travelled to Costa Daurada instead of their initially intended destination; 11% altered their length of stay, while 18% declared having modified their intentions about the activities during the stay. The changes related to the length of stay and accommodation affected 2% of respondents.

Table 17. Percentage of respondents who altered their holiday plans

		/
	Freq.	Percentage
Change of destination	460	0.23
Change of length of stay	213	0.11
Change of transport to reach the	40	0.02
Change of accommodation	35	0.02
Change of activities	353	0.18

Some of the variables that measured the tourists' degree of satisfaction had to be discarded, given that not all visitors could assess them, and their use would have led to an unacceptable proportion of missing values: accommodation services, public transport, entertainment and night life, green areas and restaurants in general. Thus, the elements that were kept for the analysis included cleanliness of the public areas, safety, kindness of locals, facilities for pedestrians, green areas, signage, cleanliness of beaches and the sea, facilities on beaches, quality-to price ratio, and overall satisfaction, as shown in Table 18.

Overall, and despite the pandemic, the tourists who visited the area in 2020 reported to be highly satisfied, as the average level of overall satisfaction was 4.29. The majority of the satisfaction scores were above 4, with the sole exception of the price-to-quality ratio, cleanliness of the public areas, and facilities on beaches. With respect to overcrowding, it had an average rate of 2.15. This average is clearly below the results obtained in the survey of 2019, when it was 2.75. The underlying reason of this reduction is the plummeting of the number of visitor records of 2020.

Table 18. Descriptive statistics of the variables of satisfaction

Variables	Mean	SD	Max	Min
Cleanliness of the public areas	3.87	0.97	5	1
Safety	4.08	0.87	5	1
Kindness of locals	4.23	0.71	5	1
Facilities for pedestrians	4.18	0.87	5	1
Green areas	4.02	0.85	5	1
Signage	4.10	0.73	5	1
Cleanliness of beaches and the sea	4.01	0.94	5	1
Facilities on beaches	3.90	0.98	5	1
Price-to-quality ratio	3.94	0.81	5	1
Overcrowding	2.15	1.11	5	1
Overall satisfaction	4.29	0.68	5	1

3.3.4. Methods

The methods used involved exploratory factor analysis, so as to reduce the number of variables in the analysis, and non-parametric analysis, in order to unveil significant differences in satisfaction levels between those tourists who changed their initial holiday plans because of the pandemic and those who did not.

Exploratory factor analysis (EFA)

In the first phase, exploratory factor analysis (EFA) was performed to extract and select the destination attributes. This statistical technique allows for the estimation of the relationship between an initial set of variables and constructs (Spearman, 1904). The result is a reduced number of latent factors that account for the former set of initial variables, which enables researchers to simplify complex analyses. In this sense, EFA provides a clear data image and also allows the use of the output obtained in subsequent studies (Field, 2000). Hence, the relationships between the destination attributes are examined in this preliminary stage with the aim of grouping them into a more manageable scale.

Non-parametric Analysis (Mann-Whitney U and Kruskal-Wallis)

Secondly, destination attributes extracted from EFA are further utilised to investigate whether there were significant differences in satisfaction levels between tourists who changed their initial holiday

plans because of the spread of COVID-19 and those who did not. The Mann-Whitney test is a non-parametric technique that enables researchers to evaluate the significance of differences between two independent groups when the variable is ordinal or continuous (McElduffet al., 2010). Similarly, the Kruskal–Wallis test is an extension of the Wilcoxon Rank Sum test that allows comparing more than two independent categories. It is also a nonparametric statistical technique for determining if samples originated from the same distribution have statistically significant differences (Corder & Foreman, 2009; Kruskal & Wallis, 1952).

3.3.5. Results

Factor Analysis

In the first phase of the analysis, EFA was conducted by means of the 'psych' package (Revelle, 2019) in the R programming language (R Core Team, 2019). The variable named 'overcrowding' was removed, as it did not reach the minimum threshold required of significance (0.4). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1974) and Bartlett's test of sphericity (Bartlett, 1951) were applied. The KMO measure was 0.9, hence above the 0.5 cutting value, while the result of the Barlett's test was 0.00. Consequently, the results of both tests were satisfactory.

A clean four-factor-structure was extracted in which the factor loadings were all above the 0.4 cutoff value (J. P. Stevens, 1992). This structure outperformed other alternative structures with a lesser or larger number of factors in terms of the percentage of total explained variance (66.4%), eigenvalues and the values of Cronbachs' alpha. Regarding the latter, all of them exceeded the threshold of 0.5 (Nunnally, 1975), as shown in Table 19.

The four latent indicators of satisfaction that arose were: safety and security, destination characteristics, beaches and price-to-quality ratio. Each factors' mean equalled 0. Hence, comparisons will be allowed in the sense that, when a specific group has a mean value below 0, it implies that on average the members belonging to this group of individuals were less satisfied that the total sample.

Table 19. Exploratory factor analysis of the destination attributes

	Factor 1	Factor 2	Factor 3	Factor 4	кмо	KMO Communality		igenvalue % of variance	
Safety and Security									
Cleaning of public areas	0.541	-0.021	0.251	0.043	0.892 0.521		1.051	15.112	0.714
Security	0.673	0.083	-0.032	0.051	0.893	0.543			
<u>Destination</u>	I.		I.			l			
Friendliness of the people	0.192	0.524	-0.073	0.022	0.921	0.391	1.324	18.212	0.763
Pedestrian facilities	0.144	0.503	0.031	-0.032	0.933	0.363			

Green areas - nature	0.112	0.312	0.291	-0.021	0.921	0.424			
Signage	-0.093	0.610	0.124	0.123	0.894	0.510			
<u>Beaches</u>		l .	I.	l .	I			l	
Cleaning of beaches and the sea	0.042	0.013	0.774	0.000	0.892	0.642	1.293	17.011	0.721
Equipment on the beaches	0.014	0.121	0.491	0.141	0.910	0.434			
Quality/ price ratio									
Quality/ price ratio	0.011	0.000	0.000	1.000	0.89	0.881	1.132	16.034	1.000

Note: Overall KMO=0.9, Bartlett's test of sphericity= chi-square- 5567.99; p value- 0; df = 36

Non-parametric tests

In the next stage, the extracted factors were further analysed using the Mann-Whitney U and Kruskal-Wallis tests to assess the significance of the differences in satisfaction levels. Comparisons between two groups were assessed by means of the Mann-Whitney U, while comparisons between larger numbers of groups required the use of the Kruskal-Wallis test.

Table 20 presents the results of the Mann Whitney U test related to overall satisfaction. Overall satisfaction is not a latent variable derived from the factor analysis. For this reason, and with the object of allowing comparisons of the means at the same scale of the factors, the values of overall satisfaction were standardised by subtracting the mean and dividing by the standard deviations in all observations. The table reports whether the level of satisfaction of those tourists who changed their holiday destination was significantly different from those who did not. Likewise, the effect of the changes attached to the length of stay, accommodation, mode of transport used and activities undertaken on overall satisfaction were also assessed and shown in Table 20.

The results reveal that the satisfaction level was slightly lower for those who changed their plans regarding the choice of the destination (\bar{x} = -0.055) compared to those who did not (\bar{x} = 0.016). Similarly, the reported satisfaction was also lower for those who changed their plans about the mode of transport selected to travel to the destination (\bar{x} = -0.025), and the length of stay (\bar{x} = -0.022). Conversely, the level of satisfaction was slightly higher for those who changed their holiday plan with respect to accommodations (\bar{x} = 0.245) and activities to be undertaken at the destination (\bar{x} = 0.059). Nevertheless, mean differences in overall satisfaction were just significant, and indeed weakly significant, in the specific cases of the choice of the destination and the activities to be undertaken, while the differences were not significant regarding changes in holiday intentions when dealing with length of stay, transport used to reach the destination and accommodations.

Table 20. Mann Whitney U tests of differences in tourist overall satisfaction

Category	Frequency	requency Frequency		SD	Wilcoxon
Change in Destination					
Tourists who did not change plans	1549	0.77	0.016	1.007	372683*

Tourists who changed plans	460	0.23	-0.055	0.975	
Change in Transportation					
Tourists who did not change plans	1969	0.98	0.001	0.997	38998
Tourists who changed plans	40	0.02	-0.025	1.16	
Change in Length of Stay					
Tourists who did not change plans	1796	0.89	0.003	0.986	189647
Tourists who changed plans	213	0.11	-0.022	1.116	
Change in Accommodation					
Tourists who did not change plans	1974	0.98	-0.004	1.004	30723
Tourists who changed plans	35	0.02	0.245	0.748	
Change in Overall Activities					
Tourists who did not change plans	1656	0.82	-0.013	0.986	276339*
Tourists who changed plans	353	0.18	0.059	1.065	

Note: Level of significance of the differences: * Significant at 10%, ** significant at 5%, *** significant at 1%.

Tourists who modified their plans might be a heterogeneous group of individuals. In order to examine whether the lack of significant differences in overall satisfaction levels could be attributed to this, the Kruskal–Wallis test was applied. This was used to investigate the differences in overall satisfaction levels within the different groups of tourists who changed their initial plans. For instance, in the particular case of those who changed their destination, it was used to assess whether there were differences in overall satisfaction between those tourists who were planning to travel to other continental Spanish areas, those who were intending to spend their holiday in the Balearic or the Canary islands, those who were willing to travel to a foreign country, or other options. Table 21 exhibits the satisfaction levels of each of the groups that changed their decision. The conclusion is that no significant variances emerged from any of the different categories, and hence, the lack of significant differences in overall satisfaction between tourists who changed and those who did not change had nothing to do with tourists' heterogeneity.

Table 21. Kruskal-Wallis test of differences in overall satisfaction of tourists who changed their holiday plans.

Category	Frequency	Frequency	Mean	SD	chi- s quared	df
Intended destination of tourists wh	o changed their travel _i	plans				
Continental Spain	164	0.35	0.004	0.939	1.4809	3
Spanish islands	60	0.13	0.011	0.926		
Foreign countries	236	0.50	0.018	1.038		
Other	14	0.03	-0.396	1.339		
Intended length of stay of tourists v	who changed their trave	el plans				
02-03	9	0.04	0.369	0.699	2.7322	4
04-07	29	0.14	-0.093	1.085		
08-14	15	0.07	0.251	0.685		
15-30	78	0.37	-0.061	0.954		
31-800	82	0.38	0.005	1.088		

Intended transport use of tourists who changed their travel plans									
Public Transport	27	0.68	0.027	0.776	1.1445	2			
Private	5	0.13	0.415	0.699					
Flights	8	0.20	-0.351	1.67					

Intended accommodation	of tourists who	changed their	travel plans

Hotel	28	0.80	0.014	1.005	2.824	4
Camping	1	0.03	-0.904	NA		
Apartment rental	4	0.11	0.085	1.142		
Second home	1	0.03	1.074	NA		
Other	1	0.03	-0.904	NA		

Note: Level of significance of differences: * Significant at 10%, ** significant at 5%, *** significant at 1%.

Table 22 shows the results of the Mann-Whitney U test regarding the differences in the degree of tourist satisfaction for each of the factors which stemmed from the factor analysis: safety and security, destination characteristics, beaches and price-to-quality ratio. No significant differences related to any of the satisfaction factors are apparent in the case of alterations of holiday plans related to the choice of the destination or the activities to undertake during the stay. In the case of modifications of the holiday plan involving changes of the length of stay, those visitors who altered the duration of their stay were less satisfied with the beaches (\bar{x} = -0.346), while tourists who changed their intentions about the mode of transport used to reach the destination were more satisfied with respect to the price-to-quality ratio (\bar{x} = 0.327). No other significant differences emerged related to the length of stay or the mode of transport selected for travelling. On the contrary, the table signals that tourists who altered their holiday plans related to accommodations were significantly more satisfied with regard to safety and security (\bar{x} = 0.608), destination characteristics (\bar{x} = 1.381) as well as beaches (\bar{x} = 0.802). This result is consistent with previous studies which indicated that accommodations became a very sensitive issue for tourist satisfaction during the pandemic (Srivastava & Kumar, 2021).

Table 22. Mann Whitney U test of differences in satisfaction regarding destination attributes.

Category			,	Safety and security		Destination characteristics		Beaches		/price io
	Frequency	Frequency %	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Change in Destination										
Tourists who did not plan	1549	0.77	0.011	1.741	0.031	2.902	-0.018	1.745	-0.001	0.989
Tourists who changed plan	460	0.23	-0.037	1.698	-0.106	3.034	0.062	1.717	0.002	1.038
Wilcoxon Rank Sum test	w		364154		365990		346748		353505	
Change in Length of stay										
Tourists who did not change plan	1796	0.89	0.03	1.693	0.032	2.885	0.041	1.702	0.008	0.99
Tourists who changed plan	213	0.11	-0.251	2.015	-0.272	3.298	-0.346	1.991	-0.071	1.081
Wilcoxon Rank Sum test	w		202066		194121		210070**		197734	

Change in Transportation										
Tourists who did not change plan	1969	0.98	0.0001	1.726	-0.003	2.921	0.002	1.74	0.007	0.994
Tourists who changed plan	40	0.02	0.002	2.004	0.129	3.481	-0.101	1.689	-0.327	1.233
Wilcoxon Rank Sum test	w		38138		36792		41931		45326*	
Change in Accommodation										
Tourists who did not change plan	1974	0.98	-0.011	1.734	-0.024	2.922	-0.014	1.742	-0.003	0.999
Tourists who changed plan	35	0.02	0.608	1.462	1.381	3.196	0.802	1.331	0.18	1.055
Wilcoxon Rank Sum test	w		27248**		24947***		24727***		31134	
Change in Overall Activities										
Tourists who did not change plan	1656	0.82	0.022	1.686	-0.018	2.865	0.021	1.707	0.001	0.986
Tourists who changed plan	353	0.18	-0.104	1.928	0.083	3.234	-0.099	1.88	-0.006	1.066
Wilcoxon Rank Sum test	w		294255		280845		299169		290793	

Note: Level of significance of differences: * Significant at 10%, ** significant at 5%, *** significant at 1%.

Tables 23 and 24 aims to unveil hypothetical differences in satisfaction levels within groups of tourists who changed their holiday plans. According to the results of Table A.1., no significant differences with respect to any of the satisfaction items (safety and security, destination characteristics, beaches, or price-to-quality ratio) arose between those individuals who changed their holiday intentions attached to the choice of the destination, the length of stay, their transport to the destination and accommodations. Table 24 disentangles whether there were significant differences in the degree of satisfaction between those visitors who had a shorter than initially intended holiday or those who had a longer stay. Results signalled that those who had a shorter holiday than expected were significantly less satisfied with respect to safety and security (\bar{x} = -0.261) when compared to those who stayed longer than initially intended (\bar{x} = 0.139). This result is intimately linked to the choice of accommodation. While shorter stays were more linked to hotels, longer stays were more likely to be linked to second homes or even apartment rentals (Gutiérrez et al., 2020). The latter were perceived as riskier in terms of contagion rather than the former (Aiello et al., 2022). No other significant differences become apparent with regard to the rest of satisfaction dimensions, including overall satisfaction.

Table 23. Result of Kruskal-Wallis tests regarding the satisfaction of tourists who changed their holiday plans.

Category				Safety secu		Destina characte		Веас	hes	Quality rat	
	Frequency	Frequency in %	df	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Intended destination of tourist who changed holiday plan											
Continental Spain	164	0.35	3	-0.018	1.547	-0.039	2.714	0.119	1.672	0.01	0.971
Spanishislands	60	0.13		0.111	1.815	0.139	2.694	-0.184	1.654	0.028	0.958
Foreign countries	236	0.5		-0.017	1.835	0.04	3.187	-0.006	1.802	-0.033	1.029

other	14	0.03		0.026	1.027	-0.813	2.567	-0.515	1.353	0.324	1.066
Kruskal-Wallis Test	chi-squared			0.89339		2.1432		3.5614		2.2868	
Intended length of stay of tourist who changed holiday plan											
02-03	9	0.04	4	1.002	1.146	1.566	2.991	0.886	1.374	0.261	1.206
04-07	29	0.14		0.154	1.665	0.39	3.572	-0.026	1.909	0.213	0.963
08-14	15	0.07		0.425	1.257	0.277	2.494	0.257	1.717	0.058	1.011
15-30	78	0.37		-0.085	0.685	-0.431	2.936	0.088	1.586	-0.071	1.039
31-800	82	0.38		-0.161	1.769	0.05	2.639	1.852	1.074	-0.047	0.959
Kruskal-Wallis Test	skal-Wallis Test chi-squared			5.2757		5.9644		3.6487		3.5567	
Intended transport use of tourist who changed holiday plan											
Public Transport	27	0.68	2	0.083	1.711	0.14	2.071	0.134	1.527	-0.12	0.894
Private	5	0.13		0.473	1.643	0.438	2.502	-0.504	0.989	0.125	0.839
Flights	8	0.2		-0.575	2.57	-0.746	5.886	-0.138	2.842	0.326	1.418
Kruskal-Wallis Test	chi-squared			0.53747		0.27646		1.0325		2.49	
Intended accommodation of tourist who changed holiday plan											
Hotel	28	0.8	5	-0.143	1.643	0.186	3.169	0.13	1.766	0.025	0.975
Camping	1	0.03		-0.6	NA	-2.221	NA	-0.919	NA	-1.273	NA
Apartmentrental	4	0.11		0.86	1.139	-0.343	4.244	-0.557	2.316	0.193	1.122
Second home	1	0.03		1.766	NA	2.23	NA	0.413	NA	1.072	NA
Other	1	0.03		-0.6	NA	-3.854	NA	-0.919	NA	-1.273	NA
Kruskal-Wallis Test	chi-squared			3.746		2.6083		2.0769		4.8257	

Table 24. Result of Mann Whitney U test based on extracted factor in stay period of tourist who changed their travel plan.

Category			Safety secur		Destin characte		Веас	hes	Quality rat	•	Ove satisfa	
Stay Period (Shorter/Longer) of Changed plan	Frequency	Frequency %	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Shorter than Intended	74	0.35	-0.261	1.625	-0.174	2.901	0.011	1.74	-0.005	0.946	0.063	0.794
Longer than Intended	139	0.65	0.139	1.736	0.093	2.91	-0.006	1.747	0.003	1.031	-0.033	1.095
Wilcoxon rank sum test	w		4278***		4788.5		5177		4995.5		5150.5	

3.3.6. Discussion and conclusion

The present contribution aimed to disentangle the extent to which tourist satisfaction was affected in visitors who changed their holiday plans because of the incidence of the COVID-19 pandemic, compared to those who did not. Data was drawn from a survey (N=2,009) of tourists who visited Costa Daurada, a top Mediterranean coastal destination during the holiday season of 2020, and hence amid one of the worst periods of lethality caused by the disease. Following Wen (2005), the alterations of the holiday plans under circumstances like the ones caused by COVID-19 could have been, on the one hand, forced decisions based on travel bans or other sort of restrictions which obliged the potential visitors to alter their initial plans. On the other hand, independent decisions

were made, driven either by the fear of contracting the disease or due to the feeling that under the restrictions imposed it would not be possible to enjoy the holidays as originally expected.

Two hypotheses were put forward. First, tourists who could not have the holidays they had initially intended should have been disappointed, as their expectations could not be met. According to the theories, which provide a theoretical framework to account for the process of tourist satisfaction formation, this situation should have resulted in a decline of satisfaction (J. E. Bigné et al., 2005; Engel et al., 1993a; Oliver, 1980, 1993). The second hypothesis stems from the empirical evidence that states that during the pandemic, there was a substantial growth of tourists' preferences for health and safety during their travels (Ma et al., 2022; Srivastava & Kumar, 2021). Therefore, visitors who changed their plans could feel a certain relief that could contribute to increase d enjoyment of their holidays.

The survey asked visitors to report their overall degree of satisfaction with the holiday, in addition to their satisfaction level with another set of attributes of the destination. The set of satisfaction items was reduced by means of an exploratory factor analysis (EFA) used in four latent constructs: safety and security, destination characteristics, beaches and price-to-quality ratio. The average degree of satisfaction of those who had changed their holiday plans was compared to those who did not alter theirs. The significance of the differences was assessed using the Mann-Whitney and Kruskal–Wallis tests.

Tests signalled that even though scarce, there were some significant differences in terms of satisfaction. Regarding overall satisfaction, those visitors whose initial destination was not Costa Daurada, were less satisfied than those who planned to travel there and did not modify their intentions because of the pandemic. Conversely, those visitors who altered their activities during the stay were more satisfied than those who did not. Regarding the different satisfaction attributes that were considered, the most outstanding results were associated with accommodations. Tourists who changed their initially planned accommodations were more satisfied than those who did not with respect to destination safety and security, destination characteristics and beaches. In addition, those who changed their plans with respect to the mode of transport chosen to reach their destination were more satisfied than those who did not with respect to the price-to-quality ratio. Finally, another interesting result was that significant differences in terms of the satisfaction associated to safety and security emerged between those who had a shorter holiday than initially expected and those who had a longer than initially planned stay. The former were less satisfied than the latter.

According to these results, the effect on satisfaction was limited. Nevertheless, there was a relative prevalence of the significance of the differences that supported the hypothesis that changing the intended holiday plans resulted in a certain relief for tourists, and as a consequence, it was a driver for a higher level of tourist satisfaction compared to those who did not alter their plans. This conclusion must be taken with caution, and cannot be generalised. Nevertheless, the results obtained concurred with previous evidence that showcased accommodations as a particularly critical element for tourists' decisions during the worst periods of the pandemic (Del Chiappa et al., 2022; Pappas & Glyptou, 2021), as well as for tourist satisfaction (Nilashi et al., 2022).

It stands out that in some cases differences in the degree of satisfaction occurred in destination attributes that do not have a tight relationship with the type of decision. For instance, those who changed their intended accommodation reported a significantly higher level of satisfaction with the beaches in comparison to those who did not. Hence, individuals' emotional responses, as stated by Engel et al. (1993a), should play a role in the formation of tourist satisfaction. Consistent with the concept of cognitive risk put forward by Adam (2015), the valuation of the tourist experiences will vary depending on the perception of the risk of contagion. Those tourists who replaced their original tourist plan for alternatives, which were deemed 'safer,' were more likely to enjoy their stay. In similar grounds, and in the specific context of COVID-19, Zhang et al. (2020) concluded that tourists' negative emotional responses can be augmented by the fear of contracting the illness.

On the other hand, the evidence obtained is too scarce and weak to support the hypothesis that those tourists who modified their holiday plan were less satisfied for not being able to meet their initial expectations. It must be considered that the great majority of people had to pass in 2020 through totally unexpected life experiences that put them under grave stress and exhaustion associated with the fear of contagion, and the resulting isolation caused social restrictions (Bao et al., 2020; Rania & Coppola, 2022). The loosening of mobility and activity restrictions opened the door to many of these people to have a holiday, even though it was within the new context of the 'new normal'. The opportunity of enjoying a holiday is in fact a chance to heal from the past stress and anxiety (de Bloom et al., 2011), and this reasoning is fully appliable to the consequences of the COVID-19 pandemic (Buckley, 2023; Buckley & Westaway, 2020).

In summary, the idea of having a holiday was sufficiently appealing, despite the difficult circumstances, and the alteration of the original plan was considered by most people as the least of the inconveniences. Tourists were willing to alter their holiday plans to be able to experience their holidays. The consequence was that destination managers and tourism businesses had to adapt to a new complex, and above all, uncertain scenarios that allowed tourists to stay and cope with the risks

associated to the threat of the spread of the virus (Rivera, 2020; Robina-Ramírez et al., 2021). Many managerial risks ensued and ranged from favouring the spread of the virus if the measures were not strict enough (R. T. R. Qiu et al., 2020), to leading towards visitors' dissatisfaction on the other extreme, if they were too stringent (Davras & Durgun, 2022).

Overall, tourists adapted their holiday plans to the new situation, and therefore, the tourism industry was forced to readapt their products and services as well, to remain in operation. The potential diminutions of tourist satisfaction were more likely to derive from malfunctions in the process of adaptation rather than directly from the mere modification of the expected holidays. The complexities attached to this process of adaptation were characterised by decision-making amid a situation of chaos control (J. Du et al., 2009), where many agents (visitors and service providers) were making decisions at the same time, and these decisions not only impacted the outcomes of the others, but also had an influence on others' decisions.

The present study is not exempt from limitations that must be taken into consideration. First, it can be argued that the survey uses data from tourists who stayed overnight at a specific tourist destination. There is a process of selection, which was particularly severe in 2020, since those individuals who decided to cancel their holidays and stay at home were not part of the sample. The profound alteration of the profile of the tourists who travelled to the area reflects this issue. Likewise, there is not information on those tourists who changed their minds about travelling to Costa Daurada and chose an alternative destination. While it is true that the lack of information can be a source of bias, the results obtained provide valuable information as to whether the visitors of a destination might be dissatisfied due to not meeting their initially desired holiday plan, nonetheless. Second, given that tourist satisfaction is in part the consequence of emotions, and these are very sensitive to risk perception, results might be influenced by the incidence of contagions at a specific moment of time as well as the media coverage about them. These considerations open the door to future research, which might assess how the changes of holiday plans have affected tourist satisfaction in different destinations and during different times of the pandemic.

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ANALYSIS OF THE IMPACT OF COVID-19 PANDEMIC ON TOURIST SATISFACTION. A CASE STUDY OF VISITORS OF
COASTA DAURADA, SOUTH CATALONIA
Indrajeet Mallick

Part III- Discussion and Conclusion

4.1. Main findings

The impact of COVID-19 on tourist satisfaction at a destination has been investigated in this thesis through the three case studies that make up its core. The three studies conducted, as indicated in Table 25, have allowed for the exploration of various research objectives and questions using a variety of data sources and empirical techniques. The key findings are summarized in this table to demonstrate how the research objective is achieved.

Table 25. Recall of research objectives, questions, data and methods and results

Research Objective	Research Question	Hypothesis	Data and Methods	Findings	Hypothesis confirmation
To disentangle the effect of COVID-19 reliance and COVID-19 prevention measures on tourist satisfaction during the Summer of 2020 at Costa Daurada	To what extent do COVID-19 reliance and COVID-19 prevention measures impact tourist satisfaction in a mass coastal destination during the Summer of 2020?	H1. The COVID-19 prevention measures havea significant impact on COVID-19 reliance. H2. The COVID-19 reliance has a positive effect on tourist satisfaction.	Survey Factor Analysis using EFA+ Partial Least Square Path Modelling (PLS- PM)	 COVID reliance is significantly affected by the actions taken (COVID-19 safety measures) to mitigate the spread of the pandemic. COVID-19 reliance have positive, but not significant impact on tourist satisfaction. COVID-19 safety measures have positive, but not significant impact on tourist satisfaction. 	H1. Yes
To investigate the impact of COVID-19 safety and prevention measures on tourist satisfaction and to identify the determinants of tourist satisfaction before and during the pandemic.	To what extent do the safety and prevention measures imposed due to the COVID-19 pandemic impact tourist satisfaction in a mature coastal destination in Catalonia during the peak tourist season of 2020?	H3. COVID-19 has yielded changes in the effect of the determinants of tourist's satisfaction, especially with the regard to the importance of safety. H4. The COVID-19 prevention measures havea significant impact on tourist satisfaction.	Survey Factor Analysis using EFA+ Partial Least Square Path Modelling (PLS- PM)	The traditional determinants of tourist satisfaction before pandemic remained significant after the outbreak COVID-19. During Covid-19, there are differences in the size of the effects in determinants of tourist satisfaction, and notably, the impact of the safety factor has significantly increased compared to other destination attributes in comparison to the pre-COVID-19 period. The COVID-19 prevention measures have an insignificant positive impact on tourist satisfaction	H3. Yes
To investigate whether there are significant differences in the satisfaction levels of tourists who changed their initial travel plan and who did not during 2020.	To what extent was tourist satisfaction of those visitors who changed their holiday plans affected by the incidence of the COVID-19 pandemic, compared to those who did not?	H5. Tourists who couldn't undertake their holidays as planned initially were less satisfied thanthe ones who could undertake their holidays due to the COVID-19 pandemic. H6. Tourists who changed their holiday plans might be more satisfied because they diminished their perceived risk of contagion	Survey Factor Analysis using EFA+ Mann-Whitney U test And Kruskal-Wallis Test	 There were scarce significant differences in tourist satisfaction between those who changed their holiday plans and those who did not. Additionally, there is limited evidence to suggest that tourists who had to alter their holiday plans due to the COVID-19 pandemic were less satisfied than those who could proceed with their original plans. Tourists who changed their initial plans were more satisfied than the tourist who didn't change their plans specifically: Regarding overall satisfaction with the change in activities Regarding Accommodation concerning Safety and Security. Regarding Accommodation concerning Destination Characteristics. Regarding Accommodation concerning Beaches. These significant differences were more related to increased satisfaction associated to a lower risk perception, rather to lower satisfaction levels derived from the change of the holiday plans. 	H5. No H6. Yes (Partially)

In the first case study, the main objective was to disentangle the effect of COVID-19 reliance and COVID-19 prevention measures on tourist satisfaction. Specifically, the study explores the role of COVID-19 reliance, which represents the trust tourists have in the safety of their holidays, and COVID-19 prevention measures, which reflect people's perception of the destination's actions to mitigate infection risks, in determining overall tourist satisfaction. This, two main hypotheses were put forward. In the first place, the COVID-19 prevention measures have a significant impact on COVID-19 reliance. Secondly, COVID-19 reliance has a positive effect on tourist satisfaction. The study employed a two-step approach, utilizing Explanatory Factor Analysis (EFA) and partial least squares-path modelling (PLS-PM) to analyse the data. The data source used is a survey of 225 tourists that stayed overnight in Tarragona (Spain) in 2020. The survey was conducted between July and August 2020 after the total lift of the lockdown enforced in Spain.

The study's findings indicate that traditional determinants of tourist satisfaction, namely Kindness, Beaches, Tourist product quality and Safety and Security, still significantly influence overall satisfaction during the COVID-19 threat. The influence attached to tourist product quality emerges as particularly intense. In contrast, COVID-19 prevention measures and COVID-19 reliance have an insignificant impact on tourist satisfaction. Additionally, traditional destination attributes have an insignificant impact on the tourists' reliance on not getting COVID-19. The empirical evidence of the study highlights that COVID-19 reliance is primarily influenced by the effectiveness of COVID-19 prevention measures aimed at mitigating the spread of the pandemic. In contrast, it is noteworthy that safety and security is a significant determinant of satisfaction for tourists who visit Costa Daurada. These findings, seemingly contradictory to the lack of significance of "COVID-19 reliance" and "COVID-19 measures", are consistent with prior evidence on tourist satisfaction before the pandemic (Ghose & Johann, 2019).

Moreover, the study's empirical evidence supports the hypothesis (H1) that COVID-19 prevention measures significantly impact COVID-19 reliance. However, the hypothesis (H2) stating that COVID-19 reliance positively affects tourist satisfaction could not be supported. The results emphasize that safety and security, encompassing elements such as beach hygiene and the availability of pedestrian facilities to facilitate physical distancing, emerge as important determinants of tourist satisfaction but not of COVID-19 reliance. It is important to emphasize that safety is a fundamental component of overall tourist satisfaction (Milman & Pizam, 1995). Therefore, the destination should focus on building a perception of the effectiveness of its COVID-19 prevention measures.

In the second case study, the main objective is to examine the determinants of tourist satisfaction and assess the impact of safety and COVID-19 prevention measures on satisfaction before and

COASTA DAURADA, SOUTH CATALONIA

Indrajeet Mallick

during the pandemic. Therefore, the aim of the study had twofold. First, the study aims to examine whether the different components of overall tourist satisfaction changed their effect due to the pandemic and, specifically, whether the role of safety gained ground in that context. Secondly, it analyses whether the COVID-19 prevention measures also played a role in determining tourist satisfaction. Thus, two main hypotheses were put forward. First, COVID-19 has yielded changes in the effect of the determinants of tourist satisfaction, particularly regarding the importance of safety.

Second, COVID-19 prevention measures have a significant impact on tourist satisfaction.

To achieve its goals, the study compared data collected in the Costa Daurada region from 2019 (N=1,556) and 2020 (N=2,220). The questionnaires of both years' surveys, besides providing a wide range of information on tourists 'travel and stay characteristics, also asked tourists to assess the following items: overall satisfaction, cleanness of the public areas, safety, the kindness of the people, facilities for pedestrians, green areas — nature, signposting, cleanness of beaches and the sea, facilities on beaches and quality/price ratio. Furthermore, tourists in 2020 were also asked to assess the prevention measures implemented for COVID-19.

The research study presents two key findings. Firstly, the factors influencing overall satisfaction in 2019 and 2020 remained significant. However, there were some differences between the two years. In 2020, beach and destination characteristics appeared less significant, while the quality-to-price ratio and general safety gained increased importance. This evidence supports the hypothesis (H3) that COVID-19 has led to changes in the impact of determinants on tourist satisfaction, particularly regarding the importance of safety.

Secondly, although COVID-19 prevention measures did not significantly affect tourist satisfaction, there was evidence of an indirect effect. The PLS-PM analysis revealed a significant increase in the path coefficient of general safety compared to 2019. Therefore, the hypothesis (H4) proposing that COVID-19 prevention measures significantly impact tourist satisfaction could not be supported.

In 2020, feeling safe became a significant concern, with variables such as the cleanliness of public areas and overall safety gaining considerable importance during the pandemic. Moreover, the factor loading of pedestrian facilities concerning general safety also increased in 2020 compared to 2019. Increasing pedestrian space contributes more to the perception of safety than direct measures like face masks or physical distancing. Consequently, while visitors in 2020 were eager to feel safe during their stays at the destination, that sense of safety did not solely derive from COVID-19 prevention measures.

The third case study investigates whether there are significant differences in the satisfaction levels of tourists who changed their initial travel plan and who did not during 2020. The case study focused on tourists visiting Costa Daurada during COVID-19. Based on theoretical frameworks that explain the process of tourist satisfaction formation (J. E. Bigné et al., 2005; Engel et al., 1993b; Oliver, 1980, 1993), it is expected that the inability to have initially intended holidays would lead to a decrease in satisfaction. Therefore, the first hypothesis posits that tourists who could not undertake their holidays as planned initially were less satisfied than the ones who could undertake their holidays due to the Covid-19 pandemic. The second hypothesis stems from the empirical evidence that states that during the pandemic, there has been a substantial growth of tourists' preferences for health and safety during their travels (Ma et al., 2022; Srivastava & Kumar, 2021). Thus the second hypothesis posits that tourists who changed their holiday plans might be more satisfied because they diminished their perceived risk of contagion.

To investigate the research objective and the hypotheses, the data set is the same of the second article, but including a wide set of variables that portray whether individuals had altered their holiday intentions. The study considered a total of 2,009 valid questionnaires from tourists who stayed overnight in Salou, Cambrils, and Vila-Seca. These tourists were inquired about their sociodemographic features, including their gender, age and origin region, trip characteristics, length of stay and the number of days in advance they had decided on their journey before departure, which is similar to the second article. Additionally, tourists were asked if they changed their destination, length of stay, transportation use, accommodation and activities due to COVID-19 restrictions. Finally, the questionnaire distinguished whether or not the tourists intended to travel to Costa Daurada during the easing phase of COVID-19, which was essential for the research study.

There were scarce significant differences in tourist satisfaction between those who changed their holiday plans and those who did not. However, Tourists who changed their initial travel plan were less satisfied regarding overall satisfaction concerning change in destination (significant at 10%), change in length stay concerning beach (significant at 5%) and change in the mode of transport concerning price-to-quality ratio (significant in 10%). Despite these findings, the hypothesis (H5) that tourists who could not undertake their holidays as planned were less satisfied than those who could undertake their holidays due to the COVID-19 pandemic was not supported.

Nevertheless, some results indicated that tourists who changed their initial holiday plan were more satisfied than those who could. In terms of overall satisfaction, the tourist who modified the activities they were willing to undertake during the stay was more satisfied than those who did not. Notably, the most notable differences were observed concerning accommodation. Tourists who

COASTA DAURADA, SOUTH CATALONIA

Indrajeet Mallick

changed their initially planned accommodation were more satisfied than those who did not with

respect to destination safety and security (significant at 5%), destination characteristics (significant

at 1%) and beaches (significant at 1%). This suggests that the hypothesis (H6) suggesting that tourists

who changed their holiday plans might be more satisfied was partially supported. The increased

satisfaction among these tourists can be attributed to a diminished perceived risk of contagion.

These results align with previous evidence that showcased accommodation as a particularly critical

element for tourists' decisions during the worst periods of the pandemic (Del Chiappa et al., 2022;

Pappas & Glyptou, 2021), as well as for tourist satisfaction (Nilashi et al., 2022).

Another interesting result was that significant differences in the satisfaction associated with safety

and security emerged between those who had a shorter holiday than expected and those who had a

longer-than-planned stay. Additionally, the study's findings highlight that these significant

differences were more related to increased satisfaction associated with lower risk perception rather

than lower satisfaction levels derived from the change of the holiday plans.

These findings highlight the importance of considering the specific context and preventive measures

implemented, as they may influence tourists' reactions differently in various regions or countries.

However, it is essential to exercise caution when generalizing these conclusions since the preventive

measures examined were specific to Catalonia, and other regions or countries may have

implemented different measures leading to diverse tourist reactions.

It is essential to note that this thesis shifts from a broad research objective i.e., "To analyse the

impact of the COVID-19 pandemic on tourist satisfaction at a coastal destination" to three focused

objectives. Therefore, the overall findings of this thesis project shed light on several vital

determinants of tourist satisfaction during the COVID-19 pandemic. Firstly, traditional determinants

of satisfaction such as kindness, beaches, tourist product quality, and safety and security continue to

play a significant role in shaping overall satisfaction, even in the face of the pandemic threat.

Notably, the influence of tourist product quality has most significant impact on tourist satisfaction.

Surprisingly, COVID-19 prevention measures and reliance have little impact on tourist satisfaction,

suggesting that other factor specifically, safety and security increased their coefficient from 2019 to

2020

Secondly, safety and security emerge as significant determinants of satisfaction for tourists visiting

Costa Daurada, indicating their importance in creating a positive experience. This finding aligns with

previous research conducted before the pandemic, emphasizing the enduring significance of safety

109

for tourist satisfaction, even during times unaffected by the pandemic (Ghose & Johann, 2019).

Furthermore, the studies reveal intriguing insights into the satisfaction of tourists who modified their holiday plans. Those who adjusted their accommodation and mode of transport tend to report higher satisfaction levels, suggesting that the ability to adapt and make changes contributes positively to the overall experience. These results support the hypothesis that modifying holiday plans can reduce perceived risks and enhance satisfaction, aligning with evidence from other studies conducted during the pandemic.

It is important to note that COVID-19 greatly impacted the tourism industry, but the thesis project did not provide sufficient evidence of a direct impact on tourist satisfaction. However, the result of the thesis project indicated that COVID-19 prevention measures were highly prioritised during the crisis (UNWTO, 2020); still, the safety and security attributes of the destination, including cleanliness of public areas and safety, gained more significant importance during the pandemic. Nevertheless, the findings provide valuable insights into the factors influencing tourist satisfaction, and it is crucial to acknowledge the specific context and preventive measures implemented in the studies, which were specific to Catalonia. These conclusions should be cautiously generalised, as different regions and countries may have implemented various measures, leading to varying tourist reactions. Therefore, future research should consider these variations to understand better the complex relationship between preventive measures, tourist satisfaction, and the pandemic's impact on travel experiences.

4.2. Lessons and recommendations

The COVID-19 pandemic has profoundly impacted the tourism industry, necessitating a deeper understanding of its effects on tourist satisfaction and the determinants that contribute to it. This thesis project focused on analysing the impact of COVID-19 on tourist satisfaction at renowned coastal destinations in the Spanish Mediterranean, specifically Costa Daurada. The study used various data sources and Explanatory Factor Analysis (EFA) techniques to identify the determinants of tourist satisfaction, including the influence of COVID-19 measures. Additionally, it sought to unravel the effects of COVID-19 on the destination determinants of tourist satisfaction and overall satisfaction through PLS-PM (partial least squares path modelling) technique.

This study explores the lessons learned from the COVID-19 pandemic, particularly concerning the safety, trust, and adaptability of tourists and tourism management. These insights will guide destination managers and tourism businesses in navigating health crises, promoting safety, and enhancing tourist satisfaction in future pandemics such as COVID-19.

Importance of Safety and Trust

Trust is crucial in attracting tourists and addressing their safety concerns at destinations (Rousseau et al., 1998). The outbreak of COVID-19 has significantly impacted trust in tourism, particularly regarding safety and health concerns. The finding of the thesis project highlights that COVID reliance representing tourist trust (their holiday is safe), is only affected by the actions undertaken to mitigate the spread, i.e. COVID-19 Prevention measures. It is important to note that safety is a central component of overall tourist satisfaction (Milman & Pizam, 1995). Before the pandemic, safety significantly impacted trust, loyalty, and satisfaction in tourism (Ghose & Johann, 2019; J. Han et al., 2021). Thus, destination managers must prioritise safety measures and instil trust among tourists to create a positive and satisfying tourism experience.

The Role of General Safety and Adaptability

The presence of safety concerning health risk issues is a crucial factor affecting tourist satisfaction (Hasugian et al., 2016; Moreira & Burns, 2017), mitigating fears and anxieties during their stay. The finding of the thesis project highlights that during and prior to the pandemic, the perception of general safety at the destination includes cleanliness of public areas and health-related safety measures gained significant importance. Furthermore, the thesis project findings highlight that COVID-19 prevention measures have no significant impact on tourist satisfaction but provide evidence of an indirect effect, i.e. increase in the impact of general safety on tourists compared to 2019. It is important to note that the absence of health safety has been demonstrated in previous works to be a strong deterrent to the intention to travel for tourism (Chua et al., 2021) and to result in negative experiences for tourists (Jonas et al., 2011). Destination managers should focus on implementing direct and indirect measures to enhance general safety, such as promoting cleanliness, providing pedestrian facilities for physical distancing, and adapting public spaces to reduce health risks. By considering these measures, destination managers can create a sense of safety without being overly invasive or restrictive.

Emotional Risks and Adaptability

The pandemic has brought forth emotional risks that can impact tourists' decisions and anxieties about potential dangers (Yıldırım & Güler, 2022). However, some individuals have continued to travel during the pandemic, seeking emotional benefits and healing from stress and anxie ty (Buckley, 2023; Buckley & Westaway, 2020). The thesis project findings highlight that tourists who modified their holiday plans reported higher satisfaction during their stay period, suggesting that adapting to changing circumstances and reducing perceived risks may positively impact tourist satisfaction. Therefore, destination managers and tourism businesses must be flexible, responsive, and capable

of creating experiences that cater to the "new normal". Effective communication regarding safety measures and tourism experience is crucial in managing perceptions and uncertainties.

Lessons for Destination Managers

Balancing safety measures and tourists' well-being while avoiding excessive restrictions is crucial. Implementing indirect measures, such as expanding pedestrian facilities and promoting outdoor activities, can enhance safety without being perceived as overly invasive. The lessons learned from the COVID-19 pandemic offer valuable insights for destination managers and tourism businesses. Furthermore, destination managers need to adapt to the changing circumstances and uncertainties brought about by the pandemic. Being flexible and responsive to tourists' evolving needs and expectations is vital (Buckley & Westaway, 2020). Creating experiences that cater to the "new normal" and effectively communicating safety measures are essential for instilling confidence and trust.

Managing perceptions and uncertainties is another critical aspect highlighted by the findings. Tourists' perceptions of safety and the measures taken by destinations significantly influence their decision to travel. In disruption such as the pandemic, flexibility and effective communication are necessary to address diverse perceptions and maintain trust in destination management. Striking the right balance between ensuring safety and avoiding overly stringent measures is crucial (Davras & Durgun, 2022).

In conclusion, the lessons learned from the COVID-19 pandemic emphasise prioritising safety, trust, and adaptability in tourism management. Balancing safety without being overly restrictive, managing perceptions and uncertainties, and maintaining effective communication are crucial to creating a positive and satisfying tourism experience. Destination managers should implement adequate safety measures, build tourist trust, and adapt to changing circumstances. By incorporating these lessons, destination managers can support tourism recovery, maintain trust among tourists, and contribute to the long-term resilience and success of the destination.

4.3. Limitations

Some limitations should be considered when interpreting the findings of this study. Firstly, the survey was conducted in Costa Daurada during the summer of 2020, when the pandemic's impact remained significant. The preventive measures assessed were specific to Catalonia, which may limit the generalizability of the results to other regions with different measures. However, future research should explore diverse destinations and tourist environments to ensure a broader understanding.

Additionally, including data from subsequent summers (2021, 2022, and 2023) could provide a more

comprehensive perspective on how tourist behaviour and perceptions evolved.

Secondly, the profile of tourists travelling during the pandemic differed significantly from that of

typical visitors. Hotel overnight stays decreased considerably, and there was a greater preference for

apartments or second homes. This shift in behaviour underscores the importance of considering the

changing dynamics of tourist demand and its impact on overall satisfaction.

Another key limitation is the reliance on a specific data source, i.e. quantitative surveys of tourists.

For instance, this source is valuable and of interest, but other sources could provide complementary

information. Furthermore, the first study also utilized a relatively small sample size for the PSL-PM

model. Future research should replicate these findings with larger samples to validate the results

and further examine the effects related to COVID-19 measures. Additionally, incorporating mixed or

qualitative methods, such as in-depth interviews, could provide deeper insights into the

relationships between tourist activities, perceptions of COVID-19 and safety, behaviour, and

satisfaction.

The study's findings were influenced by significant changes in the tourist profile from 2019 to 2020,

alongside travel restrictions and concerns about COVID-19. The survey data represent only those

tourists who stayed overnight in Costa Daurada, introducing a selection bias, as individuals who

cancelled their holidays or chose alternative destinations were excluded. This highlights the need for

future research to examine a broader range of tourists.

Lastly, tourist satisfaction is influenced by emotions and risk perception, which may have been

affected by the incidence of contagions and media coverage during specific periods. These

emotional and perceptual factors are crucial for interpreting the findings and may warrant further

investigation in future research.

In light of these limitations, future studies should explore various destinations and preventive

measures while considering the evolving dynamics of tourist behaviour and risk perception. By

including more extensive and diverse samples, researchers can enhance the generalizability of the

findings. Furthermore, investigating different destinations and preventive measures beyond

Catalonia would provide a broader understanding of tourists' reactions. Addressing these limitations

will contribute to a more comprehensive analysis of the complex relationship between COVID-19,

preventive measures, and the factors influencing tourist satisfaction.

113

Indrajeet Mallick

4.4. Future Research Lines

In the context of future research, two key areas of interest can contribute to a better understanding

of tourist satisfaction. First, exploring how the COVID-19 pandemic has altered tourists' perceptions,

valuation of holidays, and satisfaction levels across different destinations is crucial. This involves

investigating the increasing significance of safety, hygiene, and avoiding overcrowded spaces in

shaping tourist decisions. Additionally, comparing satisfaction trends across different periods during

and after the pandemic would offer valuable insights into how these shifts have evolved.

Second, while not directly covered in this thesis, future research could consider the broader impact

of climate change on tourist satisfaction. It's crucial to understand the complex association between

climate change and emerging health and safety concerns, particularly in the context of pandemic-

related changes in tourist behaviour and satisfaction.

Impact of Safety, Hygiene, and Overcrowding on Tourist Decisions

The pandemic has significantly reshaped tourists' perceptions and expectations, making safety,

hygiene, and avoiding overcrowded spaces more critical in their decision-making processes. As these

concerns have become more prominent, future research could explore whether they have become

permanent fixtures in tourist satisfaction models or if their importance diminishes as the memory of

the pandemic fades. Understanding these dynamics could offer valuable insights into the evolving

landscape of tourism and help determine whether current trends are transient or indicative of a

lasting shift.

The findings of this thesis suggest that while traditional determinants of satisfaction remained

relevant during the pandemic, there was a noticeable shift towards safety-related concerns. This

shift raises questions about whether these changes in behaviour represent a temporary adjustment

or signal a long-term transformation in how tourists evaluate their travel experiences. For instance, a

research study conducted by Nair & Pratt (2024) investigates risk perceptions among tourists, which

could serve as a basis for exploring these long-term behavioural changes. Investigating these

possibilities would build on existing research and offer a more nuanced understanding of post-

pandemic tourist behaviour.

Moreover, the role of perceived risks in shaping destination choice has become increasingly

important (Susanti et al., 2023). Destinations that emphasize safety and hygiene measures may have

a competitive edge in attracting tourists compared to those that adopt a more relaxed approach.

Future studies could conduct comparative analyses of destinations with differing responses to the

pandemic, providing insights into how safety and hygiene measures influence travel intentions and

destination image.

114

Indrajeet Mallick

The pandemic also accelerated technology adoption in the tourism sector, with innovations such as contactless services and virtual tourism experiences becoming more prevalent (Shabankareh et al., 2023). As highlighted in previous research, these technological advancements have the potential to influence tourist satisfaction significantly. Investigating how these innovations will continue to shape the tourism landscape in the coming years could offer valuable perspectives on the industry's future.

Lastly, traveller's psychological and emotional impacts during pandemics are critical for further exploration (G.-X. Jiang et al., 2024). The anxiety and stress associated with travel during major crises can profoundly affect tourist satisfaction. It is essential to delve deeper into these emotional and psychological aspects, as understanding them can lead to more considerate and empathetic approaches in the industry, examining whether these factors lead to long-term changes in travel behaviour and how they influence overall satisfaction with travel experiences.

Evolution of Tourist Satisfaction During and After the Pandemic

The findings of this thesis are of significant importance as they reveal the complex impact of the COVID-19 pandemic on tourist satisfaction. Traditional determinants of satisfaction remain influential, while safety concerns have gained prominence. The evidence from this thesis aligns with broader research showing that the impact of the pandemic on tourist satisfaction has varied across different periods. The asymmetric influence of hotel service attributes on satisfaction, as highlighted in the study of Kim et al. (2023), suggests that the pandemic has intensified certain satisfaction determinants, which may evolve as the situation progresses. The decrease in satisfaction during different pandemic phases, as observed in the study by Leoni and Moretti (2024), further indicates that tourist responses to safety measures and overall satisfaction are likely to shift as the pandemic moves from acute to transitional phases. To understand these dynamics, future research should focus on conducting longitudinal studies that compare tourist satisfaction across various pandemic phases and into the post-pandemic period. Such studies would offer valuable insights into how tourists adapt their expectations and satisfaction levels in response to evolving safety measures and changing destination attributes over time.

The thesis findings reveal that safety has become a critical determinant of satisfaction during the pandemic, with traditional factors such as beach quality and destination characteristics becoming less significant. This shift reflects the increased importance of hygiene-related services and safety in tourist satisfaction, as observed in a few research studies (Aschauer & Egger, 2023; Yousaf & Kim, 2023). To build on these observations, future research should investigate whether these shifting priorities are temporary or indicative of a lasting change in tourist preferences. Specifically, it will be essential to determine whether the heightened emphasis on safety and hygiene will continue to

dominate tourist satisfaction in the post-pandemic era or if traditional determinants will regain their pre-pandemic importance.

The results of this thesis also suggest that tourists who modified their holiday plans due to COVID-19 were, in some instances, more satisfied, particularly concerning safety-related attributes. This finding is consistent with Nair and Pratt (2024), which shows that disease risk perceptions have significantly influenced tourist satisfaction and destination choice during the pandemic. Future research should investigate how these risk perceptions evolve post-pandemic and whether they will continue shaping tourist satisfaction and behaviour. Additionally, exploring how different demographic groups perceive and respond to safety risks could provide valuable insights for destination management, especially in preparing for future crises.

Climate Change and Its Interaction with Health and Safety Concerns

It is essential to highlight that the dynamic evolution of the tourism industry is influenced by numerous factors, with climate change emerging as an unequivocally critical and dynamic force (Hamilton et al., 2005; Ngxongo, 2021). This extensive impact of climate change resonates across the entirety of the tourist experience, encompassing everything from destination preferences to behavioural shifts (Atzori et al., 2018; Gössling et al., 2012; Scott et al., 2012; Scott & Lemieux, 2012). The COVID-19 pandemic has not only showcased the adaptability of the tourism sector but has also provided invaluable insights that can profoundly shape our approach to future crisis management in the context of climate change.

Amid the pandemic, health and safety protocols gained prominence, aligning seamlessly with the principles of climate adaptation (Ford et al., 2022; Phillips et al., 2020). Furthermore, there was a noticeable shift in tourist behaviour, with a preference for domestic destinations featuring resilient infrastructure, thereby underscoring the urgency of addressing climate challenges (Abbas et al., 2021; Rahman et al., 2021; S. Zhang et al., 2023). The importance of capacity management and effective crisis communication was also evident during the pandemic (Aldao et al., 2022; Chaskar & Upadhyay, 2023; Permatasari & Mahyuni, 2022; Rahman et al., 2021). The proactive dissemination of safety measures, travel restrictions, and evolving regulations to tourism firms and travellers ensured a safer experience and laid a foundation for adeptly managing future crisis scenarios, including those arising from climate change (Chaskar & Upadhyay, 2023; Ford et al., 2022; Permatasari & Mahyuni, 2022).

It is significant to recognize that changes in tourist behaviour significantly impact overall satisfaction. Responses of tourists to the effects of climate change often lead to the exploration of alternative

destinations, influencing their satisfaction (Caldeira & Kastenholz, 2018; Jeuring, 2017; S. Kim et al., 2017; Nilsson & Gössling, 2013; Scott et al., 2012). In this context, the pandemic has uniquely positioned us to examine how tourist demand adapts to unprecedented scenarios, providing a roadmap for future research in the realm of tourism demand under various constrained and disruptive factors likely to arise due to climate change.

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