KLAIPĖDA UNIVERSITY

Rima Karsokienė

MANAGING TOURISM SUPPLY CHAIN TO IMPROVE DESTINATION SUSTAINABILITY AND RESILIENCE

Doctoral Dissertation

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Scientific Supervisor

Assoc. Prof. Dr. Algirdas Giedraitis (Klaipėda University, Social Sciences, Management, S 003).

The doctoral dissertation will be defended at the Defence Board of Management of Vytautas Magnus University, Klaipėda University, Mykolas Romeris University, Vilnius University:

Chairman

Prof. Dr. Ligita Šimanskienė (Klaipėda University, Social Sciences, Management, S 003);

Members:

Prof. Dr. Vilma Atkočiūnienė (Vytautas Magnus University, Social Sciences, Management, S 003);

Prof. Dr. Biruta Sloka (Latvia University, Latvia, Social Sciences, Management, S 003);

Prof. Dr. Vainius Smalskys (Mykolas Romeris University, Social Sciences, Management, S 003);

Prof. Dr. Erika Župerkienė (Klaipėda University, Social Sciences, Management, S 003).

The doctoral dissertation will be defended in a public meeting at the Defence Board of Management in the *Aula Magna* Conference Hall of Klaipėda University at 11 a.m. on 16th of January, 2026.
Address: Herkaus Manto str. 90-2, LT-92295, Klaipėda, Lithuania.

KLAIPĖDOS UNIVERSITETAS

Rima Karsokienė

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Mokslinis vadovas

doc. dr. Algirdas Giedraitis (Klaipėdos Universitetas, socialiniai mokslai, vadyba, S 003).

Mokslo daktaro disertacija ginama Vytauto Didžiojo universiteto, Klaipėdos universiteto, Mykolo Romerio universiteto, Vilniaus universiteto Vadybos mokslo krypties taryboje:

Pirmininkas

prof. dr. Ligita Šimanskienė (Klaipėdos Universitetas, socialiniai mokslai, vadyba, S 003);

Nariai:

prof. dr. Vilma Atkočiūnienė (Vytauto Didžiojo universitetas, socialiniai mokslai, vadyba, S 003);

prof. dr. Biruta Sloka (Latvijos universitetas, Latvija, socialiniai mokslai, vadyba, S 003);

prof. dr. Vainius Smalskys (Mykolo Romerio universitetas, socialiniai mokslai, vadyba, S 003);

prof. dr. Erika Župerkienė (Klaipėdos universitetas, socialiniai mokslai, vadyba, S 003).

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Adresas: Herkaus Manto g. 90-2, LT-92295, Klaipėda, Lietuva.

Acknowledgement letter

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Thank you. Sincerely,
PhD Candidate
Rima Karsokiene, KU

Content

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List of abbreviations

CAGR - compound annual growth rate
CSR - corporate social responsibility
DMO - destination management organisation
ETIS - European tourism indicator system
GDP - Gross domestic product
PATA - Pacific Asia Travel Association
SF-MST - Statistical Frame for Measuring Sustainability of Tourism
SC - supply chain
SWG - Stakeholder Working Group
TDR - tourism destination resilience
THEREG - Tourism, Hospitality, Events Research and Enterprise Group
TO&TA - tour operator & travel agency
TSC - tourism supply chain
TSCM - tourism supply chain management
UNEP - United Nations Environment Programme
UNWTO - United Nations World Tourism Organisation
WTTC - World Travel and Tourism Council

List of concepts

Destination (in tourism context)**:** physical space with or without administrative and/or analytical boundaries where a visitor can spend an overnight. It is the cluster (co-location) of products, services, activities, and experiences along the tourism supply chain management, serving as the basic unit of analysis for tourism (UNWTO, 2008).

Destination management combines strategies oriented to stakeholder cooperation, marketing, planning, development, human resources**,** and environmental management (Varelas & Tsoupros, 2024). It involves integrating various stakeholders, aligning tourism goals with the local community's needs, and adopting policies and strategies that balance tourism growth with sustainability (Herasimovich et al., 2024).

Destination management organisation (DMO): an organisational entity that encompasses various authorities, stakeholders and facilitates tourism sector partnerships to achieve a collective vision. The governance structures of DMOs vary from a single public authority to a public-private partnership model, with a key role in initiating, coordinating, and managing activities such as implementing tourism policies, strategic planning, product development, promotion, and marketing. Not every tourism destination has a DMO; some have several (UNWTO, 2008).

Management improvement (in tourism context) ongoing efforts by policymakers, stakeholders, and researchers to balance destination management while establishing

robust quality assurance systems. This process involves collaboration with scientists to integrate evidence-based insights and strategies that promote both long-term destination sustainability and the ability to adapt to challenges (Gomes & Lopes, 2023).

Multi-stakeholder management approach: collaboration between stakeholders, including local communities, governments and companies, to coordinate efforts and sustainably manage tourism. Promote open communication and joint responsibility for decision-making (Joshi, 2022). Aimed at optimising resource use, fostering sustainability and enhancing resilience (Beck & Ferasso, 2023).

Resilient destination: adapts to challenges such as economic downturn, ecological disasters, and social disorders and recovers from them, maintaining attractiveness and functionality. Emphasise the importance of preparation for crises, sustainable resource management, and community involvement to ensure long-term stability. Resilient destinations invest in infrastructure, diversify their tourism supply, and foster local partnerships to mitigate risk and enhance their capacity to withstand and recover from unexpected events (Saarinen & Gill, 2020).

Stakeholders are individuals or groups with an interest, stake, or influence in tourism supply chain management, particularly in how tourism activities are planned, managed, and executed. These stakeholders' identification, engagement, and collaboration are crucial for effective tourism supply chain management, especially in promoting sustainability and addressing destinations' resilience (Mondoñedo, 2021).

A sustainable destination is managed to balance economic growth, environmental protection, and social well-being. It prioritises long-term sustainability by minimising the negative impact on ecosystems and communities while enhancing visitors' experiences. This includes responsible resource management, cultural heritage preservation, and promoting ethical tourism practices to ensure attractiveness for future generations (Joshi, 2022).

Tourism supply chain (TSC): network of tourism organisations supplying different components of tourism products/services such as flights and accommodation for the distribution and marketing of the final tourism products at a specific tourism destination, and involves a wide range of participants in both the private and public sectors (Sifolo, 2020).

Tourism supply chain management (TSCM) is a set of management approaches used to efficiently manage the operations of the tourism supply chain within a specific tourism destination, meet tourists' needs from the targeted source markets, and accomplish the business objectives of different tourism supply chain stakeholders (Song, 2012).

Introduction

„We must harness the full potential of tourism. Tourism brings progress. As one of the largest sectors in the global economy, it has the power to bridge cultures, generate new opportunities, and promote sustainable and resilient destination development.

Antonio Guterres, United Nations Secretary-General, UN, 11/10/2023

Relevance and novelty of the PhD thesis. Tourism plays a vital role in the global economy's development and has recently become one of the fastest-growing sectors (Abdallah et al., 2021). Its significance extends beyond economic aspects: tourism is essential for social advancement and national wealth (Soratana et al., 2021). However, the rapid growth of tourism, particularly in well-known locations, brings forth challenges such as resource depletion, social friction, and environmental concerns (Vargas, 2020). While most research on tourism supply chain management (hereinafter: TSCM) exists and aims to improve operational efficiency, a considerable gap persists in adopting a comprehensive management strategy that incorporates the improved sustainability and resilience required of tourism destinations. This gap highlights the need to revise tourism supply chain management at the destination level.

TSCM has recently gained traction as a framework for comprehending the complex management of companies supporting the tourism sector (Chowdhury et al., 2024). To provide consumers with tourism experiences and products, TSCM entails organising,

coordinating, and integrating multiple stakeholders (Barua, 2020). By cooperating to provide seamless experiences to their target audience - customers, the major players in the tourism supply chain - destination management organisations (hereinafter: DMOs), tour operators (hereinafter: TOs), travel agents (hereinafter: TAs), transportation providers, and lodging facilitators - play a crucial part in attaining operational efficiency. These key stakeholders of tourism supply chain management propel resilience and sustainability.

Besides operational efficiency, TSCM is crucial in improving destination sustainability and resilience (Joshi, 2022). While maximising long-term advantages for destinations and communities, sustainable tourism practices reduce negative environmental, social, and cultural consequences (Bai & Ran, 2022). Including sustainability practices in TSCM helps companies support ethical tourism by safeguarding local ecosystems, improving a destination's competitiveness, and guaranteeing that tourism stays suitable for local communities and visitors. Equally crucial in TSCM is resilience, particularly concerning external shocks and disturbances, including political instability, natural disasters, and pandemics (Vargas, 2020). Resilient destinations can change with time, quickly bounce back from disturbances, and keep service continuity (Jaelani et al., 2020).

Research on sustainability and resilience in travel shows links (Gruchmann et al., 2022; Saeed & Kersten, 2019; Babu et al., 2018). Rising globalisation and the fast-changing, erratic patterns in the tourism industry have highlighted the need to understand these elements, which have driven academics to look for new ways to strategic analysis since conventional ones no longer sufficiently reflect the dynamic character of the tourism industry environment. Jucevičius & Grumadaitė (2024) claim that although conventional business analysis techniques provide insights into past or present situations, they fail to predict changes in a complex corporate environment. This thesis fills in this gap by investigating the connections between sustainable and resilient tourism destinations to decide how the TSCM model may complement and improve the values of these two paradigms. Focusing on long-term success while negotiating short-term stakeholder relationships - horizontal, vertical, and diagonal- shows a forward-looking approach for destination management.

Improving destination sustainability and resilience starts with looking at the interactions between stakeholders and consumers (Bui, 2022; Altexsoft, 2020; Cheer & Lew, 2018). This encourages a customer-centred strategy, improving customer happiness, supporting stakeholder cooperation, and finally building a tourism ecosystem serving the destination and consumers. The study of stakeholder-customer interactions evaluates the application of sustainable practices, therefore reducing adverse environmental and community effects (Nguyen, 2020). Furthermore, knowledge acquired from analysing stakeholder-customer interactions helps destinations to be

competitive, placing them as preferred places and guaranteeing long-term competitiveness in the changing travel sector (Saarinen & Gill, 2020).

Scope and novelty of the scientific investigation. In the 21st century, destinations worldwide participate with their entire supply chains rather than competing with each other (Butler, 2024; Lyubka et al., 2024; Fong et al., 2021; Sigala, 2020; Saeed & Kersten, 2019; Dragan et al., 2015). While research on tourism supply chain management is not new, there is a growing emphasis on enhancing the flexibility and dynamism of the tourism supply chain to meet evolving customer market demands and expectations (Gruchmann et al., 2022; Gonzalez-Torres et al., 2021; Saeed & Kersten, 2019). Scholars are exploring methods to address TSCM during crises, as recent research indicates that TSCM interrelationships play a crucial role throughout destinations (Rouquet et al., 2023; Ringel, 2021; Gossling et al., 2020). However, the relationship management with key tourism supply chain stakeholders, improving the destination sustainability and resilience, is still an underexplored area of research (Correia et al., 2020; Lima Santos et al., 2020).

Exploring relationship management within the tourism supply chain is vital for maintaining the competitiveness of the entire chain and the destination, as well as meeting consumer demands (Gruchmann, 2022; Shanker et al., 2021; Radulescu, 2020; Kac et al., 2019; Szpilko, 2017). Despite the growing importance of resilience and sustainability, the gap in the scientific literature remains regarding the correlation from stakeholder and consumer perspectives between these concepts and their implications for destination and tourism supply chain management (Hemmati & Nazari-Shirkouhi, 2022; Bire et al., 2021; Ghaderi et al., 2018; Ling, 2015; Carter & Rogers, 2008). The existing literature presents several resilience and sustainability-related topics but does not adequately address the complex interrelationship between the two and their real-world applications in the travel and tourism sector (Herasimovich et al., 2024; Joshi, 2022; Saarinen & Gill, 2020; Saarinen, 2018; Szpilko, 2017; Silvestre, 2016; Hussain et al., 2015; Saarinen, 2014; Seuring & Müller, 2008). This gap makes the scientific investigation of links between theoretical and practical strategies possible. Destinations would improve sustainability and resilience in significant and long-lasting ways by fortifying their ties with stakeholders and customers (Bai & Ran, 2022; Bertella, 2022; Ivanov, 2021; Albattat et al., 2020; Cheng & Zhang, 2020).

An empirical study that looks at the three-way (diagonal, horizontal, and vertical) relationships between five major players in the tourism supply chain management, such as Destination Management Organisations, Tour Operators and Travel Agents, providers of accommodation and transportation services, and their target audience, consumers, is suggested to fill these gaps. The final matrix and model for TSCM to improve destination sustainability and resilience are presented in this study. This study provides important insights for strengthening those paradigms at the chosen des-

tination by comprehending meaningful stakeholder relationships within the tourism supply chain management.

Last but not least, this research aims to contribute new insights into tourism supply chain management through tourism indicator systems, particularly the European Tourism Indicator System (ETIS). After experts have selected relevant destination indicator criteria, this study will investigate tourism supply chain stakeholder engagement in sustainability and resilience implementation. Further, the study will determine management improvement directions for sustainable and resilient destinations through consumer behaviour and demand for sustainable tourism. This will be achieved by investigating consumer preferences, motivations, and decision-making processes related to sustainable and resilient tourism management initiatives. By understanding how tourist demand affects TSCM, this research aims to present strategies that improve destination sustainability and resilience in the face of challenges, such as overtourism and environmental degradation.

Scientific problem: What tourism supply chain management approach impacts destination sustainability and resilience and how can this approach contribute to the development and refinement of a TSCM model?

Object: tourism supply chain management

The thesis aims to create a comprehensive tourism supply chain management model that improves sustainability and resilience at the destination.

To achieve the aim of the dissertation, the following **research objectives** are raised:

1. To analyse the theoretical foundations, characteristics, and interrelationships in the tourism supply chain management domain.
2. To identify the tourism supply chain management approach that impacts key elements of sustainability and resilience
3. To present a theoretical framework for assessing stakeholder-consumer relations within tourism supply chain management using existing academic tools.
4. To validate stakeholder-consumer relationship elements through qualitative and quantitative analysis.
5. To apply selected ETIS criteria to gather stakeholder feedback and identify perceived deficiencies.
6. To investigate visitor perceptions on sustainability and resilience by assessing insights from stakeholder feedback through SF-MST, identifying potential comprehension gaps.
7. To present a tourism supply chain management model for improving destination sustainability and resilience.

Statements for defence

Statement 1: A theoretical model, grounded in academic literature and designed to evaluate stakeholder and consumer relationships in tourism supply chain manage-

ment, would enable the systematic identification of sector-specific deficiencies and the determination of strategies for improving destination sustainability and resilience (literature analysis).

Statement 2: In TSCM, a lack of community engagement can impede destination sustainability and resilience by reducing local support and alignment with community needs (examined by a qualitative study).

Hypotheses:

H1. Destination management organisations are expected to consistently receive high ratings across demographic factors due to their role in strategic planning, marketing, and supply chain coordination, essential for promoting destination sustainability and resilience (ANOVA test).

H2. Tailored tourism supply chain management strategies are needed to address identified sectoral (destination management organisations, tour operators and travel agencies, accommodation and transportation service providers) gaps (economic, environmental and social), emphasising the implementation of practices that improve sustainability and resilience at selected destinations (Statistical Framework for Measuring Sustainability of Tourism; hereinafter: SF-MST).

H3. Younger and less educated travellers are predisposed to provide lower evaluation scores due to perceived limitations in flexibility and affordability. In contrast, higher-income and highly educated travellers are expected to prefer premium and highly sustainable tourism options, as correlations with various demographic statistical factors indicate (socio-demographic analysis).

Logical research framework. The dissertation is structured into three chapters, each with clearly defined objectives and tasks. The first chapter introduces the topic, addressing the first three objectives. The primary objective is to thoroughly explore the theoretical foundations of TSCM, focusing on its key characteristics and the complex relationships within the field. The second objective is to identify the core elements contributing to the destination's sustainability and resilience and determining which TSCM approach impacts those elements, based on a detailed theoretical review. The final objective of this chapter is to develop a theoretical framework that will guide the assessment of TSCM, drawing on established models tailored to the destination's context (Fig. 1).

The second chapter, as shown in Fig. 1, builds on an extensive literature review and the theoretical framework, outlining the methodology for the empirical investigation. This chapter justifies the research design and addresses the fourth objective: empirically validating the methodology for TSCM, particularly regarding stakeholder and consumer interactions. The goal is to explore how TSCM aligns with consumer demand to improve sustainability and resilience at tourism destinations.

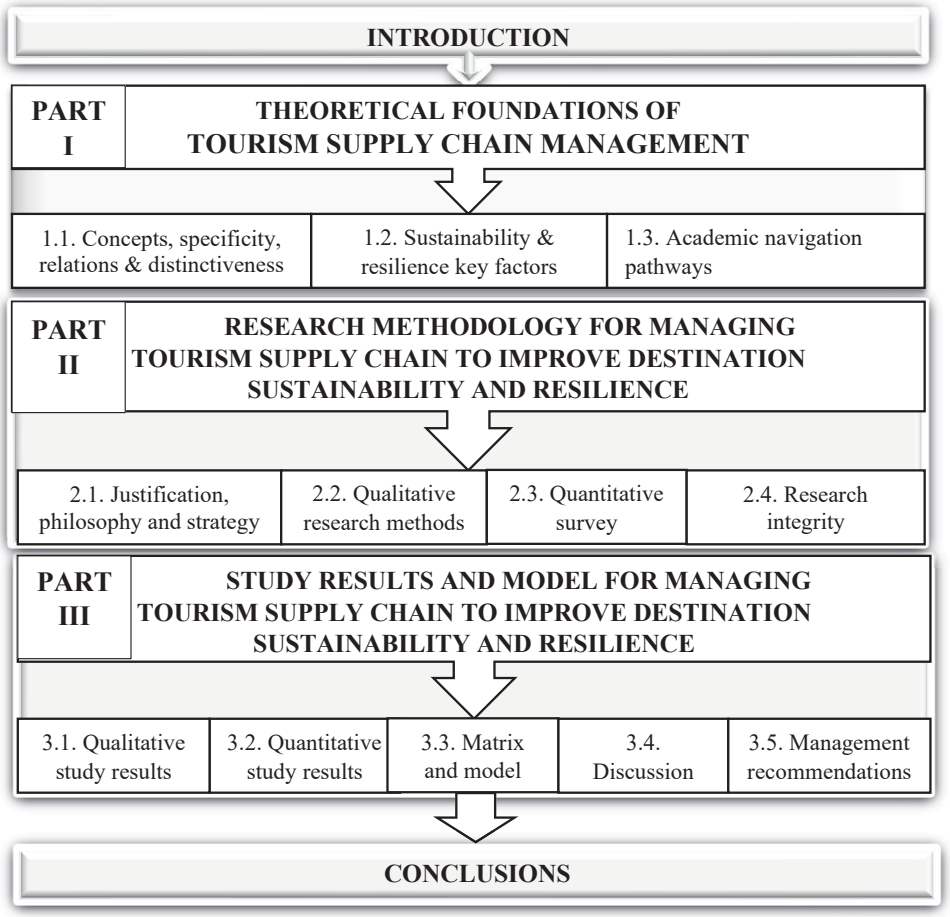

Figure 1. Logical research framework

Compiled by the author

The third chapter synthesises the research findings and develops a comprehensive TSCM matrix and model that improve destination sustainability and resilience, addressing the final objective. This model highlights the essential elements for successful TSCM implementation and identifies barriers that may hinder its success. It also proposes strategies to overcome the obstacles and therefore improve destination sustainability and resilience.

The methodological basis of the study consists of the following concepts: the *pragmatic* philosophical direction in tourism research focuses on practical solutions and real-world applications, aiming to improve it. It employs various research methods

and fosters active stakeholder engagement, yielding actionable recommendations (Harrill et al., 2024; Gobo, 2023; Weaver et al., 2022).

On the other hand, *positivism* in tourism research emphasises objective observation and measurement of tourism phenomena. It is based on the verification of the functional structure of the tourism system through quantitative empirical research (Tribe et al., 2015; Tribe, 2001).

The system theory analyses tourism as a complex phenomenon. This theory elucidates the tourism system's components and outlines their interrelationships. (Dang et al., 2020; Jere-Jakulin, 2017).

Stakeholder theory is based on justifying stakeholders' participation in the tourism sector's different activities, managing relationships to meet their expectations, and promoting sustainability and resilience in tourism destinations (Song et al., 2021; Theodoulidis et al., 2017).

The PPSS (Pragmatic Positivism System Stakeholder) theoretical framework, which combines mixed-methods research, offers a comprehensive approach to understanding complex issues in TSCM relations (Gobo, 2023; Beck & Ferasso, 2023). Both theoretical and empirical research methods were applied to meet the dissertation's goals.

Theoretical approach. A systematic literature review explored how TSCM can support destination sustainability and resilience, including content and comparative analysis, synthesis, and generalisation. The analysis examines the role of TSCM, drawing on a theoretical framework that emphasises the significance of sustainability and resilience of destinations. SWOT and TOWS analyses are also introduced in this part to identify issues within a selected destination. When applied within the theoretical framework of a thesis, SWOT and TOWS analyses can significantly enhance strategic insight and decision-making in tourism supply chain management, providing a structured system for evaluating key strategic factors (Madsen, 2016).

Empirical approach. The empirical research employs a mixed-methods strategy. The research includes three studies:

- Qualitative study 1: Focus groups were conducted to select relevant European Tourism Indicator Criteria (hereinafter: ETIS) for the destination.
- Qualitative study 2: Expert interviews were conducted to align with the selected criteria, employing a semi-structured approach that allowed for specific questions and flexibility to gain deeper insights into TSCM inefficiencies.
- Quantitative study 3: A large sample of visitors was surveyed to assess perceptions of sustainable and resilient practices among TSC stakeholders. Statistical analysis was performed using Microsoft Excel 2016 for preliminary insights and SPSS Statistics 23.0 for advanced inferential procedures.

The findings were synthesised to offer a practical, in-depth understanding of TSCM's role in promoting and improving destination sustainability and resilience. This research aims to provide valuable insights for policymakers, stakeholders, tourists, and researchers.

Scientific significance of the dissertation

1. For the first time in Lithuania, the dissertation analyses and systematises the scientific literature on the theoretical conceptualisation of tourism supply chain management (TSCM) and on improved destination sustainability and resilience.
2. The relationships among the five key stakeholders (destination management organisations, tour operators and travel agencies, the accommodation and transport sectors, and tourists) were examined in the context of TSCM at the destination level, whereas previous studies have mostly focused on three-way relationships.
3. A TSCM approach that fosters the development of sustainable and resilient destinations has been established. Such an integrated approach has not been proposed in earlier research.
4. Based on the analysis of the scientific literature, an inclusive theoretical framework has been developed that incorporates stakeholder - consumer relationship management and is aligned with the conceptual part of the dissertation.
5. Sector-specific deficiencies in TSCM practices have been identified, including shortcomings in achieving sustainability goals, meeting consumer needs, adaptability and resilience.
6. A new model has been presented that addresses the identified deficiencies, enhances TSCM through matrix, and provides strategies to improve destination sustainability and resilience, while also allowing for its applicability to similar destinations.
7. Methodological innovations have been substantiated and applied, such as the use of ETIS (European Tourism Indicator System) and SF-MST (Statistical Framework for Measuring the Sustainability of Tourism), for assessing destination sustainability and resilience. This represents a novel empirical methodological combination in TSCM studies.

Practical significance of the dissertation

1. Ineffective areas of stakeholder activities within TSCM have been identified, which practitioners and policymakers had not sufficiently recognised before.
2. A critical gap has been filled by proposing a specific TSCM model aimed at improving destination sustainability and resilience.

3. The positive impact of better stakeholder - consumer relationship management on strengthening destination sustainability and resilience has been empirically demonstrated, contributing to the mitigation of over-tourism and environmental degradation.
4. A justified methodology and analytical tools have been developed, which can be widely applied by both researchers and practitioners.
5. Evidence-based recommendations have been proposed for key TSCM stakeholders (destination management organisations, tour operators and travel agencies, accommodation and transport service providers) that are applicable in real-world destinations.
6. Destination competitiveness is strengthened: the proposed model enables destinations to recover more quickly from disruptions, maintain service continuity, and create added value for stakeholders, local communities, and visitors.
7. A bridging function between science and practice has been established: the results complement existing theories in tourism studies and can also be applied in TSCM practice to improve destination sustainability and resilience.

Research limitations: The first two restrictions of the dissertation concern the theoretical component: 1) Excluding other Tier 1&2 stakeholders, only key ones were selected as the object of scientific study: Destination Management Organisations, Tour Operators and Travel Agencies, Accommodation and Transportation service providers and Visitors; 2) The research's object was tourism supply chain management, which revealed shortcomings influencing destination sustainability and resilience; however, TSCM raises questions about operational efficiency, resource management and more; 3) Destination management has positive and negative impacts. The study does not examine adverse effects since this is not the topic of this thesis. 4) The final model addresses the specific destination, namely its tourism supply chain management, ignoring other kinds of companies in other sectors; 5) The results may not apply to all tourism destinations with or without a strategy for sustainability and resilience.

Dissertation structure

This dissertation was written between October 2021 and May 2025. It is 241 pages long, with 38 tables, 29 figures, and 2 formulas.

Declaration of AI use: Hereby it is confirmed that Scite.ai and GrammarlyPro AI tools were employed in the preparation of this dissertation under Klaipeda University guidelines, specifically for grammatical, structural and stylistic editing, punctuation assistance throughout the writing process, validation of used references and preparation of the reference list following 7th APA style guidelines. The intellectual contributions and outputs are my work.

I.

Theoretical Foundations of Tourism Supply Chain Management

1.1. Tourism supply chain management: concepts, specificity, relations and affiliation

The forthcoming section will delve into the intricacies of tourism supply chain management, starting with its conceptualisation. This unique field encompasses the various stages involved in delivering complex tourism products and services due to seasonality, the perishability of services, and the role of intangible experiences. It will then explore the network structure and relationships within the supply chain, highlighting the interdependencies among stakeholders, including destination management organisations, tour operators, travel agents, accommodation providers, and transportation service providers. The study will also address critical issues facing tourism supply chain management, such as sustainability and resilience. It will describe the goals of tourism supply chain management, such as stakeholder collaboration and customer satisfaction. This part will also examine how tourism supply chain management is unique, highlighting its advantages and disadvantages.

1.1.1. Supply chain versus tourism supply chain through the prism of management

In the 21st century, the focus has shifted from individual companies to supply chains (Song, 2012; Piboonrungroj & Disney, 2009). From a macro perspective, the supply chain is a network of companies that execute various functions, ranging from raw material supply to final product production and delivery to target customers (Puwanendram & Ganeshan, 2021). At the micro level of a company, the supply chain encompasses functions such as raw material procurement, part production, component assembly, final product assembly, and distribution to centres or customers. This network is characterised by the forward flow of goods and the backwards flow of information. The flow comprises seven key business processes: customer relationship management, customer service management, demand management, order fulfilment, production flow management, purchasing, product development, and commercialisation (Song, 2012).

Supply chain management (SCM) is a concept that originated and flourished in the manufacturing industry (Min, 2015) and the retail sector (Jankuloska et al., 2018). Researchers and practitioners have investigated SCM strategies to mitigate the increasing uncertainties and complexities in the marketplace during crises, thereby enhancing efficiency by reducing inventories across the entire supply chain (Guan, 2020; Adams et al., 2014; Ambrose et al., 2010). Studies in this domain have also addressed inventory management, such as vendor-managed inventory solutions, which gained popularity through implementations by Walmart and Procter & Gamble (Sha & Zheng, 2023). Additionally, the application of information technologies (Abdallah et al., 2021), information sharing, supply chain coordination (Adams et al., 2014), supply chain relationships (Huang et al., 2022; Ambrose et al., 2010), and collaborative forecasting (Hemmati & Nazari-Shirkouhi, 2022; Christopher, 2011) have been discussed.

Supply chain management techniques, extensively employed in production, aim to enhance logistics and planning activities and control material and information throughout the chain (Thahir et al., 2020; Song, 2012). Furthermore, these techniques aim to improve efficiency across the entire value chain both internally within a company and externally between companies (Christopher, 2011). Coined by Houlihan (Houlihan, 1984), the term "supply chain management" has gained prominence over the past two decades. Despite its popularity in academia and practice, a universally accepted definition is lacking. The most widely accepted definition by Smichi-Levi et al. (2003, p.14) asserts that SCM encompasses "a set of approaches used to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed in appropriate quantities, to the right locations, and at the right time, to minimise system-wide costs while meeting service level requirements".

The concept of SCM has evolved significantly from its initial focus on logistics and inventory management into a comprehensive management discipline that recognises the interdependencies among supply chain partners. It is increasingly viewed as a critical element in achieving competitive advantage through strategic alignment, resource optimisation, and risk management (Islam & Qamari, 2021). Modern SCM practices also consider sustainability a fundamental aspect, advocating for integrating economic, social, and environmental goals within supply chain activities (Babu et al., 2018).

Additionally, resilience is an integral component of SCM, addressing vulnerabilities and disruptions caused by various factors, such as economic fluctuations, natural disasters, and global market shifts (Ivanov, 2021). Organisations increasingly invest in risk mitigation strategies incorporating assessment and proactive management to sustain operational continuity throughout their supply chains (Adams et al., 2014). As a reflection of this trend, a growing body of research is dedicated to evaluating and improving risk management practices within supply chains, aiming to safeguard against potential disruptions while maintaining performance excellence (Ivanov, 2021).

Effective supply chain management practices are characterised by stakeholder collaboration and communication at different stages (Jankuloska et al., 2018). Recent studies emphasise the importance of fostering trust and relationships among supply chain partners to promote cooperation and responsiveness to changes in demand or supply conditions (Ivanov, 2021). The incorporation of advanced technologies, such as the Internet of Things (IoT), has further transformed supply chain management by enabling real-time data analytics, enhancing visibility, and facilitating informed decision-making processes (Abdallah et al., 2021)

The supply chain management philosophy acknowledges the interdependence among its members and devises management strategies that support the integration of various links (Ivanov, 2021). Thus, SCM adopts a systemic approach to view the supply chain as a whole (Smichi-Levi et al., 2003) and emphasises the integration of various links within the chain (Guan, 2020; Guo, 2012). A plethora of areas, including strategic and inter-organisational issues (Long & Chen, 2021), vertical integration (Min, 2015), supplier relationships (Mohaghar & Ghasemi, 2011), and purchasing and supply (Morsy, 2017), have contributed to the burgeoning SCM literature. Numerous surveys of SCM literature have also been published in academic journals.

Hussain et al. (2015) indicates that successful SCM practices from other industries, such as the automotive sector's just-in-time inventory management or the retail sector's efficient distribution networks, could be advantageous in the *Tourism Supply Chain Management (TSCM)*. Considering their specific nature and characteristics, identifying SCM practices that benefit the tourism industry is highly important (Nawaz, 2020). Over the past two decades, the tourism industry has experienced si-

gnificant evolution and modernisation, driven by a competitive landscape that compels businesses to seek competitive advantages (Averous-Monnery & Barthel, 2019). The rise of new information technologies, including e-tourism, augmented tourism, and AI-driven tourism, has transformed the sector (Livina et al., 2021). Additionally, the strategic adoption of TSCM has emerged as a crucial method for improving destination sustainability and resilience (Abdallah et al., 2021). TSCM presents a transformative alternative to the adversarial relationships commonly found in the industry (Santos et al., 2021; Munar, 2016; Song, 2012; Baggio et al., 2010). It involves managing the tourism supply chain efficiently to meet tourists' needs while achieving the business objectives of various enterprises (Fong et al., 2021; Tadic & Velijovic, 2020). This transformative potential of TSCM inspires researchers to rethink and reshape the industry for the better.

The differences between a traditional supply chain and a tourism supply chain from a management perspective can be significant due to the unique characteristics of the tourism industry. Table 1 depicts the key differences:

Table 1. The differences between the Supply chain and the Tourism supply chain through the prism of management

ASPECT	SUPPLY CHAIN MANAGEMENT	TOURISM SUPPLY CHAIN MANAGEMENT
COMPLEXITY OF STAKEHOLDER RELATIONSHIPS	Stakeholders include suppliers, manufacturers, distributors, and retailers	Stakeholders include destination management organisations, tour operators, accommodation providers, transportation services, attraction service providers, local communities, regulatory bodies, and tourists
SEASONALITY AND VARIABILITY	Demand is stable and predictive of market trends	Tourism is subject to seasonality and changing demand. TSCs must adapt to fluctuations in high and low seasons, as well as changes in tourist preferences, and respond to external factors such as weather conditions and global events
CUSTOMER SATISFACTION	Focus on the efficiency of delivering goods or services	Focus on positive and memorable experiences. Customer satisfaction and loyalty determine the success of tourism businesses
INTEGRATION OF SERVICES	Tangible goods	Intangible services. Integration of various services before, during and after travelling that must be consumed in real-time

Table 1. Continued

ASPECT	SUPPLY CHAIN MANAGEMENT	TOURISM SUPPLY CHAIN MANAGEMENT
DESTINATION MANAGEMENT	Focus on logistics from suppliers to consumers.	Destination management organisations preserve natural, artificial and cultural resources and maintain destination adaptive capacity by integrating sustainability and resilience into management strategies
RISK FACTORS	Effective strategic planning and risk management	Susceptible to political instability, natural disasters, health crises, economic downturns, and any changes in government policies or travel regulations
INVENTORY MANAGEMENT	Physical inventory is managed and stored	Only the largest tour operators have assets; the majority are "asset-free"
CUSTOMER INVOLVEMENT	Customers buy products	Customers are highly involved and influence service quality
TECHNOLOGY USE	Automation, AI, IoT for logistics and tracking	Digital platforms, online booking systems, customer satisfaction systems, AI-driven customer service and experiences, dynamic pricing, etc.
EMPHASIS ON SUSTAINABILITY	Prioritise operational efficiency and cost reduction	Prioritise sustainable and responsible tourism development

Compiled by the author, following Hamadneh et al., 2022; Bai & Ran, 2022; Abdallah et al., 2021; Adams et al., 2014; Song, 2012; Chen & Yi, 2010; Carter & Rogers, 2008.

While there are similarities between the traditional supply chain and the tourism supply chain in terms of fundamental management principles (Table 1), the unique characteristics of the latter require tailored approaches that address the complexities, variability, and diversity of stakeholders. Understanding the principal challenges inherent in successfully managing tourism supply chain processes requires comprehensive knowledge of the specifics of tourism products (Gossling et al., 2021; Nawaz, 2020). As a segment of the global service economy, the TSCM boasts several distinctive characteristics (Fig. 2), diverging from those of the manufacturing sector:

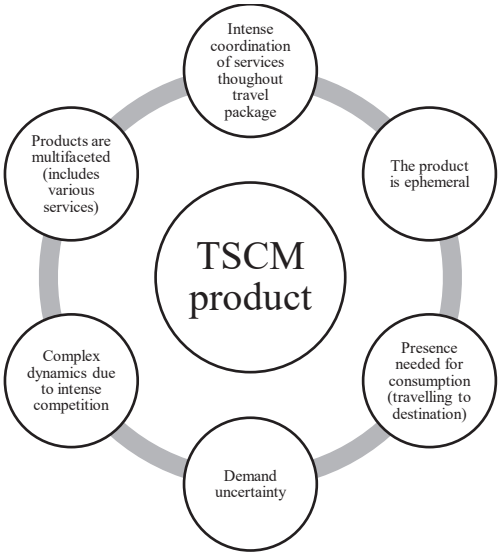

Figure 2. Distinctive characteristics of tourism products generated by TSCM

Compiled by the author, following Gaki & Koufodontis, 2022; Glyptou, 2021; Gossling, Scott, & Hall, 2021; Nawaz, 2020

The complexity of TSCM is underscored by the unique features of tourism products, which are typically intangible and often involve multiple service components. As shown in Fig. 2, tourism products are generated by supply chain service providers, whose management dictates the product's ability to meet customer needs (Averous-Monnery & Barthel, 2019). Thus, supply chains in tourism are increasingly critical for the competitiveness of stakeholders (Singh, 2014). The pragmatic TSCM philosophy, which encourages a shift from arms-length relationships to comprehensive management among organisations within the tourism supply chain at specific destinations (Gonzalez-Torres et al., 2021), is based on the idea that a more integrated and cooperative approach can lead to better outcomes for all stakeholders. This approach is vital for large enterprises aiming to maintain a competitive edge (Averous-Monnery & Barthel, 2019). While most studies focus on marketing and promotional activities within tourism distribution channels (Baum & Hai, 2020), there is a notable lack of attention on the supply side of tourism, which emphasises inter-organisational relationships and product development (Slusarczyk et al., 2016). Therefore, an integrative analysis of the tourism supply chain at a destination level is essential, as indicated by the limited literature in this area, which includes only a few notable book editions (Joshi, 2022; Soratana et al., 2021; Song, 2012).

Regarding the tourism industry, the concept of TSCM was introduced by the UNWTO in 1975, focusing on distribution networks and marketing activities (Song, 2012). According to Song (2012), TSCM emphasises the intricate relationships among various stakeholders within the tourism ecosystem, facilitating a seamless flow of goods, services, and information. Although research from the early 1990s began to explore specific aspects of tourism supply chains, the focus was on specific actors within the supply chain, such as hotels or transport companies, or specific issues, such as supplies or inventory management where tourism supply chains often form part of dynamic networks (Min, 2015). Researchers identify various functions attributed to the pivot, categorising them into three main groups: design, coordination, and network control (Christopher, 2011). However, scholarly interest in managing tourism supply chains has only recently commenced with the introduction of the "tourism supply chain management" concept (Zhang et al., 2019).

The *concept of the tourism supply chain* encompasses a network of stakeholders and processes involved in delivering tourism products and services to consumers (Bire et al., 2021; Song, 2012). It involves various entities, including tourism suppliers, tour operators, travel agents, and customers, and is characterised by a high degree of interdependence and collaboration among these participants (Ghaderi et al., 2018). Joshi (2022) argues that a significant aspect of the tourism supply chain is the reliance on stakeholder collaboration to enhance service offerings and address market challenges. A recent study identifies that integrating synergies between various service providers can enhance performance and create more positive tourist experiences (De Marchi et al., 2022). Moreover, the tourism supply chain is deeply influenced by external factors such as crises, corporate social responsibility (CSR) and governance, which are crucial in shaping stakeholder dynamics and sustainable practices (Bertella, 2022). Understanding the CSR requirements at various points along the supply chain can lead to better alignment of strategies among participants, promoting responsible tourism behaviours; however, this is not the focus of this thesis. This study adopts a definition by Sifolo (2020) that ***tourism supply chain*** *is a network of tourism organisations supplying different components of tourism products/services such as flights and accommodation for the distribution and marketing of the final tourism products at a specific tourism destination, and involves a wide range of participants in both the private and public sectors*. Effective management of these organisations is crucial for enhancing performance and achieving destination sustainability and resilience (Joshi, 2022).

Tourism supply chain management represents a critical aspect of the tourism industry, characterised by the intricate interactions among diverse stakeholders, including suppliers, service providers, managing organisations and consumers. At its core, TSCM is a structured network of activities, organisations, resources, and technologies connecting tourism suppliers with consumers (Suleiman, 2022). It encompasses the entire spectrum of tourism services, including accommodations, transport, and

attractions. Effective management ensures these components harmonise to enhance the tourist experience (Mandal & Dubey, 2020). By fostering collaboration among local communities, tour operators, and governments, TSCM significantly contributes to sustainable tourism development that emphasises economic viability, social equity, and environmental protection in the face of disruptions (Joshi, 2022).

Crises such as health emergencies, economic downturns, natural disasters and security threats can significantly disrupt tourism supply chain management. A systematic review suggests crises comprehensively impact destinations, affecting TSCM performance (Joshi, 2022). Effective management within the tourism supply chain is crucial, particularly in environmental uncertainties that influence operational dynamics and stakeholder relationships (Kac et al., 2019). Health crises expose significant weaknesses of TSCM. For example, the COVID-19 pandemic has profoundly impacted TSCM, revealing the need for improved risk management and response strategies (Bai & Ran, 2022). Health-related crises necessitate that tourism entities reassess their operational structures and incorporate health policies into their supply chain strategies to ensure traveller safety and confidence (Molefe et al., 2018).

The impact of natural disasters on TSCM can be multifaceted, affecting all elements of the tourism ecosystem from procurement and logistics to service delivery and customer experience. Natural disasters, whether sudden events like earthquakes or gradual situations like droughts, introduce significant vulnerabilities within tourism supply chains, necessitating strategic preparedness and responsive management (Hall, 2017). Economically, the repercussions of natural disasters extend beyond immediate impacts on TSCM. A study has indicated that significant disasters can significantly reduce the GDP growth of specific countries, hindering recovery efforts and exacerbating vulnerabilities within tourism-reliant economies (Rossello et al., 2020). Disruption in tourism supply chain management may also lead to increased operational costs, forcing businesses to make difficult financial decisions that could impact local economies (Chowdhury et al., 2024). Governments play a critical role in such crisis management. Policymakers must understand the interconnectedness of tourism supply chain relationship management and susceptibility to natural disasters (Oh & Oetzel, 2022). Formulating policies integrating disaster preparedness into TSCM helps mitigate negative impacts and promote recovery.

Economic crises significantly impact tourist behaviour and expenditure patterns in TSCM. Research indicates that inflation and financial instability can dampen international tourism flows, necessitating supply chains' adaptability and responsiveness to these economic indicators (Baldwin & Di Mauro, 2020). Economic crises typically arise from various factors, including recessions, high inflation rates, fluctuating exchange rates, and financial market instability (Beck & Ferasso, 2023). Such crises often reduce consumer spending power, ultimately affecting demand (Khalid et al., 2019). In their paper, the authors emphasise that crises originating in one sector of

the economy, particularly those related to finance or significant economic shifts, have far-reaching effects across different sectors, including tourism (Khalid et al., 2019). Moreover, these crises can have both temporary and permanent market effects, as reflected in declining market shares for destinations, which may struggle to recover in the aftermath of the crisis (Hussain, 2021).

The implications of political crises on TSCM are multi-dimensional. First, there is a direct impact on service delivery and logistics; travel restrictions may affect the mobility of tourists and the availability of transportation and accommodation services (Harland, 2021). Economic repercussions often result in reduced tourism revenues, as travellers may choose to avoid destinations perceived as unstable or unsafe (Cheer & Lew, 2018). Political unrest can amplify risks throughout the tourism supply chain, making it difficult for stakeholders to manage operations and maintain service quality (Skiver, 2022).

The integration of technology within TSCM is crucial for enhancing adaptability during crises. Innovations in digital communication, data analytics, and health safety protocols have proven essential in maintaining operational continuity (Novelli, 2024). Implementing technology enhances TSCM and fosters consumer trust (Bire et al., 2021).

A fundamental aspect of TSCM and the focal point of this study is the integration of sustainability and resilience throughout destinations, which reduces the risk of crises, enhances operational efficiency, and ultimately improves customer experiences (Santos et al., 2021). This integration involves mapping the tourism supply chain to clarify the roles and interactions among stakeholders, thus ensuring that every activity is coordinated effectively (Joshi, 2022; Babu et al., 2018). The relationships between stakeholders must be meticulously managed to maintain competitiveness and mitigate the impacts of economic or environmental disruptions (Gonzalez-Torres et al., 2021).

TSCM encompasses the management of sustainable practices, incorporating social, environmental, and economic dimensions, which ensures that tourism does not compromise the resources or the quality of life for future generations (Joshi, 2022). Research indicates that a well-structured TSCM can lead to better alignment with sustainability goals. For instance, sustainable practices within the supply chain, such as environmentally friendly procurement processes, waste reduction initiatives, and carbon footprint minimisation, enhance the sustainability of destinations (Heebkhoksung et al., 2023). Additionally, effective risk management strategies aligned with TSCM are necessary to ensure resilience against disruptions that could threaten sustainable practices (Mandal & Dubey, 2020).

The notion of resilience has emerged as a pivotal aspect of TSCM in the face of crises. Destination resilience is identified as a critical factor mediating responses to crises (Gupta & Sahu, 2022). Resilience encompasses the capability of destinations to adapt, recover, and sustain operations of tourism supply chains despite disruptions (Butler, 2024). Strategies that strengthen tourism supply chain management, including

relationship management and stakeholder cooperation, facilitate resilience (Saarinen & Gill, 2020). Adopting information technology and proactive risk management strategies significantly manages tourism supply chains (Ercan, 2023). The capacity for swift adaptation to changes, driven by shifts in consumer behaviour and external crises, can significantly influence industry growth, making incorporating agile practices a focal point in TSCM strategies (Gore et al., 2024).

To summarise the above, this thesis sets on *definition of tourism supply chain management* by Song (2012), who released the first book on TSCM with identical name and who defines ***TSCM*** *as a set of management approaches utilised to efficiently manage the operations of the tourism supply chain within a specific tourism destination to meet tourists' needs from the targeted source markets and accomplish the business objectives of different tourism supply chain stakeholders.* It is worth noting that TSCM by Song (2012) mainly focuses on distribution channels or isolated segments of the supply chain. Little research has undertaken comprehensive analyses of tourism supply chain stakeholder relations and their operations at a destination level. Nevertheless, Zhang et al. (2019) recommend that future research should view tourism supply chains as "dynamic systems" (p. 342) that are integrated into destinations, subject to constant evolution and reconfiguration during crises, and have complex relationships that require updated management strategies. Understanding the relationships in TSCM is crucial for determining how inter-organisational coordination can be effectively achieved and for improving destination sustainability and resilience (Joshi, 2022; Gonzalez-Torres et al., 2021; Guo et al., 2013; Guo, 2012). A comprehensive and systematic analysis of modern supply chain management's specificity, relations, and management issues is necessary (Goksoy, 2016). According to the author, it should encompass key principles such as marketing and product development, demand forecasting, supplier selection and management, distribution channels, capacity management, customer relationship management, tourism supply chain competition, and coordination (Goksoy, 2016). Moreover, a systematic and comprehensive analysis of supply chain management theories and practices will benefit tourism instructors, practitioners and researchers worldwide. It will stimulate and challenge readers by presenting in-depth arguments and identifying further research directions.

1.1.2. Specificity of tourism supply chain management

1.1.2.1. Network structure and objectives

Network structure

Understanding the *network structure* within TSCM is crucial for practical analysis (Guan et al., 2020). The network configuration involves the organisation, interlinking, and associations between various stakeholders within the tourism industry (Palovii-

ta & Luomaaho, 2010). Grasping this configuration is crucial for practical analysis and management, as the TSC encompasses multiple entities that contribute various services or components, collectively shaping the complete tourism experience. These stakeholders are interconnected through multifaceted relationships. For instance, airlines collaborate with hotels, and tour operators work with transportation services and attractions to curate tour packages. The relationships between these entities are fundamental for the smooth flow of goods, services, information and final tourism product across the entire supply chain (Morsy, 2017; Kühne et al., 2013).

The movement of tourism products and services operates within a network that begins with the inception of these products, extends to their marketing, and ultimately leads to their distribution to tourists (Kovaceva et al., 2019). As the authors described, this intricate process involves a series of interconnected actions and operations that ultimately deliver the final tourism experience to consumers, signifying complex interactions and flows within the TSCM (Kovaceva et al., 2019). Information flows include communication about bookings, availability, schedules, and related data. Financial transactions, payments, and revenue distribution among the involved entities are part of the monetary flow. The movement of tourists, transportation services, and utilising various accommodations and amenities form the physical product flow. TSCM configuration often requires flexibility and adaptability (Liu et al., 2017). Seasonal variations, shifts in demand, and external influences, such as global events, can significantly affect the network's setup. Entities within the network must adjust their relationships, capabilities, and offerings to effectively meet these evolving demands (Kozicka et al., 2019).

Understanding the network configuration enables the optimisation of coordination, fosters collaboration, and identifies potential areas for improvement within the TSCM. It enables effective decision-making in various operational aspects, including demand forecasting, supply chain design, inventory management, and product development (Song, 2012). This ensures a streamlined and efficient management of the tourism supply chain. Song (2012), Joshi (2022), also Saarinen and Gill (2022) present a prominent TSCM structure. Considering the thesis's focus on TSCM at the destination level, a more generalised network is proposed, as depicted in Figure 3.

The explanation of arrows is as follows (Fig. 3): Tier 2 → Tier 1 means supply of materials (product flow). Tier 1 → TOs/TAs represent supply of tourism services (service flow). TOs/TAs → Tourists indicates delivery of services/packages (service flow). TOs ↔ TAs stand for coordination, collaboration, and shared services. DMOs → Tier 1 / TOs/TAs / Tourists: depict management, promotion, regulation and facilitation. Information flow is achieved through feedback loops: Suppliers → TOs/TAs ↔ Tourists inform on their preferences, demand, complaints and trends.

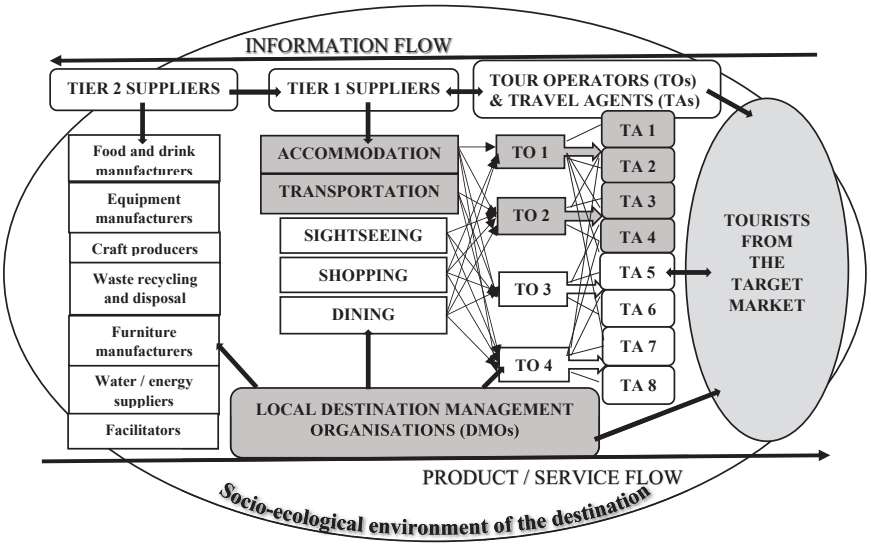

Figure 3. Tourism supply chain management model within a destination

Compiled by the author, following Joshi, 2022; Fong et al., 2021; Saarinen & Gill, 2020; Silvestre, 2016; Dragan et al., 2015; Song, 2012

At the heart there are the tourism service providers, ranging from hotels, airlines, transportation companies, tour operators, and attractions, among others. These entities serve as the primary facilitators (Tier 1 suppliers) of travel experiences, offering a wide range of services and amenities to cater to the needs and desires of tourists. Their combined efforts help to design and provide smooth consumer tourism experiences. Distributors, which include online booking platforms, travel agencies, tour operators, and intermediaries, link consumers with tourism service providers. These organisations make marketing, promoting, and selling tourism-related goods and services easier through various distribution channels, increasing the offerings' accessibility and reaching a larger traveller base (Silvestre, 2016; Song, 2012). Tier 2 suppliers provide essential goods and services that enable tourism service providers to operate effectively. This includes suppliers of raw materials, food and beverage products, equipment, technology, and other resources necessary for delivering quality services to customers. The reliability and quality of these suppliers directly impact the performance and reputation of tourism businesses.

Destination management organisations (DMOs) are typically public entities, such as industry associations or marketing agencies that collaborate with tourism businesses to promote destinations, develop tourism products, and enhance destination competitiveness (Singh, 2014). These entities contribute expertise, resources, and strategic

insights to support the growth and development of the destination (Song et al., 2012). Governmental organisations at the local, national, and international levels may also represent DMOs (Song, 2012). They have a regulatory influence on how TSCM's tourism businesses operate. They set rules, laws, and guidelines that control many facets of the tourism sector, such as infrastructure development, licensing, taxation, safety, sustainability, and resilience (Batinić, 2018; Baggio et al., 2010). Maintaining client trust and guaranteeing business legitimacy depend on regulatory compliance.

The socio-ecological environment of a destination refers to the interconnected relationship between the social, ecological and economic systems within the area where the tourism supply chain operates (Glyptou, 2021; Beichler et al., 2014). This environment encompasses various elements, including natural resources, biodiversity, cultural heritage, communities, socio-economic conditions, and governance structures (Beaumont & Dredge, 2010). Understanding the socio-ecological context is crucial for sustainable and resilient tourism development, as it influences the environmental, social, and economic impacts of tourism activities (more on the subject in part 1.1.3)

In the domain of TSCM, establishing clear, measurable *objectives* is vital (Guo, 2012). These objectives serve as a unifying force, aligning the efforts of the stakeholders within the chain, thus rendering goal setting a critical aspect (Guo et al., 2013). The overarching ambition within the tourism supply chain is to provide an exceptional tourist experience. When these objectives are harmonised with enhancing customer experience and satisfaction, it triggers a concerted focus on delivering premium services and products (Gruchmann et al., 2022). Well-defined goals enable TSCM performance improvement and progress (Ivanov, 2023). Setting precise goals in TSCM aids in coordinating activities and resources more efficiently, thereby optimising processes such as inventory management, product development, demand forecasting, and relationship management (Jafari et al., 2012). Additionally, these goals contribute to improving sustainability and resilience at destinations, which is the ultimate goal of this research.

Objectives of TSCM

Goal setting is the primary step of TSCM (Song, 2012). To set goals, the primary driving objectives need to be identified. These drivers can include, but are not limited to, monetary value, demand uncertainty, inventory reduction, tourist satisfaction, and, most importantly, the sustainability and resilience of destinations where TSCM operates (Wicaksono, 2025). In this context, *monetary value* is the ratio of tourist revenue to the total cost incurred in developing the tourism product (Song et al., 2012). Enhancing this value involves increasing sales revenue, market share, and labour productivity or reducing operational costs. Monetary value is a crucial objective in TSCM because it directly reflects cost efficiency and supply chain profitability (Sifolo, 2020). The tourism industry faces significant uncertainty regarding future *demand*

(Sigala, 2008), and mismanagement of this uncertainty can result in substantial monetary losses. *Inventory issues* are closely related to demand uncertainty (Saarinen, 2018). Managing demand uncertainty becomes more difficult as the world economy expands and more travel options become available. To stabilise their surroundings and foster sustainability and resilience in the face of uncertainty and limited options, TSCM organisations may turn to collective action (Saarinen & Gill, 2020).

Ensuring *customer satisfaction* lies at the core of the TSCM objectives, which have been extensively explored in recent research (Venkatachalam & Raja, 2020). Tourist satisfaction, a pivotal metric reflecting the degree of contentment with the tourism products and services received, can be evaluated from two distinct perspectives: overall satisfaction with the tourism product and satisfaction with the individual service attributes of specific tourism services (Toubes et al., 2021). It is crucial to recognise that tourists perceive the tourism product as a composite of interconnected service components (Sugiharti et al., 2021), where dissatisfaction with a particular service attribute can significantly diminish overall tourist satisfaction. Therefore, understanding and managing the various elements contributing to tourist satisfaction are crucial for delivering exceptional experiences and promoting repeat visits in the tourism industry.

However, the primary goals of current tourism research and literature are *sustainability and resilience*, which are TSCM objectives (Joshi, 2022; Shanker et al., 2021; Soratana et al., 2021). Due to the tourism industry's heavy reliance on environmental resources, sustainable tourism development is vital (Joshi, 2022). In order to sustain sustainable tourism development and build resilience against internal crises and globalisation, it is still challenging to balance resource preservation and utilisation (Leslie, 2015). Destinations must prioritise sustainability and resilience, and it is crucial to examine how stakeholders and customers view these concepts (Lofti & Larmour, 2021; Kozicka et al., 2019). It is possible to identify obstacles, essential problems, and areas for improvement by looking at how these relationships interact. Communication and cooperation can be improved to create procedures that support the sustainability of the destination (Kruger & Viljoen, 2019; Koukoudakis, 2015).

Two-party relationships among vertical suppliers have historically been the focus of TSCM relations analysis (Szpilko, 2017). However, there is a knowledge gap regarding the dynamics of these triadic relationships throughout TSCM, given that a complete supply chain consists of horizontal, vertical, and diagonal relationships (Gonzalez-Torres et al., 2021). This thesis, which includes destination management organisations (DMOs), tour operators, travel agencies, lodging and transportation service providers, and ultimately, consumers, focuses on this gap in the literature. In order to improve the destination's sustainability and resilience, this empirical study examines how vertical stakeholders have evolved cooperative relationships. It also looks at how decisions affect essential players horizontally and diagonally. The core of this thesis is found in one of the TSCM's most important issues, which is further discussed.

1.1.2.2. Critical issues

Issues about supply chain management in various economic sectors are organised into three decision-making tiers: strategic, tactical, and operational (Song, 2012). At the strategic level, long-term concerns revolve around demand planning strategies, new product development, outsourcing, supplier selection, pricing strategies, and network configuration solutions. While many TSCM issues are strategic, there are also tactical challenges involving medium-term solutions such as inventory control, coordination in production or distribution, material handling, and equipment selection (Gruchmann et al., 2022). Operational-level issues encompass immediate and daily events, including vehicle scheduling, routing, workforce allocation, and process planning. Drawing from the distinct characteristics of the tourism industry, seven principal issues in TSCM have been identified: demand management, supply management, inventory management, product development, information technology, TSC coordination, and stakeholder relationships (Guo, 2012; Song, 2012). To facilitate a comprehensive understanding of the essential elements and activities in TSCM research, a scheme delineating these elements is depicted in Figure 4.

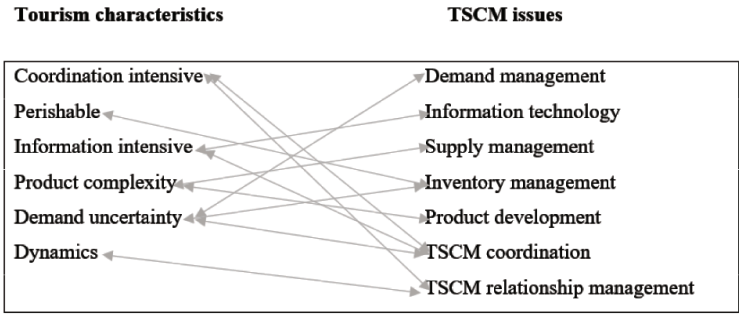

Figure 4. Tourism characteristics and related issues in tourism supply chain management.

Compiled by the author, following Gruchmann et al., 2022; Huang et al., 2012.

Demand management. As illustrated above (Fig. 4), demand management is the foremost issue of TSCM. It encompasses demand forecasting, marketing, and sales planning based on projected demand and service or production capacity (Abdallah et al., 2021). Strategically, investment decisions in tourist infrastructure, such as airports, highways, and rail links, significantly rely on demand estimation due to their long-term financial commitments and high sunk costs associated with investment project failure (Adams et al., 2014). Moreover, the government's macroeconomic policies are contingent upon the relative significance

of individual sectors within a destination (Christopher, 2011). At a destination's operational level, stakeholders' activities are directly influenced by tourism demand, because demand significantly determines business profitability, forecasts of expected future demand constitute a pivotal element in all TSCM planning activities. Much study has been done on demand forecasting. A comprehensive study by Szpilko (2017) found 420 studies published between 1960 and 2017. The author noted that most research uses statistical tools, especially econometric and time-series approaches. Scholarly literature contains several advanced quantitative demand forecasting models, but tourism practitioners rarely use them (Szpilko, 2017).

Information technology. An inherent aspect of tourism products is that they are generally not assessable before purchase. Potential tourists must physically travel to the destinations where these products are offered, making purchase decisions reliant on the presentation and interpretation of these offerings. Thus, the information flow is a central factor within the travel industry (Ellis, 2017), forming the foundation for operations within the TSCM, which involves inter-firm connections and disseminating tourism products. Not surprisingly, since Information Technology's (IT) inception, it has significantly impacted the tourism sector. Advancements such as Computer Reservation Systems (CRSs) (Hemmati et al., 2022), Global Distribution Systems (GDSs) (Bozorgi-Amiri, 2021), Geographic Information Systems (GISs) (Dada et al., 2023), Virtual Reality (VR), Augmented Reality (AR), or Mixed Reality (XR) (Shivahe & Mundhe, 2012), Holographic Technology (HT), and lately, Artificial Intelligence (AI) (Ivanov, 2023) have revolutionised both the methods of travel for tourists and the operational strategies of tourism companies. The internet has effectively transformed the world into a globally accessible entity, navigable at the click of a button. IT developments have also become indispensable tools for Business-to-Business (B2B) and Business-to-Consumer (B2C) transactions, product distribution, partner networking, and immediate access to information on various subjects, including travel and tourism (Long & Chen, 2021; Guan et al., 2020; Min, 2015).

Supply management. Supply management underscores the dynamics of the buyer-supplier relationship within a supply chain (Jankulosa et al., 2018). The domain of supply management encompasses long-term associations, supplier selection, reducing supplier-related expenses, supplier involvement, and certification processes (Morsy, 2017). Although existing studies have explored supply management issues within the tourism sector, they are sporadic and lack a coherent focal point. Research in tourism concerning supply management has predominantly centred on the connections between tour operators and hotels (Guo, 2012). Soratana et al. (2021) surveyed US hotel-travel agency relationships to determine their diversity and essential aspects. According to the authors, hotel success depends on excellent travel agency ties (Soratana et al., 2021). Empirical findings suggest that trust, commitment, coordination, communication quality, information exchange, participation, constructive resolution approaches, and interdependence significantly influence the success of relationships between hotels and travel agencies. Other studies examine the relationships between airlines, travel agencies, and wholesale and retail travel agencies (Melián-Alzola

et al., 2020). The selection of supplies for particular services is integral to most tourism organisations, as tourists commonly perceive a tourism product as a unified service. Hence, supply performance directly influences the financial and operational aspects of TSCM.

Inventory management. Supply chains are broadly categorised into two types: push supply chains and pull supply chains (Song, 2012). In push supply chains, product production is initiated based on pre-existing demand forecasts preceding actual customer purchases. Demand is forecasted based on historical sales data, and the final customer demand can be met through inventory (Santos et al., 2021). In contrast, pull supply chains are initiated by customer purchase orders that trigger the final assembly of product components (Huang et al., 2022). Pull supply chains aim to minimise inventory by operating on flexible capacities that can adapt to fluctuations in demand. The choice between the two types depends on the nature of the product within the production process. A tourism supply chain predominantly aligns with the push system, where the production of tourism products is typically driven by demand forecasts (Mihalič & Kuščer, 2021). Hence, inventory management plays a pivotal role in TSCM.

Given the *perishable nature of tourism products* and their associated high fixed costs paid in advance for capacity, tourism managers often grapple with relatively lower variable costs during the production process, making it challenging to adjust production capacity in the short term to match demand (Zhang et al., 2019). Many tourism products are typically produced well before actual demand, with demand often managed through inventory, leading to financial implications associated with demand uncertainty and variation. Hence, effective inventory management strategies are crucial for optimal TSCM (Venkatachalam & Raja, 2020). Collaborations between hotels, airlines, and various tour operators are shared, where inventory allocations are regularly assigned from hotels and airlines to different tour operators. Literature has addressed inventory management issues specific to the hotel (Vargas, 2020; Molefe et al., 2018; Guo, 2012) and airline sectors (Guan, 2020). Overbooking, a practice to counteract cancellations or no-shows, is widely discussed (Song, 2012). Revenue management, a technique to maximise profits by selling the correct inventory units to the right customers at the right time and price, is another significant aspect (Abdallah et al., 2021). Despite this, scholarly investigations on TSCM inventory issues are notably absent.

Product development. Tourism supply chain management aims to meet customers‘ needs with the right products at the right time. Effective product development is closely tied to accelerating time-to-market, enhancing product quality, reducing production costs, and mitigating demand fluctuations (Song, 2012). However, product development is a multifaceted process requiring collaborative efforts from various stakeholders within TSCM. It involves understanding customer needs and demands and meticulously analysing product components to create products that align with evolving consumer preferences (Adams et al., 2014). Despite an extensive body of literature on product development within the manufacturing industry, research in the context of the tourism sector is relatively underexplored.

This lack of focus could be attributed to the intricate nature of tourism products (Taper & Font, 2004). Consequently, there has been limited analysis of tourism product development, particularly compared to the substantial research efforts devoted to tourism marketing. Nevertheless, as observed across service industries, meeting customer demands with suitable products is paramount. Satisfying tourists with travel products can lead to repeat purchases and positive recommendations to others (Ellis, 2017). Therefore, delving further into tourism product development warrants more research attention.

Coordination. TSCM coordinates and bundles transport and lodging for a complete tourism package (Song, 2012). Stakeholders collaborate to maximise utility or profitability through decision-making and communication (Guan, 2020). Each chain actor must examine how their activities affect others in this collaborative method. Most researchers believe coordination reduces redundant and repetitive tasks, creating a sustainable, robust destination and a competitive supply chain. Manufacturing supply chain research (Wilujeng et al., 2021; Abdallah et al., 2021; Adams et al., 2014) shows how cooperation can boost supply chain performance and profitability. Hotels, airlines, tour operators, and travel agencies coordinate within or between TSCM tiers (Zhang et al., 2019). In the tourism sector, major tour operators are highly vertically integrated with airlines, hotels, and other travel intermediaries. Current research on tourism supply chain coordination primarily focuses on efforts toward full integration (Rouquet et al., 2023). However, unlike manufacturing supply chains, organisations within the tourism supply chain are diverse and often possess conflicting objectives (Berbeka et al., 2024). Achieving full vertical integration, while an apparent and effective method for coordination, is challenging and can be linked with increased fixed costs and reduced flexibility in adapting to market changes (Rouquet et al., 2023). Consequently, alternative forms of coordination, such as contractual arrangements between individual firms in the TSCM, present an intriguing avenue for further research.

Relationships in TSCM. The term supply chain implies two-way, three-way or more party relationships in which all stakeholders are related with other entities such as suppliers, distributors, competitors, partners, governments and other facilitators, carrying out complementary activities to accomplish their operations at the destination better and to fulfil customers‘ needs (Soratana et al., 2021; Venkatachalam & Raja, 2020; Zhang et al., 2019). For this reason, the effective management of party relationships is a crucial issue in TSCM. Efficient supply chain management fundamentally hinges on adept relationship management, as established by Song (2012). Understanding market structures is paramount in TSCM, encompassing a multifaceted network comprising diverse sectors. This insight, delineated by Puwanendram and Ganeshan (2021), necessitates understanding an organisation’s market structure and that of its counterparts. Song (2012) highlights the dynamic nature of the tourism industry, demonstrating its ability to facilitate shifts in business collaborations over time, allowing entities to optimise their profitability and competitive edge. For instance, relationships between governments and tourism enterprises, as well as those between tourists and the environment, undergo evolution. This dynamic highlights the

complexity of relationship management within TSCM. Despite this complexity, a profound comprehension of these relationships is imperative. Table 2 provides a concise summary of the essential relationships in TSCM over the past decade.

Table 2. Literature review of Tourism supply chain management relations

Authors & year	Relation angle	Relationship area	Methodology
Angeles Sanfiel-Fumero et al., 2017	3 way	Sustainability - DMOs - Hotels	Quantitative and qualitative
Argyropoulou et al., 2021	2 way	Hotels - hotel suppliers	Quantitative
Arifim et al., 2019	2 way +	TSC - tourism industry	Quantitative
Buyukkeklik et al., 2014	2-way	Buyer - supplier	Quantitative and qualitative
Canosa et al., 2016	2 way	Tourists - residents	Quantitative and qualitative
Cheunkamon et al., 2023	2 way +	TSCM - CRM	Quantitative and qualitative
Cheunkamon & Jomnonkwao, 2022	2 way	Service quality and logistics	Quantitative
Chu & Hsu, 2021	2 way	Principal - Agent	Qualitative
Dewi et al., 2018	2 way	B2B in TSCM	Quantitative and qualitative
Fong et al., 2021	3-way	Stakeholder minor- and medium-sized enterprises	Quantitative
Ghaderi et al., 2018	2 way +	TSCM - tourist satisfaction	Quantitative and qualitative
Gonzalez-Torres et al., 2021	3-way	TO - DMO - Hotels	Quantitative and qualitative
Guo et al., 2014	2-way	Hotels - Online travel agents	Qualitative
Huang et al., 2014	2-way	Hotels - customers	Quantitative
Ivanov, 2023	2-way	TOs/TAs - hotels	Quantitative
Jaremen & Nawrocka, 2015	3-way	TAs online - customers online	Quantitative
Kac et al., 2019	-	Relationship factors	Quantitative and qualitative
Karsokiene & Dromantiene, 2021	2 way	TOs/TAs - customers	Quantitative and qualitative

Table 2. Continued

Authors & year	Relation angle	Relationship area	Methodology
Karra & Affes, 2014	2way+	Stakeholder - sustainability	Quantitative and qualitative
Kovaceva et al., 2019	2 way+	Distribution networks -alternative TSCs	Quantitative and qualitative
Kozicka et al., 2019	-	All stakeholders	Quantitative
Ku, 2021	2 way	TOs - technology	Qualitative
Liu et al., 2017	4 way	Pricing, environmental, governmental, and coordination efficiency	Quantitative
Ma et al., 2021	3 way	Service, pricing and advertising	Quantitative and qualitative
Mandal & Saravanan, 2019	2 way +	TSC agility - TSC resilience	Qualitative
Morsy, 2017	2 way	Buyer - supplier	Qualitative
Mwesiumo & Halpern, 2016	-	All stakeholders	Conceptual
Nguyen, 2022	3 way	Cooperation - performance	Qualitative
Palang & Tippayawong, 2018	8 way	OPM - SRM - SPM - CRM - DM - ITM - CSM - TF	Quantitative+AHP
Pairach et al., 2016	-	All stakeholders	Quantitative and qualitative
Quattrociocchi et al., 2017	2 way +	TSC‘s - Strategic partnerships	Quantitative and qualitative
Roy et al., 2016	2 way +	TSC - resilience	Quantitative
Ślusarczyk et al., 2016	2 way+	Supply chain - Internet	Quantitative
Suleiman, 2023	4 way	GP-GPA-RL-ECP	Conceptual
Sutono, 2019	2 way	Hotel - tourists	Quantitative
Song et al., 2019	2 way	Price - TOs	Quantitative
Stylidis, 2018	2 way	Tourists - residents	Qualitative
Stylidis et al., 2016	2 way	Tourists - residents	Quantitative and qualitative
Tadic & Velijovic, 2020	2 way	Logistic systems and technologies	Content & qualitative
Tham et al., 2015	2 way	TSC‘s - Value	Quantitative
Wang et al., 2022	2 way	TSC‘s service quality	Quantitative

Table 2. Continued

Authors & year	Relation angle	Relationship area	Methodology
Zailani et al., 2015	2 way	SSCM practices and SSC profitability	Quantitative
Zhaobo et al., 2019	2 way +	TSC‘s - information	Quantitative and qualitative

Compiled by the author

In tourism research, extensive focus has been devoted to understanding primarily two-way relationships within the industry (Table 2). Authors (Wang, Han et al., 2022; Wang, Kai et al., 2022; Zhang et al., 2019; Zheng et al., 2015) point out that coordination among enterprises benefit the tourism industry. Studies have examined tourism supply chain integration, competitive dynamics, hotel, tour operator, attraction, destination, tourism entity-tourist relationships, and tourist-resident evolution (Table 2).

Navigating geopolitical nuances, environmental issues, altering consumer tastes, sustainable and resilient imperatives, TSCM must build strong stakeholder connections. Effective stakeholder relationship management is essential for sustainable operations, strategic decision-making, and social good in this heterogeneous setting (Fong et al., 2021). Building and maintaining trust-based relationships, especially with consumers, is essential when working with local communities to ensure their voices are heard in tourism development initiatives or government agencies to navigate regulatory frameworks (Buyukkeklik et al., 2014). Relationship analysis reveals the concepts, problems, and opportunities of engaging stakeholders in tourism’s changing world. Scientists examine case studies, theoretical frameworks, and practical insights to illuminate destination sustainability and resilience methods.

1.1.3. Interrelations and viability metrics

The interactions between stakeholders in TSCM are crucial to its success. Tour operators, hotels, airlines, transportation companies, attractions, towns, and governments are stakeholders. TSCM stakeholders are people or groups with an interest, stake, or influence in the tourist business, particularly in planning, managing, and executing tourism operations. Effective TSCM requires stakeholders’ identification, involvement, and collaboration, especially for sustainability and destination resilience (Mondoñedo, 2021). Stakeholder engagement fosters cooperation and communication among diverse parties, enhances transparency and trust, and facilitates the resolution of conflicts, sharing resources, and implementing sustainable and resilient practices. As Song et al. (2021) highlighted, the stakeholder theory provides a framework for understanding the complex relationships and interactions within the tourism sector, influencing how policies and practices align with community interests and contribute to sustainable and

resilient destination development. Engagement through participatory planning mechanisms, consultations, and partnerships enables stakeholders to express their concerns, expectations, and aspirations, thereby significantly enhancing efforts to sustain and improve destination sustainability and resilience (Giddy & Rogerson, 2023).

The dynamics of relationships among these stakeholders influence various facets of the TSCM. Collaboration provides various benefits that contribute to efficiency, sustainability, resilience, and overall success, as outlined in Figure 5.

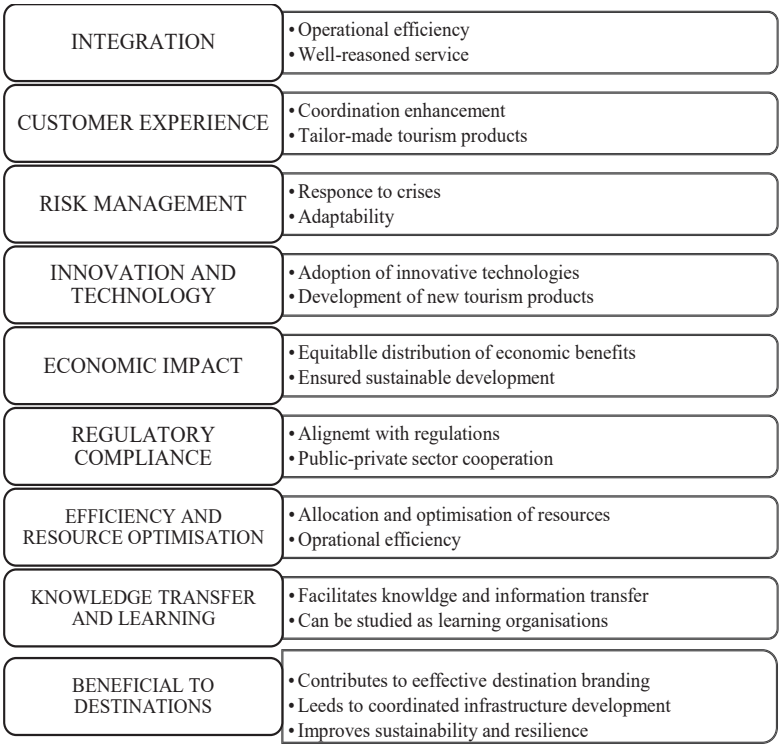

Figure 5. Benefits of stakeholder cooperation in Tourism supply chain management

Compiled by the author, following Bento, 2024; Fong et al., 2021; Gursoy et al., 2015; Buyukkeklik et al., 2014

Cooperation among stakeholders in TSCM yields a plethora of benefits (as outlined in Fig. 5) that extend beyond individual entities, contribute to the overall success of the destination and are instrumental in driving innovation, efficiency, sustainability, resilience, and competitiveness within and between the destinations (Fong et al., 2021). By working together towards common goals and objectives, stakeholders

can optimise performance, mitigate risks, and capitalise on opportunities, ultimately contributing to the development of destinations (Guo et al., 2013; Guo, 2012).

The TSCM involves a complex network of relationships among various entities collaborating to deliver tourism products and services. The primary relationships within the tourism supply chain management can be categorised into several key partnerships and interactions as indicated in Figure 6:

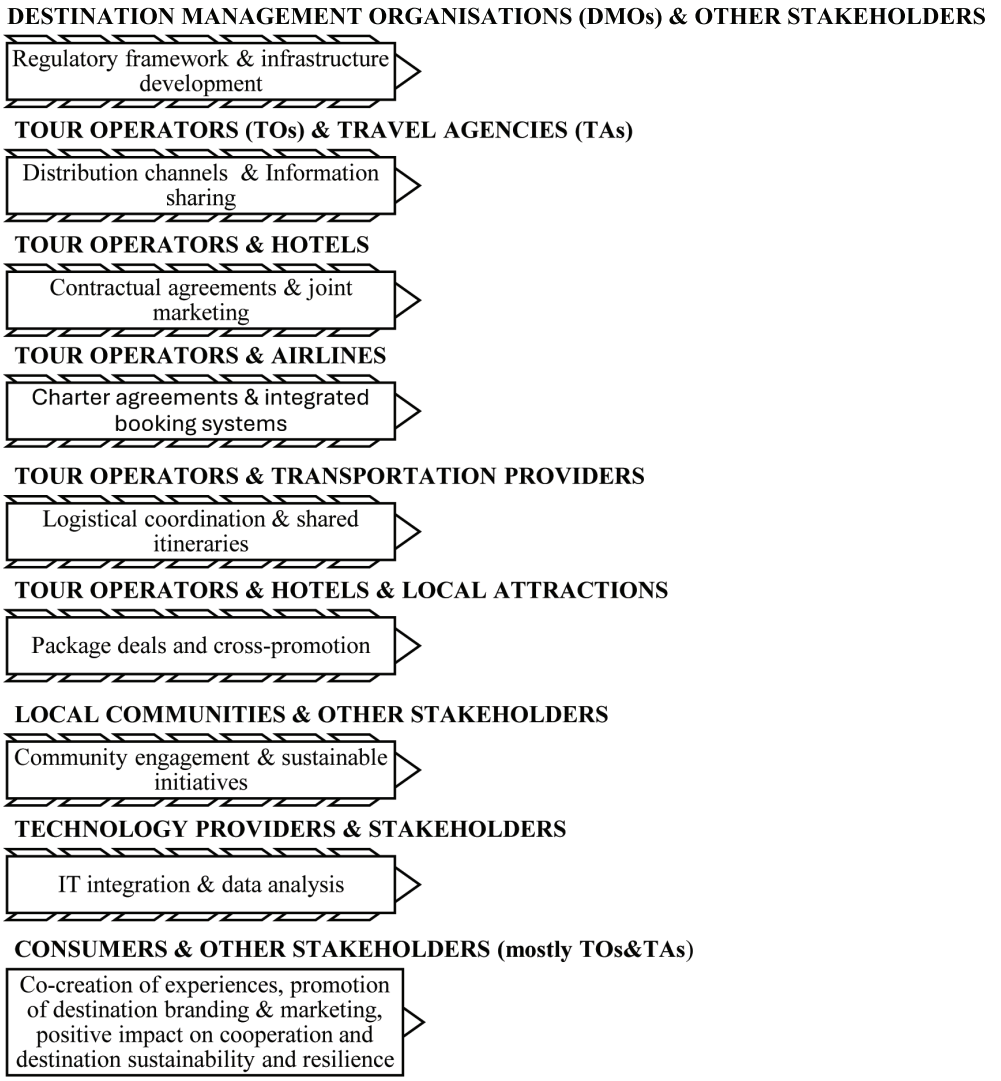

Figure 6. The primary relationships within the Tourism supply chain management

Compiled by the author, following Ivanov (2023); Gonzalez-Torres et al., 2021

An analysis of the literature and the summary in Fig. 6 reveals a predominant focus on competitive interactions between tour operators (TOs) and other tourism entities, which often reflects the current state in many tourism markets (Ivanov, 2023). With their substantial market influence, tour operators directly engage with tourists (Fig. 6), thereby playing a crucial role in TSCM in shaping the travel experience for tourists and enhancing the sustainability and resilience of destinations (González-Mendes et al., 2024). They are key middle-entities, combining different components and services into comprehensive tour packages sold directly to the public or through travel agencies (González-Mendes et al., 2024). These influences frequently last throughout the holiday, giving them firsthand knowledge of travellers' habits and preferences. These insights help tour operators understand visitor needs, greatly benefiting the TSCM (Jaremen & Nawrocka, 2015; Huang et al., 2014). TOs' involvement in linking stakeholders, buying services, and meeting traveller needs strengthens their value in TSCM (Kac et al., 2019).

In addition to identifying the TSCM hierarchy of relations, other issues, such as performance measurements and business links, should be considered when analysing the TSCM structure. Although they will be explained further, they are not this thesis's main concentration points and may be further analysed by other researchers. Supportive information guides the research towards identifying the first part of the scientific problem. It indicates which operational performance measurements lead TSCM towards finding the approach that most impacts the destination's sustainability and resilience.

Effective performance measurement is essential for TSCM (Song, 2012). Not only does it influence the activities throughout the chain, but it also evaluates the efforts made by stakeholders. Given the inherent complexity of a TSCM, selecting appropriate performance measures for analysis is particularly critical (Dragan et al., 2015). Despite the wealth of literature on performance measurement in manufacturing supply chains, the tourism industry has paid little attention to this topic. Most relevant literature focuses mainly on the hotel sector (Corte et al., 2021). In their conceptual study, Corte et al. (2021) compare the performance measurements of the manufacturing and tourism industries and propose a general framework for performance measurement. Performance measures are categorised as shown in Table 3.

Table 3. Supply chain management (including tourism) performance measures

FINANCIAL PERFORMANCE	OPERATIONAL PERFORMANCE	OVERALL PERFORMANCE
Total cost	Customer (tourist) timely feedback	**Customer (tourist) satisfaction**
Distribution cost		Flexibility through stakeholder collaboration
Manufacturing cost	Product / Service development time	Effectiveness, efficiency and integration
Inventory cost		
Return on investment (ROI)	Product / Service quality	Stakeholder value creation
Total revenue	**Product / Service / Resource / Destination robustness, long-term sustainability and resilience**	
Profit		Product / Service / Resource / Destination competitiveness and attractiveness

Compiled by the author, following Corte et al., 2021; Dragan et al., 2015

The overall performance measurement (Table 3) of TSCM encompasses not only financial (main goal is profit) and operational measurements (Dragan et al., 2015; Chen & Yi, 2010). As in other service industries, customer satisfaction, or in the case of TSCM, tourist satisfaction, is one of the most important performance measures (Ghaderi et al., 2018). Tourism researchers have been interested in measuring overall tourist satisfaction criteria with a particular destination with specific service sectors, such as accommodation (Gonzalez-Torres et al., 2021; Guo et al., 2013), restaurants (Huang et al., 2014), attractions (Ghaderi et al., 2018), travel agencies (Fong et al., 2021), package tours (Guo, 2012) and more (Buyukkeklik & Kemer, 2014; Ambrose et al., 2010). The interest on sustainability and resilience has increased lately (Bai & Ran, 2022; Babu, Kaur and Rajendran, 2018; Hussain, Khan and Al-Aomar, 2015) and given the complexity of assessing a systems flexibility, various frameworks have been proposed (Errichiello & Micera, 2021; Gill & Williams, 2014). Further study focuses on operational performance indicators within TSCM. However, the sustainability and resilience of destinations can be improved through overarching performance indicators, such as the tourist satisfaction, which is, in turn, fostered by collaboration among stakeholders.

In conclusion, this overview presents the fundamental concepts and theories that underpin tourism supply chain management, as derived from a comprehensive review of existing literature. Exploring sustainability and resilience has garnered significant interest within academic and practitioner circles (Soratana et al., 2021; Silvestre,

2016; Shaw & Maythorne, 2013; Sigala, 2008). A renewable resource, tourism needs careful care to remain viable (Hussain, 2021). This 'proper care' means collaboratively limiting tourism expansion to promote sustainable development within a broader sustainability framework (Bramwell, 2011). Governance structures, regulatory procedures, a collaborative emphasis, and comprehensive TSCM policies underpin this sustainability and resilience approach. These features and integrated policymaking focus on generational and intra-generational equity to guide the industry (Soratana et al., 2021). The former balances supply and demand while maintaining output and consumption (Mosedale, 2014). A viable TSCM framework and accumulation regime are needed to improve destination sustainability and resilience. In sustainability, regulation, practices, norms, standards, and management changes should take a long-term, holistic approach incorporating sustainable development principles. Therefore, transitioning towards sustainability aims to foster equilibrium in the TSCM relationships, bolstering overall resilience in tourism destinations (Gaki & Koufodontis, 2022; Fong et al., 2021; Font et al., 2008).

1.1.4. Affiliation to destination

The significance of tourism supply chain management becomes pronounced when examining destination sustainability and resilience (ISMP, 2020; Goksoy, 2016; Fung & Fung, 2014). A destination is the site tourists intend to visit due to its natural or artificial attractions. A successful destination must provide services, amenities, and infrastructure. TSCM is crucial to destination management in a competitive market since tourism destinations require supplier collaboration, coordination, and partnerships. According to Kovaceva et al. (2019), a destination combines products, services, and attractions to provide a unique experience and cater to tourists. To transform into a destination, a place must interact with the market, offer tourism services, or be perceived as a location with attractive features matching specific travel motivations (Batinić, 2018; Baggio et al., 2010).

In tourism, *a destination* is defined as a geographical area encompassing various attractions, services, and infrastructure designed to cater to visitors (Butler, 2024; Atasoy & Eren, 2023). It encompasses natural landscapes, cultural sites, accommodations, and recreational activities that collectively shape the tourist experience (Sio et al., 2024). Conefrey & Hanrahan (2024) argue that a destination in the tourism context is defined as a specific area, often delineated by its attractions, services, and resources, which are collectively packaged to create unique experiences for travellers and that destinations vary in size and complexity, ranging from small towns or natural parks to large cities or regions comprising multiple interrelated attractions. This study adopts the following definition of a destination, introduced by the UNWTO (2008) and used by Claveria and Poluzzi (2016): ***a destination,*** *in a tourism context, is a*

physical space with or without administrative and/or analytical boundaries, in which a visitor can stay overnight. It is the cluster (co-location) of products, services, activities, and experiences along the tourism supply chain management, serving as the basic unit of analysis for tourism.

Conversely, *destination management* refers to the coordinated and strategic approach to managing all aspects of a tourism destination, including its assets, services, and stakeholder relationships, to enhance visitor experiences while ensuring sustainability and resilience (Erriciello & Micera, 2021). Varelas and Tsoupros (2024) suggest that effective destination management seeks to optimise the economic benefits for the local community and the overall satisfaction of tourists by integrating planning, marketing, and operational activities. According to Crotts et al. (2022), destination management refers to coordinating all elements that shape a tourism destination, including marketing, planning, development, and visitor services, to enhance the overall appeal, sustainability, and resilience. The study adopts the definition proposed by Herasimovich et al. (2024), which defines ***destination management*** *as a combination of strategies oriented toward stakeholder cooperation, marketing, planning, development, human resources, and environmental management.* It involves integrating various stakeholders, aligning TSCM goals with the local community's needs, and adopting policies and strategies that balance tourism growth and sustainability. Successful destination management involves adopting best practices such as:

- Engaging stakeholders, which ensures that diverse perspectives are considered, leading to more comprehensive and inclusive management strategies;
- Utilising tools for assessing sustainability performance guides decision-making and highlights areas for improvement in destination management practices.
- Implementing frameworks that emphasise adaptability and resilience helps destinations better prepare for and respond to potential crises or changes in tourism demand.

Destination management organisations (DMOs) *are entities responsible for planning, marketing, and managing destinations (Batinić, 2018). They operate at local, regional, or national levels* and are vital in promoting the destination's image, coordinating various stakeholders, and ensuring the destination's development pathway. Destination Management Organisations create and implement marketing strategies to promote destinations as attractive tourist destinations (Marzo, 2016). Another vital function of DMOs involves facilitating collaboration among TSCM stakeholders, including local businesses, government agencies, community organisations, and tourists. By fostering cooperation, DMOs align interests and resources toward common goals, enhancing the tourism experience (Beck & Ferasso, 2023). Furthermore, DMOs are tasked with integrating sustainability principles into destination management. This includes promoting

eco-friendly practices, resource conservation, and community engagement to ensure that destination growth does not undermine local environments or cultures (Albrecht et al., 2021). DMOs are also instrumental in developing and implementing resilient management strategies to prepare for, respond to, and recover from disruptions, such as natural disasters or health crises (Saarinen & Gill, 2020). Ultimately, DMOs utilise tourism research and data analytics to inform their decisions regarding destination management strategies. This involves analysing TSCM relationships and understanding visitor demographics, preferences, and economic impacts to improve destination sustainability and resilience (Wang, Han et al., 2022).

At destinations, organisations no longer operate in isolation but instead engage in interrelations (Amore & Hall, 2017). TSCM interrelations promote sustainable development and resilience (Artal-Tur & Badillo-Amador, 2024). Resilience is fundamental for achieving sustainability, as it ensures a destination‘s capacity to absorb, adapt, and recover from adversities or external pressures (Saarinen & Gill, 2020). This adaptive capacity enables destinations to withstand, recover from, and evolve in response to disturbances or challenges arising from economic fluctuations, environmental changes, or societal shifts (Baba et al., 2020). Resilience protects a destination’s functions and appeal from unexpected events, ensuring long-term sustainability (Gössling & Hall, 2006). Due to its limited response to environmental changes and management actions, Bao and Dai (2021) recommend prioritising destination sustainability improvements. Including human interventions in resilience conceptualisations, especially when the focus moves to destination resilience, implies a more deterministic view of change. Destinations are assumed to be adaptable to external changes (Hall et al., 2018; Hall, 2017). The social-ecological systems view expands resilience concepts to include adaptation, adaptive capacity, learning, and innovation (Brown, 2016). Operating TSCM stakeholders drive change and determine destination improvement impacts (Atasoy & Eren, 2023).

The adaptive cycle model describes socio-ecological system resilience and evolution (Saarinen, 2018). TSCM choices and ecosystems are interconnected in socio-ecological systems. Many factors related to TSCM and the destination’s ecosystems affect resilience. The four stages of the cycle - rapid growth, conservation, release, and reorganisation, followed by rapid growth again - primarily apply to smaller spatial units rather than entire ecosystems (Saarinen & Gill, 2020). However, the scale of adaptive cycles is contingent on the temporal unit used to measure change and the nature of disturbance at the destination (Hall, 2017; Hall, 2015). Moreover, understanding destination resilience requires acknowledging that it must be viewed within the context of interactions at other scales and their impact on the destination system (Berkes & Ross, 2016). According to Berkes and Ross (2016), the ‘panarchy’ idea highlights the nested nature of adaptation cycles across time and space, showing that larger and slower structures affect quicker structures’ environments. Cross-scale in-

teractions depend on destinations and other organisational and community systems (Fig.7). Furthermore, external change to a system may arise from both immediate and gradual influences such as the impacts of new technological practices, slow cumulative change from evolutionary change, or changes in socio-technical systems leading to new habits and practices (Saarinen & Gill, 2020; Saarinen, 2018; Saarinen, 2014).

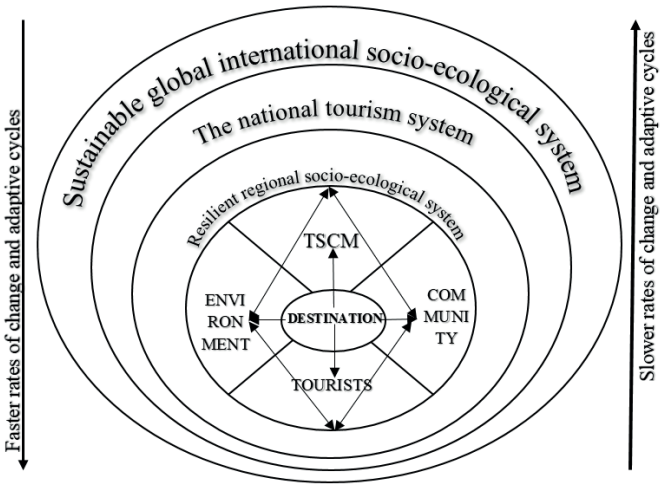

Figure 7. Adaptive cycle model of the destination

Compiled by the author, following Saarinen & Gill, 2020; Saarinen, 2018

Figure 7 illustrates the panarchical nature of resilience in tourism-related systems. While exhibiting distinct behaviours, the socio-ecological system and the environment maintain a symbiotic relationship. The resilience of a regional socio-ecological system is contingent upon the destination's vulnerability (Saarinen & Gill, 2020; Berkes & Ross, 2013). The resilience of the tourism system stems from the interconnections and linkages that exist across different scales within the system. Smaller-scale elements, such as tourists, exhibit higher rates of change than larger entities like destinations (Fig. 4). Different scales have varied adaptive capacities. However, changes at one scale may not affect connected scales. System connections are nonlinear from an ecological resilience perspective (Hall, 2017). This complicated interplay intricately affects TSCM prediction.

However, numerous essential conclusions can be reached. First, connection is important to the panarchical global tourism supply chain network, but may pose a risk to destination stakeholders. They are more vulnerable to externally induced change

as they become more vertically connected to regional, national, or global systems (Bec et al., 2016). Second, destinations need community resilience and coherence. Destinations and community systems overlap, but are different. Vertical connection helps build shared communities of interest, especially around a shared place, and is essential in destination resilience research (Zhaobo et al., 2019). Third, diversity, connectedness, and heterogeneity boost resilience. Redundancy in critical functional groups allows a variety of responses to disturbances and environmental variations while maintaining system function, potentially strengthening resilience.

A complete investigation of destination TSCM linkages is needed to increase destination sustainability and resilience (Gaki & Koufodontis, 2022). Strong systems can manage shocks and adapt to changing conditions (Hall, 2017; Hall et al., 2018). Sustainability and resilience entail maintaining connections and relationships among TSCM stakeholders within and beyond the destination, even in vulnerability (Lofti & Larmour, 2021; Higham & Miller, 2018). Tour operators or individual stakeholders do not need to sustain the system solely. Instead, a proper management approach needs to ascertain precisely what, who, where, when, and why certain aspects are chosen, adjusted, and improved (Saarinen & Gill, 2020; McCool & Bosak, 2016).

In conclusion, it is worth noting that the management of the tourism supply chain serves as the backbone of any tourism destination, intricately weaving together a network of interconnected entities and activities that collectively drive the overarching goals of the entire destination (Siregars et al., 2024). Within this dynamic framework, stakeholders ranging from tour operators to hotels, local artisans, and transportation providers collaborate to deliver seamless experiences to travellers. Additionally, each destination's unique qualities shape the tourism supply chain (Tyrrell & Johnson, 2008). Destination environment, culture, and policies significantly impact TSCM operations and dynamics (Wang, Kai et al., 2022). These factors affect anything from travel experiences to business laws. Destination sustainability and resilience are key to TSCM performance (Glyptou, 2021). TSCM effectiveness depends on a destination's resource management and adaptability. By prioritising ethical practices and environmental protection through stakeholder relationship management, destinations may meet visitor needs while protecting local ecosystems and communities.

1.2. Tourism supply chain management factors supporting destination sustainability and resilience

The next section of the study will cover sustainable and resilient destination management and its major components. This will involve the scope and key aspects, investigating ways to reduce environmental and socio-cultural consequences, and strengthening tourism destinations through tourism supply chain relationship ma-

nagement. The theoretical investigation will focus on resilience in a sustainability context and the need for adaptable techniques to survive disturbances. The narrative will also stress the significance of choosing the best management method to improve destination sustainability and resilience.

1.2.1. Scope and key aspects of sustainable and resilient destinations

Sustainability encompasses numerous definitions, principles, and criteria, often sourced from documents by prominent international policy-making bodies such as the UNWTO (Ercan, 2023; Espiner et al., 2017; Bramwell, 2011). Over the past two decades, the UNWTO has dedicated itself to advancing sustainability in destination management. As articulated on its website, the UNWTO is the United Nations Agency responsible for advocating responsible, sustainable, and universally accessible tourism (UNWTO, 2019). Initially, the conceptual definition of a sustainable destination aligned with the Brundtland Commission's sustainable development framework (Borowy, 2021). The author states that a sustainable destination seeks to develop tourism that aims to satisfy the present needs of tourists while preserving and enhancing opportunities for the future (Borowy, 2021). Subsequently, in collaboration with the United Nations Environment Programme, the UNWTO broadened the definition to encompass the roles and needs of the industry. The revised and now widely adopted definition characterises a sustainable destination as one that fully considers its existing and forthcoming economic, social, and environmental impacts, addressing the demands of visitors, the industry, the environment, and host communities (Han et al., 2024). A sustainable destination, also called a responsible or eco-destination, constitutes an approach to tourism sustainability that aims to optimise the positive impacts while minimising the adverse effects (Gomes & Lopes, 2023; Hussain et al., 2015). The principal objective of a sustainable destination is to harmonise economic, environmental, and sociocultural facets to ensure that tourism activities contribute to the well-being of host communities, conserve natural and cultural heritage, and provide enriching and satisfying experiences for tourists (Nguyen, 2020).

A sustainable destination is an evolving concept that continues to gain importance in the global travel industry (Saeed & Kersten, 2019). This study adopts a definition proposed by Joshi (2022), which states that a ***sustainable destination*** *is managed to balance economic growth, environmental protection, and social well-being. It prioritises long-term sustainability by minimising the negative impact on local ecosystems and communities while enhancing visitors' experiences.* This includes responsible resource management, cultural heritage preservation, and promoting ethical tourism practices to ensure the place remains attractive and vibrant for future generations (Joshi, 2022). Such an approach recognises the interconnectedness of economic, environmental, and socio-cultural aspects and seeks to create a balance that ensures the long-term sustai-

nability of destinations while providing positive experiences for tourists and benefiting host communities (Fig. 8). Below are the key aspects of sustainable destinations:

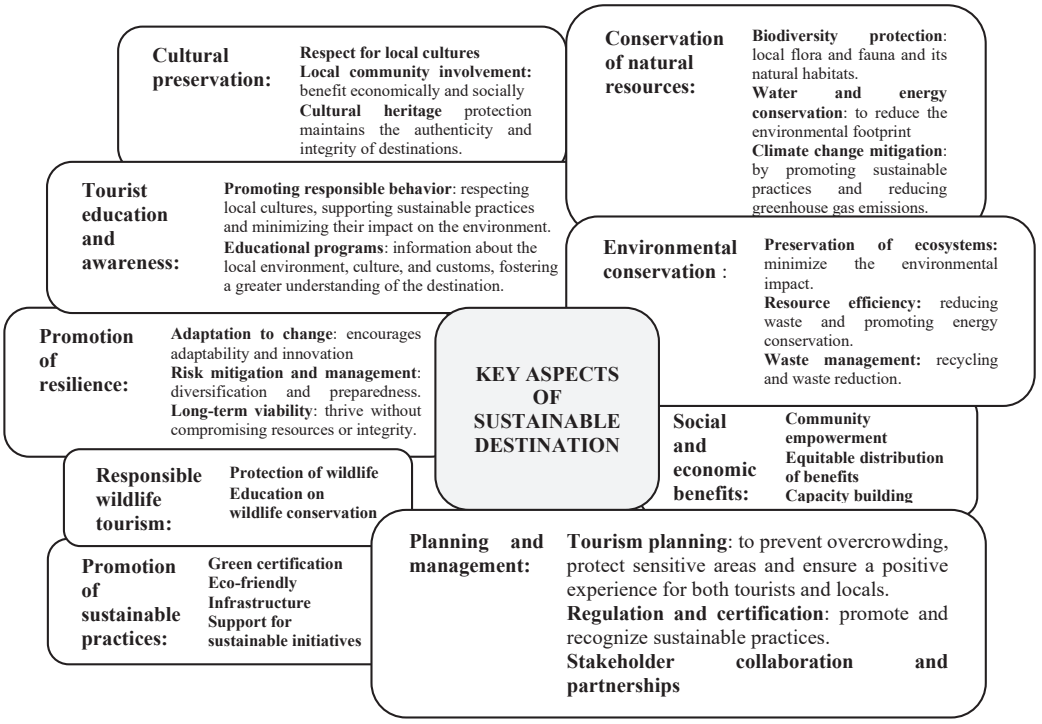

Figure 8. Key aspects of sustainable destinations

Compiled by the author, following Joshi (2022) and Leslie (2015

Sustainable destinations encompass such tourism supply chain management that aims to minimise the negative impacts of tourism while maximising its positive contributions (Joshi, 2022). Environmental conservation, socio-cultural preservation, and economic benefits are crucial (Fig. 8). Destinations promote responsible activities to protect natural resources, cultural heritage, and local livelihoods (Leslie, 2015). TSCM must include these key factors in sustainable destination improvement plans (Saeed & Kersten, 2019; Ling, 2015). In academic tourism research, the concept of sustainability and the debate over its appropriate scale, scope, and application vary (Saarinen & Gill, 2022). Initially, sustainability was perceived as a realistic and suitable target for small-scale tourism supply chain operations (Folke, 2006), while conventional mass-scale tourism was perceived negatively as something that, if it ai-

med to achieve sustainability in the future, needed a complete transformation towards smaller scale operations, such as at destination level (Estiri et al., 2022).

However, sustainability is now linked to various activities and environments in research and tourism supply chain management policies (Higgins-Desbiolles, 2018; Lew et al., 2016; Gill & Williams, 2014). For example, Lohmann and Netto (2017) have defined sustainable development as economically viable but not at the expense of destroying the resources on which the future of tourism will depend, notably the physical environment and the social fabric of the host community. Such definitions emphasise the needs and the sustainable use of the resources required, which, if critically interpreted, essentially refer to an aim to sustain the industry and its right to use local resources (McCool & Bosak, 2016; Saarinen, 2014). In the TSCM, this perspective, broadly reflecting wide-use thinking in natural resource use and management, must be intertwined with the resilient approach (Saarinen, 2014). This has led some scholars to research resilient development of sustainability (Saarinen & Gill, 2020; Klijs et al., 2017), which is seen as respecting the aspects and elements of the sustainable development ideology (Lew et al., 2016).

According to Berkes and Ross (2013), resilience is one of the primary conceptual tools for addressing change. Initially, the concept focused on the stability and ecological systems and how these systems react to changes, disturbances, stress, and other random events. Bao and Dai (2021) noted that half a century ago, resilience was conceptualised as the ability of these natural systems to absorb changes in state variables, driving variables, and parameters and persist. Later, resilience thinking began to influence research beyond ecological systems, including resource ecology, ecosystem studies, tourism supply chain stakeholder management, adaptive management studies, and discussions on community-based natural resource management (Brown, 2016; Davoudi et al., 2012; Folke, 2006). The concept is widely used outside ecology and ecosystem analysis, including TSCM resilience, community resilience and destination resilience (Bui, 2022; Calgaro et al., 2014). A resilient destination can withstand, adapt, and recover from shocks, disruptions, and changes (Robinson & Carson, 2016). These challenges can be diverse, ranging from natural disasters and health crises to economic fluctuations and shifts in consumer behaviour. A resilient destination demonstrates the capacity to absorb and respond to disturbances while maintaining TSCM functions, minimising negative impacts, and quickly recovering stability (Saarinen & Gill, 2020). Figure 9 presents the key aspects associated with resilient destinations:

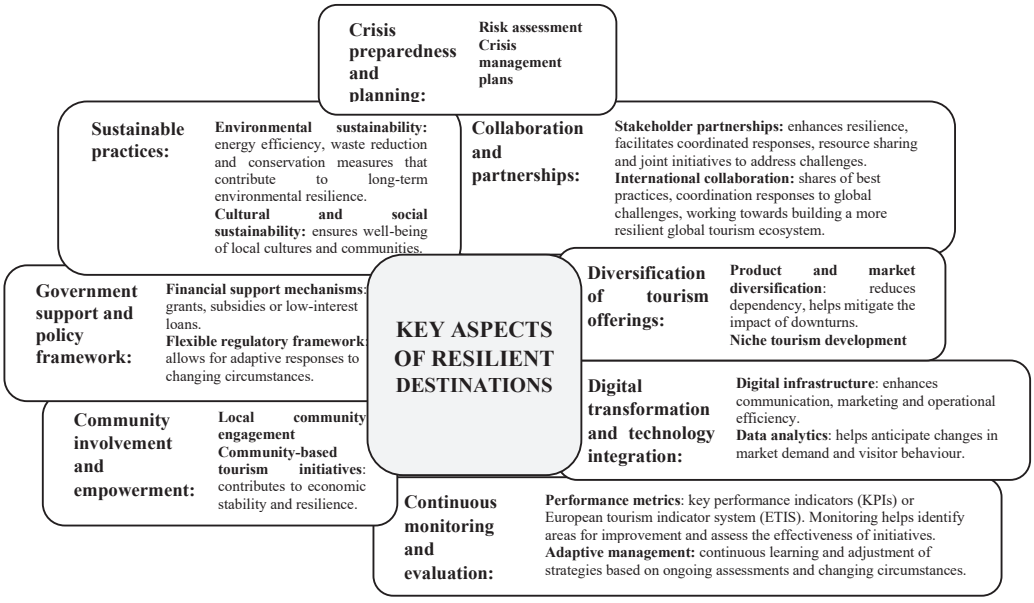

Figure 9. Key aspects of resilient destinations

Compiled by the author, following Bui (2022), Mittal and Sinha, 2021; Bec et al., 2016

Resilient destinations encompass recovery from crises and adaptation and evolution towards long-term sustainability (Fig. 9). From eco- to socio-economic systems, resilience requires flexibility, diversity, and adaptive capacity to thrive in turbulent contexts (Mittal & Sinha, 2021). Destinations can increase resilience, reduce disruptions, and promote sustainability by implementing specific TSCM solutions (Bec et al., 2016). Each definition of resilience has unique qualities and research and management applications. Folk (2006) classified resilience notions by their scope, from narrow to broad. The engineering resilience approach focuses on a system's ability to restore to a projected steady state following disturbance. Second, the ecological or social resilience perspective emphasises a system's adaptability (Folke, 2006). Multiple equilibria are used to adapt to different situations. Most tourism literature uses socio-ecological resilience, the third and widest TSCM strategy (Saarinen & Gill, 2020). According to the authors, ***resilient destinations*** *recover from economic downturns, ecological disasters, and social disorders while remaining appealing and valuable. Crisis preparation, sustainable resource management, TSCM stakeholder collaboration and community involvement are crucial to ensure long-term stability. TSCM resilient destinations invest in infrastructure, diversify their tourism supply, and form local partnerships to reduce risk and prepare for unexpected catastrophes* (Saarinen & Gill, 2020). *They integrate ecological and social processes, adaptive capacity*, *and transformability through learning and innovation*, overruling rigid distinctions between natural and human

environments (Saarinen, 2018). This study adopts this approach as it underscores the necessity for ongoing adaptation in a complex social, ecological, and economic landscape.

To conclude, sustainability and resilience are linked principles for responsible and balanced destination management. Sustainability guides tourism supply chain management decisions by minimising environmental and socio-cultural consequences and maximising economic advantages for local people. By focusing on the system's ability to adapt and recover from disturbances, resilience helps destinations maintain activities and livelihoods. Collaboration among TSCM stakeholders helps destinations implement sustainable practices and increase their resilience to various challenges, ensuring long-term sustainability.

1.2.2. Resilience in the sustainability context in the tourism supply chain management

Sustainability and resilience are complex ideas, and their interrelatedness can be comprehended and utilised in diverse circumstances within the framework of TSCM (Cheer & Lew, 2018). This study views these concepts as intricately interlinked. Destination resilience forms a more resilient ecosystem for the future and is inherently connected to sustainability. However, the former typically addresses shorter-term aspects than sustainability's broader temporal scope (Espiner et al., 2017). Sustainable and resilient destinations are closely related, but they address distinct aspects of tourism and have different focuses. Figure 10 shows a breakdown of the key differences between sustainable and resilient destinations:

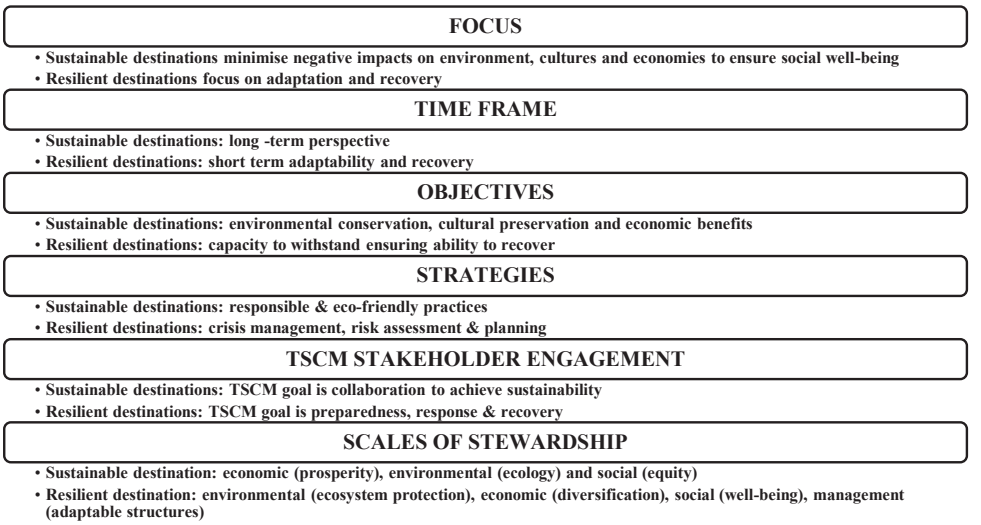

Figure 10. Key differences between sustainable and resilient destinations

Compiled by the author, following Saarinen & Gill, 2020; Espiner et al., 2017; Davoudi et al., 2012

As outlined in Fig. 10, while sustainable destinations focus on the long-term balance between economic, environmental, and social aspects, resilient ones are more concerned with the ability to recover quickly from disruptions (Espiner et al., 2017). Both paradigms are important and complement each other in creating a robust and responsible destination. Despite their distinctions in spatial and temporal scales, resilience is considered an integral component of sustainability theory in this thesis. Sustainable development has emerged as a paradigm, albeit with complexities, in various management and planning discourses and models (Babu et al., 2018; Carter & Rogers, 2008). According to a report by the United Nations Research Institute for Social Development (UNRISD), revisiting sustainability, the narrative of sustainable destinations has gained widespread acceptance across stakeholders of TSCM (Utting, 2015). The TSCM aligns closely with sustainability and is recognised as highly significant regarding policy development. Integrating sustainability considerations into management models at different planning and development scales accentuates the potential positive contributions of TSCM to destination communities and environments (Joshi, 2022; Babu et al., 2018; Hall, 2012; Bramwell, 2011).

Various international policy documents and declarations have emphasised the importance of constructive destination management. Over the years, the UNWTO has emphasised the substantial impact of international tourism growth on global and destination economies. According to UNWTO, international tourist arrivals have seen a meteoric rise from 25 million in 1950 to a staggering 1.3 billion globally in 2017 (Berbeka et al., 2024). Correspondingly, international tourism receipts surged from US$2 million in 1952 to US$1.2 billion in 2016. Based on estimates by the World Travel and Tourism Council (WTTC, 2017), the direct, indirect, and induced gross domestic product (GDP) impact of the tourism sector accounted for over 10% of global GDP in 2016, outpacing overall trade growth in recent years (Berbeka et al., 2024). However, the COVID-19 pandemic exemplifies the enormity of a crisis's impact on any destination (Bertella, 2022). Not only did COVID-19 disrupt tourism supply chains, but it also made it harder to fight plastic waste and marine pollution (Bui, 2022). Furthermore, as of 2022, over 25,000 metric tons of COVID-19 plastic waste have entered the ocean. Protected areas, national parks, and heritage sites worldwide have faced challenges maintaining conservation efforts due to decreased revenue and staffing (Bai & Ran, 2022). Destinations globally suffered due to a lack of adaptive capacity, resilience, and preparedness for a crisis of this magnitude (Baldwin & Di Mauro, 2020; Baum & Hai, 2020). Thus, sustainability alone is not enough. *Before a destination can achieve sustainability, it must first attain resilience* (Hussain, 2021; McCool & Bosak, 2016; Tyrrell & Johnson, 2015; Xu et al., 2008). Only when destinations exhibit sufficient robustness to withstand shocks and possess the flexibility to adapt to changes can they consider themselves resilient and uphold sustainability endeavours (Fig. 11)

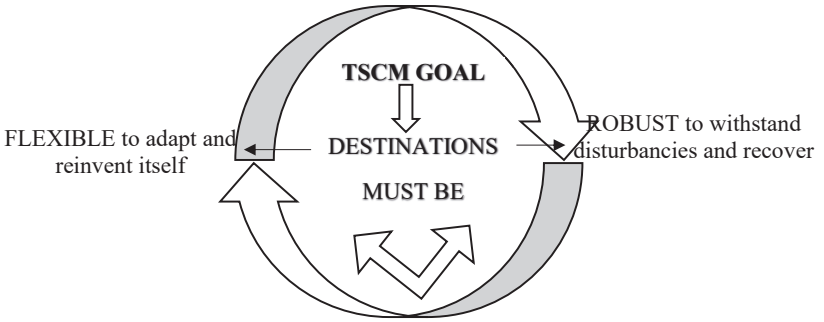

Figure 11. Destination capacity model

Compiled by the author, following Hussain, 2021; McCool and Bosak, 2016; Tyrrell and Johnson, 2015; Xu et al., 2008

TSCM must cultivate destination robustness to withstand unexpected shocks, whether environmental, economic, or societal (Hussain, 2021). Resilient destinations are flexible enough to respond to new difficulties and changing conditions (Fig. 11). Destinations may overcome uncertainty and maintain sustainability while minimising environmental and community consequences by developing robustness and flexibility (McCool & Bosak, 2016; Tyrrell & Johnson, 2015). Despite being a globally expanding industry, the growth of the tourism sector does not inevitably equate to sustainable destinations (Saarinen & Gill, 2022; Saarinen, 2014). The apparent frustration stemming from three decades of intense research and debate on sustainability has led some scholars to conclude that the concept has reached a dead end. Barbier & Burgess (2017) have suggested that the academic study of sustainable development is at an impasse. Nevertheless, transitioning beyond the sustainability paradigm has proven to be a formidable challenge (McCool & Bosak, 2016; Saarinen, 2014).

Primarily, sustainability is widely integrated into the agendas and TSCM models established by tourism policymakers and institutions, spanning various spatial scales from destination to global approaches. Notably, a significant body of research and educational programs is dedicated to sustainable tourism, supporting sustainability's pivotal role in destination management (Robinson & Carson, 2016). The position of a sustainable destination poses a paradox (Hall, 2015). While the concept is ambiguous and challenging to implement in tourism planning and development practices, its role and application in tourism have never been more urgent (Bire et al., 2021). Despite the current large scale of global tourism, the UNWTO projects a consistent three percentage point annual increase in international tourist arrivals between 2010 and 2030, predicting 1.8 billion arrivals by 2030 (Berbeka et al., 2024). However, these passenger numbers primarily depend on air transport, which is acknowledged as

highly detrimental to the environment and a significant contributor to global warming (Barua, 2020). Consequently, there is a pressing need for TSCM research that leads to improved destination sustainability and resilience (Joshi, 2022). Addressing these challenges, a potential approach has been to investigate the concept of resilience derived from dynamic systems thinking in environmental sciences, including sustainability and resilience, as shown in Fig. 12 (Long & Chen, 2021; Berkes & Ross, 2013).

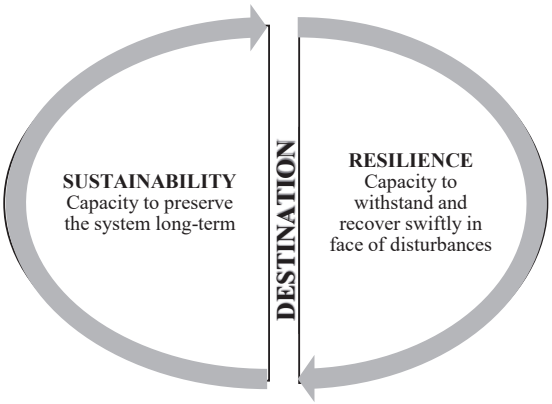

Figure 12. Sustainable and resilient destination model over the prism of time.

Compiled by the author, following Joshi, 2022; Long & Chen, 2021; Saarinen & Gill, 2020

Resilience, in broad terms, pertains to the ability of a socio-ecological system, such as destination, to absorb disturbances and reorganise its operations while changing (Fig. 12). Some researchers and experts have contemplated whether resilience could emerge as a new approach to resource management, potentially replacing the conventional concept of sustainability (Brill et al., 2015). Particularly in the domain of TSCM, resilience has recently emerged as an alternative to the sustainable development paradigm (Bertella, 2022; Mittal & Sinha, 2021). However, this thesis does not significantly endorse such a transition or interpretation. This viewpoint is echoed in the United Nations report "Resilient people, resilient planet: a future worth choosing", which positions the issue of resilience within the context of global sustainability, considering it as a tool to practically implement sustainable development (UNGC, 2016; Cheer & Lew, 2018; Butler, 2017).

Nevertheless, a sustainable and resilient destination is profoundly sensitive to several interconnected factors, including the scale of analysis. Present-day TSCMS are undeniably rooted in a global system where sustainability cannot be confined solely to destination-level management (Barua, 2020; Morsy, 2017). In a global context encompassing origins, destinations, transportation routes, and the industry's global

supply chain networks, achieving sustainability in destinations would necessitate a comprehensive overhaul of the industry, shifting from current transportation modes to carbon-neutral mobility solutions (Saarinen, 2018). However, the practical reality remains that tourism, one of the world's largest industries, is also one of the biggest carbon emitters, predominantly from air travel (Conefrey & Hanrahan, 2024). This constitutes a substantial challenge. The correct tourism supply chain management approach is essential for sustainable and resilient destination development (Papadopoulou, 2020; Orchiston & Higham, 2016). This requires carefully constructing plans prioritising environmental conservation, socio-cultural preservation, economic prosperity, and adaptability to unforeseen disturbances. Destinations can better handle complexity and thrive in a changing tourism landscape by connecting TSCM relations with sustainability and resilience goals (Siregars et al., 2024). Supply chain management significantly impacts a destination's long-term sustainability and resilience (Silvestre, 2016; Seuring & Muller, 2008). This thesis also emphasises stakeholder engagement and TSCM foundations that support sustainable and resilient destinations.

1.2.3. Management approach facilitating sustainability and resilience

Tourism is a powerful economic engine that advances countries and communities by substantially contributing to GDP, employment opportunities, and revenue streams, therefore, TSCM plays a crucial role in such an environment. The tourism sector is a significant employer on a global scale, providing jobs and livelihoods, a wide range of job opportunities for different skill levels, and frequently acting as a lifeline for communities that depend on the sector (Sigala, 2020; Sifolo, 2020). Through the dismantling of cultural barriers and the promotion of mutual understanding between people from different backgrounds, tourism serves as a catalyst for cross-cultural interactions (Lekgau, 2021). Protecting historical sites, cultural landmarks, and natural wonders is integral to tourism (Leslie, 2015). These attractions' financial worth encourages conservation efforts, guaranteeing that the distinctive legacy will be preserved for generations. Increased global connectivity has characterised the modern tourism scene, making it easier to explore a variety of locations (Kopczuk, 2020).

Globally, travel experiences are becoming more accessible thanks to advancements in digital communication and transportation infrastructure. Many areas use tourism to diversify their economies and reduce dependence on a single sector (Keating, 2015). This diversification promotes overall economic stability by increasing resilience against economic fluctuations in particular sectors (Lew & Cheer, 2018). Tourism provides priceless educational opportunities by introducing people to new places, cultures, and lifestyles. Travel experiences help people grow personally, learn about other cultures, and develop a more global perspective (Le et al., 2024). TSCM is essential for creating a positive brand image for travel destinations (Long & Chen,

2021). A place's long-term appeal is strengthened by positive word-of-mouth referrals, excellent reviews, and memorable experiences, attracting many tourists. Effective crowd control is essential to addressing overcrowding issues as tourism numbers rise (Saarinen, 2014). Crowd control techniques protect cultural and natural resources, lessen adverse effects on nearby communities, and improve the experience of tourists. In contemporary tourism, the ability of TSCM to manage stakeholder relationships, including those with consumers, is crucial (Fig. 13).

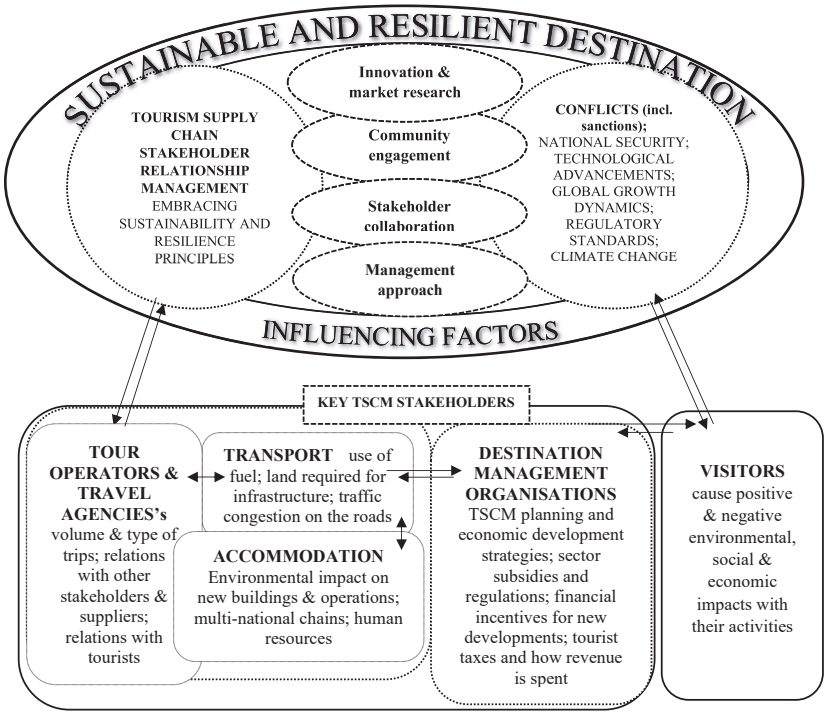

Figure 13. Sustainable and resilient destination influencing factors

Compiled by the author, following Granas & Mathisen 2022; Kruger & Viljoen 2019

As Figure 13 depicts, a practical tourism supply chain management approach is essential for maximising destinations' economic, social, and environmental benefits while minimising potential negative impacts, such as those associated with global growth and climate change (Kruger & Viljoen, 2019). By integrating sustainability and resilience principles, engaging stakeholders, fostering innovation, and prioritising community empowerment, as shown in Fig. 9, sustainable and resilient destinations

can be created that provide memorable experiences for travellers while safeguarding the planet and supporting local communities (Granas & Mathisen, 2022).

Destination management must support and guide adaptive capacity towards sustainability in tourism supply chain management to understand resilience as a tool for establishing sustainable destinations. Folke (2006) highlighted that managing a transition towards more sustainable development paths is crucial. The current global landscape, marked by increased globalisation, uncertainty, and climate change, underscores the critical need for enhanced management practices. Various research efforts have analysed methods for modifying management within sustainable tourism (Dada et al., 2023; Glyptou, 2021; Altexsoft, 2020; Batinić, 2018; Amore & Hall, 2016). The consensus indicates a straightforward goal but with highly complex implications for tourism destinations. TSCM requires resilience and adaptability to lead destination development towards sustainability by using the industry as a tool (Gupta & Sahu, 2022). However, the implementation of these improvements is challenging. In this regard, Hall (2017) and Bramwell (2011) have identified two significant, interconnected challenges: multi-scalarism and coordination. The TSCM necessitates various approaches and diverse policies at different levels (Table 4).

Table 4. Comprehensive tourism supply chain management approach

Management approach	Diversity participation & visitor involvement	Flexibility, Experimentation, Innovation, and learning	Autonomy and self-regulation	Accountability	Communication and knowledge sharing	Collaboration, integration, and shared decision-making
Decentralised Refers to transferring political power and fiscal and/or administrative functions from the central government to lower administrative levels. This allows autonomous governance of local constituencies and a better response to local conditions and needs			+	+		

Table 4. Continued

Management approach	Diversity participation & visitor involvement	Flexibility, Experimentation, Innovation, and learning	Autonomy and self-regulation	Accountability	Communication and knowledge sharing	Collaboration, integration, and shared decision-making
Multi-stakeholder: The involvement of diverse stakeholders in decision-making is a central tenet, and this takes different forms. Refers to a structure that brings together different partners across scales and/or sectors in dialogue, decision-making, and implementation of solutions in an effective, coordinated and integrated manner	+	+	+	+	+	+
Multi-level is used interchangeably with multi-stakeholders. However, it describes structures involving multiple state authorities at different scales or tiers of government, from the global to the	+	+		+	+	+
Polycentric System where multiple stakeholders across multiple levels and sectors organise to form many coexisting centres of decision-making that are formally independent of each other	+	+	+		+	+
Participatory People-centred approach that includes citizens in decision-making which affects them, enabling decisions to take into account the specifics of a given context	+			+	+	+

Table 4. Continued

Management approach	Diversity participation & visitor involvement	Flexibility, Experimentation, Innovation, and learning	Autonomy and self-regulation	Accountability	Communication and knowledge sharing	Collaboration, integration, and shared decision-making
Community-based: Empowering communities to participate in the management of their risk reduction, reflecting the trend toward participatory and community-based approaches in development	+		+		+	+
Adaptive Structured, iterative process of continual innovation, testing, learning, and adjustment	+	+			+	

Compiled by the author, following Chowdhury et al., 2024; Thahir et al., 2020; Sifolo, 2020; Kac et al., 2019; Molefe et al., 2018; Klijs et al., 2017

Each of the described approaches has practical applications, such as categorising methods within the scope of decentralised management (Sifolo, 2020), while others lean more towards conceptual interpretations, like adaptive management (Klijs et al., 2017). These approaches encompass decentralisation, polycentricity, multi-stakeholder and multi-level management, focusing on institutional interaction, whereas adaptive management concerns processes that facilitate learning (Table 4). Relationships exist among these methodologies. For instance, decentralisation often leads to multi-level management. Multi-level, polycentric, and participatory management are subsets of multi-stakeholder management, while adaptive and decentralised management typically entail multiple stakeholders in polycentric institutional arrangements (Chowdhury et al., 2024). Many acknowledge the necessity for local-level devolution, mainly focusing on decentralisation, polycentricity, and destination-based management. Destination-based management could be seen as an extension of decentralisation, shifting decision-making to the community level and local institutions (Klijs et al., 2017).

In research, many operationalisation frameworks give positive managerial traits to address a destination's sustainability or resilience (Ercan, 2023). The attributes highlighted vary across different frameworks, as each framework targets different management aspects, distinct populations, or particular destination systems. However,

multiple areas of overlap exist. For instance, the Rockefeller Foundation in 2015 identified five broad management characteristics for sustainable destinations: awareness, diversity, sustained self-regulation, integration, and adaptiveness, meanwhile, the City Resilience Framework, focusing on resilient destinations, characterises them as flexible, robust, resourceful, reflective, inclusive, and integrated across TSC systems (ISMP, 2024). Despite their differences, these frameworks share the key criteria for TSCM to achieve destination sustainability and resilience (Bo et al., 2022).

Further research supports *multi-stakeholder management approach* since it openly involves stakeholders, including customers, in decision-making. This fosters ownership, trust, and shared understanding by encouraging customised solutions that meet customers' wants and preferences by incorporating knowledge, power, and resources (Joshi, 2022; Leslie, 2015). Stakeholders encourage flexible management that promotes sustainability and resilience through relationship management, innovation, and learning. This allows the destination to adapt faster to a complex and changing situation and respond to fresh information through triggers (Lew & Cheer, 2018). TSCM, by employing the multi-stakeholder management approach, emphasises the need for (mainly local) autonomy and self-regulation, accompanied by accountability. Finally, such a perspective on management enables effective communication, knowledge sharing, and integration, as well as collaboration and shared decision-making, including across scales (vertical, such as destination management organisations), across tiers (horizontal, including consumers), and diagonally, which is most valuable for addressing complex problems.

However, the management of the tourism industry is concerned with management limitations, such as the extent to which this management takes place. Incorporating sustainable and resilient destination management principles into TSCM strategies has, therefore, proven to be challenging, with the challenge often being perceived as too grand or too complex due to the binary divide between sustainability and resilience, or too long-term for the short-term nature of destination politics (Ivanov, 2021; Saarinen & Gill, 2020). To fill this gap, emerging discourses on socio-ecological resilience argue that by breaking down the sustainability challenge into smaller components, social-economic-ecological systems can adapt, rebalance, and cope with change more effectively (Davoudi et al., 2012). Therefore, as previously noted, resilience will be decoded into a framework that can assist tourism destinations in adapting and transforming on their path to becoming more sustainable. To address this issue in a more complex, critical, theoretically curious, and interdisciplinary discussion about TSCM, destination sustainability, and resilience, further interrogating stakeholder and consumer relationships within which tourism supply chain management can be positioned will be presented. Nevertheless, firstly, the tourism supply chain stakeholder management approach needs a framework, which reviews studies that highlight the link between TSCM practices and destination sustainability and resilience and discusses theoretical sustainability and resilience structures relevant to TSCM; also identifies potential destination issues and

provides structured scientifically based methodology for stakeholder interrogation to improve destination sustainability and resilience (Joshi, 2022).

1.3. Academic navigation pathways of tourism supply chain management improving destination sustainability and resilience

To improve the sustainability and resilience of destinations, this study further examines strategic pathways that manage the tourism supply chains. Such examination provides a theoretical framework for additional research using academic navigation through a theoretical foundation developed in the scientific literature. It employs an indicator system to direct decision-making for robust and sustainable results and identifies obstacles by thoroughly analysing chosen destinations.

1.3.1. Theoretical framework

With 1.46 billion foreign visitors, or 7% of world exports, and USD 1.481 trillion in foreign receipts, tourism hit a record high in 2019 (UNWTO, 2019). These numbers demonstrate the sector's economic importance and underline its vulnerability to outside upheavals. Elements like the COVID-19 pandemic (Vărzaru et al., 2021), climate change, overtourism, and worries about environmental sustainability (Yrigoy et al., 2024; Fraser & Kirbyshire, 2017) have exposed systemic vulnerabilities. Geopolitical instability (Hefele et al., 2016), economic volatility (Costa & Costa, 2024), and concerns about safety, security, and health in the tourism industry (D'Ambrosio, 2024) are some other prominent difficulties. These issues are essential to furthering the 2030 Agenda for Sustainable Development by the United Nations. Increasingly, post-pandemic tourism management is framed within the larger goals of attaining Sustainable Development Goals (SDGs), including poverty alleviation (SDG1), health and well-being (SDG3), reduced inequalities (SDG10), climate action (SDG13), institutional resilience (SDG9), and sustainable cities and communities (SDG11). This integration is essential for reevaluating the tourism supply chain management and for creating theoretical frameworks that consider the complexity and interdependencies of global tourism systems. A growing understanding of the need to balance economic viability, environmental stewardship, and social equity in tourism management is reflected in the focus of emerging research on conceptual models that address global sustainability imperatives while enhancing the sustainability and resilience of destinations (Nematpour et al., 2024).

Looking at tourism supply chain management from the perspective of sustainable destinations provides links that combine economic, social, and environmental aspects. Applying theoretical frameworks that promote sustainability and resilience and positively affect destination competitiveness, this balanced viewpoint stresses improve-

ment in destination performance. Key models and frameworks are examined below for their contribution to TSCM to enhance destination sustainability.

Destination Management Organisation (DMO) framework. The DMO system stresses the need for cooperative governance to reach sustainable results (Hallmann et al., 2024). This highlights the need for stakeholder efforts. As intermediaries, DMOs unite stakeholders, including government agencies, local communities, and companies, to properly coordinate their aims and resources. Mariani et al. (2016) illustrate such a framework supporting sustainable tourism by employing stakeholder cooperation. DMOs guarantee environmentally responsible, socially inclusive, and economically feasible tourism growth. The DMO system shows that sustained TSCM needs operational alignment, a shared vision, and responsibility. DMOs can be a repeatable template for places to minimise fragmented government and optimise resource use. Future studies should investigate the scalability of such frameworks in varied and complicated tourist habitats.

Triple Bottom Line (TBL) system. The TBL approach combines environmental stewardship, social equality, and economic growth into tourism supply chain management policies. Addressing these three pillars helps make trade-offs between development and conservation and enhances long-term sustainability. Costa Rica's ecotourism projects show the TBL paradigm by supporting cultural preservation, local economic empowerment, and ecological protection (Lindell et al., 2021). For example, the country's accreditation schemes for sustainable tourism encourage companies to implement ecologically responsible policies while helping local people. The TBL approach emphasises the need to harmonise goals among stakeholders to guarantee a fair distribution of advantages and conservation results. However, striking this balance calls for strong regulatory frameworks and incentives to resolve tensions between short-term economic aims and long-term sustainability targets.

Models of stakeholder cooperation. Emphasising the importance of shared decision-making among communities, businesses, governments, and visitors, sustainable destination TSCM is built on stakeholder cooperation. By using different points of view and tools, this strategy fosters resilience. A Venkatachalam et al. (2020) study investigates how stakeholder collaborative efforts strengthen resilience in locations impacted by natural disasters. Successful cooperation depended on key elements such as mutual trust, open communication, and shared objectives. According to Novelli (2024), stakeholder cooperation changes views on destination competitiveness, especially when stakeholders are empowered to engage in governance activities. Cooperative approaches underline the need for inclusive government to enhance destination competitiveness. Efficient cooperation aligns plans across supply chain stakeholders, allocates risks, and promotes social cohesion. Future research could investigate how digital platforms or blockchain could be used to improve cooperative efficiency even more.

Models of co-creation and visitor empowerment. Engagement of visitors in tourism development is becoming a revolutionary way to sustainability. Empowering guests to co-create travel experiences promotes value creation, improves enjoyment, and helps places succeed over time. Involving tourists in creating genuine and meaningful experiences, Ferreira da Silva et al. (2024) contend that co-creation promotes destination loyalty and sustainable practices. Baggio et al. (2010) underline tourists' double function in enhancing or diminishing value inside tourism supply chains. Improving involvement needs an awareness of visitor motivations and behaviours. Visitor empowerment builds shared value between places and visitors, complementing general sustainability objectives (Tham et al, 2015). However, controlling the possibility for value co-destruction calls for diligent regulation, open communication, and stakeholder education. Additional studies could examine how digital technologies, including augmented reality, improve tourist involvement in sustainable tourism projects.

Over the past decade, tourism supply chain management models that improve destination operations have evolved significantly. They focus on enhancing collaboration, sustainability, and resilience in the face of various challenges. The literature highlights several advancements; however, gaps and areas for improvement remain, as shown in Fig. 14.

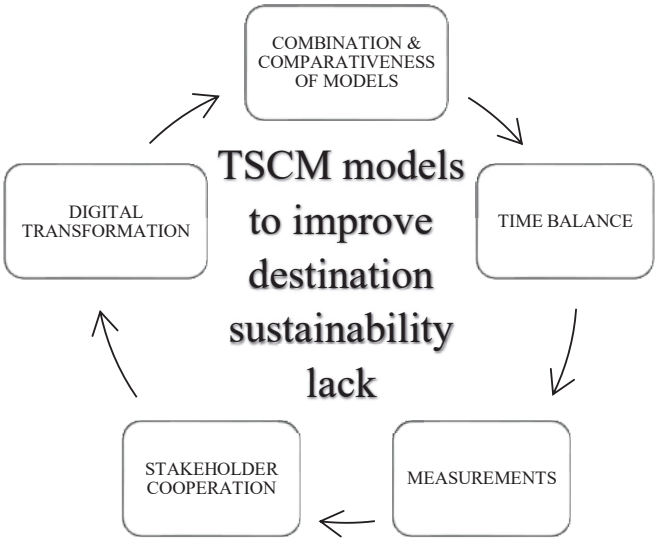

Figure 14. Lack of foresight in tourism supply chain management to improve destination sustainability models

Compiled by the author, following Atasoy & Eren, 2023; Long & Chen, 2021; Lindell et al., 2021; Kozicka et al., 2019

According to Lindell et al. (2021), while models like DMO, TBL, and co-creation are effective on their own, combining TBL principles with DMO governance could address both macroeconomic goals and community-level impacts, which presents a lack of foresight into TSCM to improve sustainability of destinations (Fig.14). Furthermore, models present unique challenges, such as balancing stakeholder interests or addressing short-term or long-term objectives (Ringel, 2021). Research should explore measuring strategies that allow dynamic responses to changing tourism destinations. Moreover, the effectiveness of these frameworks varies depending on destination characteristics, including development level, governance structures, and resource availability. Comparative case studies offer more profound insights into contextual adaptations. Effective coordination and mutual support among participants in the TSCM lead to better management outcomes (Atasoy & Eren, 2023). However, despite this recognition, many tourism supply chains still struggle with silos and a lack of integration. Atasoy and Eren (2023) suggest that knowledge management is vital in facilitating this collaboration, yet its implementation remains suboptimal in TSCM. Ultimately, despite the expansion of digital resources, a notable lag remains in IT adoption across various segments of the TSCM. Chansumar (2023) advocates for aligning supply chain management strategies with the unique characteristics of local tourism; however, the effective integration of digital tools remains an area that needs improvement (Chansamut, 2023). By examining TSCM frameworks, it becomes clear that TSCM to improve destination sustainability requires a balance between theoretical analysis and practical applications.

The review of research connecting tourism supply chain management methods to resilient destinations offers a vital basis for developing theoretical and practical knowledge in this area. Such assessments have various key roles. First, they allow an evidence-based evaluation of TSCM methods, highlighting excellent practices including supplier diversification, crisis management, and community involvement. These ideas are crucial for measuring successful treatments and honing plans to strengthen resilience. Moreover, methodical evaluations support the creation of a strong theoretical framework that enables a thorough examination of the dynamic and multidimensional interaction between TSCM players. This advice is helpful for both academic research and policy creation.

Crisis management models in TSCM. Emphasising techniques including supplier diversity, cooperative alliances, and crisis management, Chowdhury et al. (2024) investigate resilience-building activities inside TSCM. Case studies from several locations show that these policies are vital for reducing severe disturbances. The results show that resilience is not only a reactive skill but also a result of intentional and proactive TSCM policies targeting supply chain weaknesses. This method emphasises the need to include resilience as a fundamental value inside TSCM systems.

Sustainability is a road to resilience. Saarinen and Gill (2020) believe long-term resilience is fostered via sustainable procurement, waste reduction, and community involvement. Their study goes beyond operational resilience to investigate how these approaches support sustainability. Community involvement, for example, lowers reliance on outside resources and strengthens local capabilities, complementing TSCM methods with more general sustainability objectives. Emphasising the interconnectedness of sustainability and resilience, this paper supports TSCM's integrated strategies.

The Tourism Area Life Cycle (TALC) model and competitiveness. Butler (2024) looks at how TSCM affects destination competitiveness, where resilience is a key factor. The study provides a comprehensive knowledge of how supply chain techniques, such as quality control and marketing optimisation, support persistent competitiveness using the TALC model. Essential for negotiating interruptions and preserving a good market position are efficient coordination and communication, which the study underlines as being significantly influenced by destination management organisations.

Creating value cooperatively. Pyke et al.(2018) examine how destination resilience is affected by cooperative supply chain activities, including stakeholder involvement, information sharing, and risk pooling. Case studies show that these behaviours increase adaptive ability and build trust and long-term stakeholder alliances. This emphasises the need for governance systems to prioritise inclusivity and shared value generation so that places can adapt dynamically to market fluctuations and outside shocks.

Systematic review of sustainable and resilient TSCM. Gruchmann et al. (2022) provide a systematic literature review synthesising key themes and trends in sustainable TSCM. They highlight critical gaps in integrating resilience principles, suggesting the need for more empirical studies to validate theoretical constructs. The importance of aligning TSCM practices with broader global frameworks, such as the UN Sustainable Development Goals, emphasises that sustainable supply chains are crucial to destination resilience. Below is the figure that shows the lack of insights into TSCM models to improve destination resilience (Fig. 15)

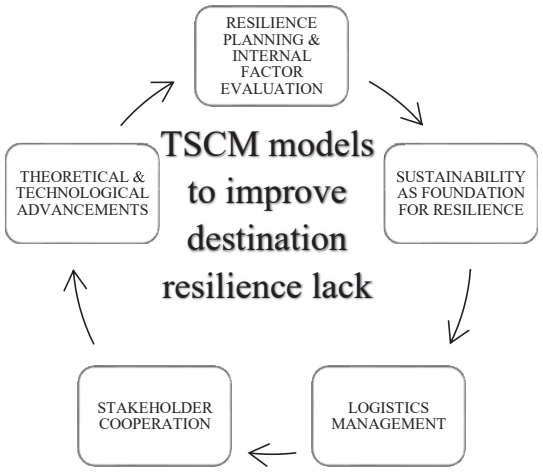

Figure 15. Lack of foresight in tourism supply chain management to improve destination resilience models

Compiled by the author, following Dharmaratne et al., 2023; Jamkhaneh et al., 2022; Venkatachalam *et al.*, 2020; Saarinen & Gill, 2020

The analysis of tourism supply chain management models over the past decade has yielded key insights into their effectiveness, particularly regarding destination resilience. Despite some progress, several deficiencies remain within current models that impede the resilience needed to navigate challenges effectively (Fig. 15). TSCM should focus on inclusive strategies that incorporate resilience into sustainability, which is crucial (Saarinen & Gill, 2020). One major limitation is the insufficient logistics integration with other aspects of the TSCM. As Dharmaratne et al. (2023) highlighted, implementing logistics strategies tailored to the unique attributes of different tourism destinations could significantly improve performance and resilience against disruptions. Additionally, the relevant literature suggests that many TSCM models focus on external factors affecting sustainability, lacking a comprehensive internal framework that combines operational efficiency with service quality (Jamkhaneh et al., 2022). Moreover, the impact of digital transformation is not yet fully leveraged within many TSCM models, underscoring the need to integrate new digital tools and practices (Venkatachalam et al., 2020). Finally, promoting collaborative frameworks among diverse stakeholders remains a significant area for improvement. Saarinen and Gill (2020) highlight the crucial role of collaboration in improving supply chain performance. However, many TSCM models still operate in silos, limiting practical cooperation among tourism providers, local communities, and government entities.

Strengthening these relationships through planning and strategic management leads to more resilient destination management. Moving forward, cross-disciplinary research and innovative policymaking will be essential for creating inclusive tourism destinations.

Integration of sustainable destination management with resilience practices. Stakeholders involved in the tourism supply chain management have to change their emphasis from mainly destination marketing to include strong destination management (Altexsoft, 2020). This calls for proactive risk management, capacity evaluation, and vulnerability identification. Covering risk assessment, management, and the creation of adaptive capacity, the Tourism Destination Resilience (TDR) Programme offers a systematic way to include resilience into tourism sustainability and climate action mitigation. Including resilience in destination management is a complementary and fundamental component that protects sustainability. Resilience guarantees that disasters do not impede advancement towards the Sustainable Development Goals of the United Nations. Including resilience into sustainability models means using techniques allowing places to endure shocks while preserving environmental, sociocultural, and economic integrity (Bertella, 2022). This strategy guarantees that places stay competitive and appealing in uncertainty by promoting adaptability, stakeholder cooperation, and systematic flexibility. Researchers say that preparing sites for future difficulties requires adaptive strategies, including community involvement and diversification (Saarinen & Gill, 2020).

Resilience increases the lifetime of sustainability initiatives. Without it, places risk losing years of progress from unanticipated disturbances. For instance, if resilience plans are not in place, ecosystems restored via sustainability projects can be wiped out in a catastrophe. Sustainable destination management depends on resilience. Destinations can preserve ecological, socio-cultural, and economic integrity by including resilience ideas into sustainability models, guiding them through uncertainty. Strategic tools such as TOWS (Threats, Opportunities, Weaknesses, Strengths) and SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses offer practical routes for tackling weaknesses and improving resilience and long-term sustainability (Asadpourian et al., 2020). Using methodical use, these techniques aid in finding priorities, handling weaknesses, and taking advantage of possibilities, so they greatly support sustainable tourism management.

Studies show the advantages of SWOT analysis in destination management, especially in guiding strategic decision-making and spotting areas for development. Ahmad et al. (2024), for instance, used a SWOT analysis to evaluate Pahang National Park's growth of rural tourism. Their results underlined strengths - natural and cultural resources - and weaknesses - limited infrastructure and marketing capacity. The study helped destination managers create focused plans by recognising niche market possibilities and dangers, including seasonal changes. This strategy reduced risks and improved the competitiveness and resilience of rural tourism in the area while helping to maximise Malaysia's resources.

Likewise, Roy (2021) used SWOT analysis on Bangladesh's UNESCO World Heritage Sites to identify heritage assets as major strengths and bad visitor management as a significant flaw. Tailored plans were created to protect these locations by tackling issues including over-tourism and insufficient infrastructure, and using possibilities for cultural preservation and sustainable tourism projects. Including SWOT results into TOWS plans improved management techniques even more, guaranteeing that these cultural sites could withstand visitor-related challenges over time.

Álvarez-García et al. (2017) conducted a SWOT study on rural tourism in Spain, finding natural and cultural assets as strengths and restricted access as a significant weakness. While addressing rivalry and seasonality, they saw possibilities in expanding eco-tourism. Ultimately strengthening both sustainability and resilience, specific actions were created using TOWS to improve the commercial appeal of rural tourism.

A remarkable case of TOWS use is found in the case of Iran, where Asadpourian et al. (2020) used a SWOT analysis to evaluate the possibilities of cross-border tourism. Strengths like a rich cultural legacy and limitations like inadequate infrastructure were matched with options for cross-border collaboration and dangers, including political unrest. TOWS plans called for using cultural resources to encourage foreign tourism and handling infrastructural issues, strengthening the city›s capacity to withstand outside pressures.

SWOT and TOWS studies additionally stress, for strategic benefit, the matching of internal capacities with outside elements (Roy, 2021). For example, strengths can be matched with opportunities to maximise possible rewards, while weaknesses can be rectified to lessen vulnerabilities against threats. Adopting these methods helps destinations develop customised management plans for their particular settings. Apart from theoretical use, including SWOT and TOWS studies within TSCM frameworks directly advances the more general goals of destination sustainability and resilience. Employing theoretical weakness identification, use of strengths, and alignment with changing market needs, such frameworks help destinations to recover from crises and prepare for future disturbances. Furthermore, they offer a basis for developing management strategies guaranteeing ecological and socio-economic sustainability (Asadpourian et al., 2020).

In conclusion to the above section on the theoretical TSCM models to improve destination sustainability and resilience, marked by their inherent complexity and dynamic nature, robust and forward-thinking methodologies are required to address their challenges effectively. Among these methodologies, a proposed comprehensive tourism supply chain management framework (Figure 10) stands out as critical for improving the sustainability and resilience of destinations. The framework is amplified by the interconnectedness of stakeholders and the sector's susceptibility to disruptions, whether from environmental, social, or economic shocks. Principal to this ***proposed theoretical framework*** is the adoption of a multi-stakeholder management approach, which emphasises the integration of diverse stakeholders. This inclusivity ensures that all relevant actors' perspectives, resources, and expertise are leveraged. Doing so fosters a shared

understanding, builds trust, and promotes a sense of collective ownership - essential elements for implementing effective strategies. Engaging key stakeholders is particularly important as it aligns tourism objectives with the needs and aspirations of host communities, thus balancing economic, social, and environmental priorities.

Sustainability and resilience, as cornerstones of destination management, form the foundation of this framework (Joshi, 2022). The multi-stakeholder approach addresses the primary TSCM issue and stakeholder relations by improving the sustainability and resilience of destinations operating in regional socio-ecological systems through resource pooling, risk sharing, and innovation fostering (Biao, 2014). It also bridges gaps between competing interests, such as environmental conservation and economic development, creating a balanced approach that serves all stakeholders. Moreover, the importance of systematically analysing destinations' vulnerabilities through strategic management tools like SWOT and TOWS provides a structured method to assess internal capacities and external pressures, offering critical insights for informed decision-making. Incorporating these insights into the TSCM framework ensures that strategies are tailored, comprehensive, and responsive to each destination's unique challenges and opportunities (Fig. 16).

The Figure 16 illustrates the tourism supply chain management process to achieve the goal of a sustainable and resilient destination. The core of the model involves the interaction between tourists, communities and the key operational sectors (tour operators & travel agents, accommodation, transportation and destination management organisations). This core activity is continuously guided by sustainability and resilience principles and involves a multi-stakeholder management approach. Solid arrows indicate the directional, continuous flow of the management and improvement process. The dotted arrows indicate relationships, interactions, and feedback loops. They show how key issues and constant improvement phases are integrated into the central management cycle, circled entire system, demonstrating a continuous, iterative feedback loop essential for adaptation and long-term success.

Integrating sustainability and resilience principles through measurable management improvement phases, applying a multi-stakeholder management approach, identifying destination issues and integrating technological advancements addresses the core theoretical principles of analysing TSCM to improve destination sustainability and resilience. By systematically identifying and addressing TSCM management, this framework ensures that destinations are better prepared to navigate challenges and are positioned to thrive in the long term. As tourism continues evolving, such an approach is indispensable for safeguarding destinations' natural, cultural, and economic wealth, ensuring sustainability and resilience.

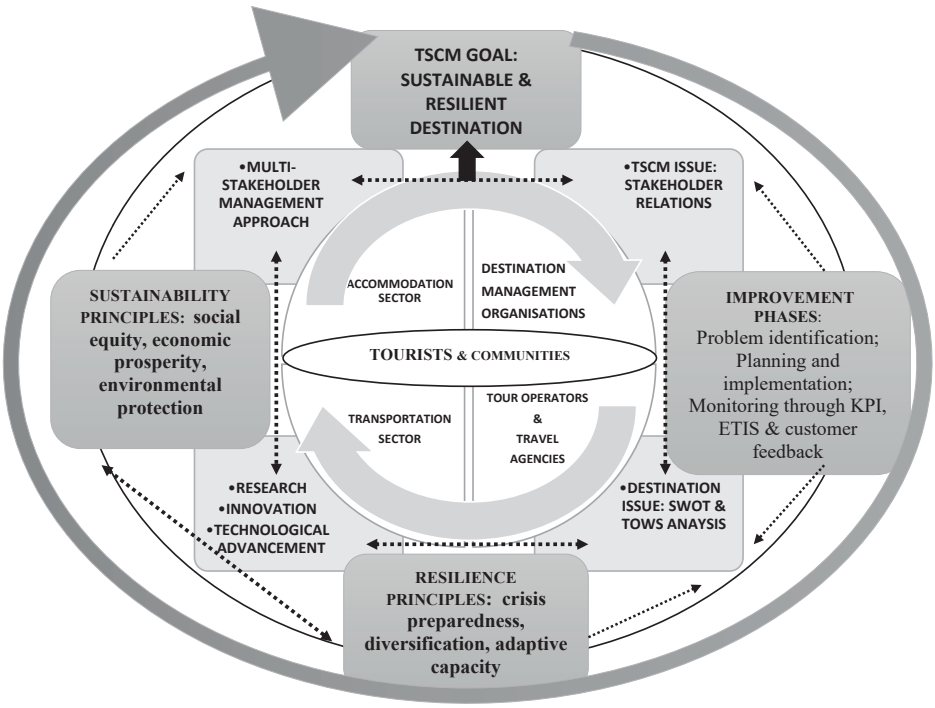

Figure 16. Theoretical tourism supply chain management framework to increase destination sustainability and resilience

Compiled by the author, following Chowdhury et al., 2024; Joshi, 2022; Zhaobo et al., 2019; Saeed & Kersten, 2019; Hussain et al., 2015; Song, 2012; Carter & Rogers, 2008; Seuring & Muller, 2008

The problem identification phase is the initial step in the framework (Fig. 16). This entails identifying inefficiencies and/or challenges within the selected destination, which can be achieved through study methods, such as SWOT analysis or data analysis (Carter & Rogers, 2008). Subsequently, the current process undergoes analysis to pinpoint bottlenecks and inefficiencies (Song, 2012). This involves identifying areas ripe for improvement. An improvement plan outlines the necessary changes, required resources, timeline, and anticipated outcomes (Zhaobo et al., 2019). Implementation encompasses key stakeholder perceptions of sustainability and resilience, the adoption of new technologies, modifications in service delivery methods, and continuous improvement. Finally, the implementations are systematically monitored and evaluated for effectiveness, which involves measuring key performance indicators or other tourism-related metrics, conducting customer satisfaction surveys and soliciting sta-

keholder feedback (Joshi, 2022). This theoretical framework is adaptable to various facets of TSCM. By continuously refining the framework, practitioners can enhance TSCM efficiency, reduce costs, elevate customer satisfaction, maintain competitiveness, and improve destination sustainability and resilience.

In summary, this chapter highlights the intricate nature of the tourism sector and emphasises the importance of researching innovative methodologies and perspectives to navigate its complexities effectively. Central to this challenge is the role of TSCM, which hinges significantly on key stakeloder perceptions on sustainability and resilience and stakeholder relationship management (Wang, Kai et al., 2022). Through a comprehensive understanding of these relationships, destinations can strive towards sustainability and resilience, two primary aims crucial for long-term success (Wang, Yang et a., 2022). The proposed theoretical framework advocates for a multi-stakeholder approach, emphasising the engagement of diverse stakeholders, including beneficiary groups at the destination, to foster a sense of ownership, trust and shared understanding. This inclusive approach facilitates the integration of diverse knowledge, power, and resources, thereby tailoring sustainability and resilience strategies to the unique issues of each destination (Mulyani, 2024; Joshi, 2022).

1.3.2. Identification of destination issues through SWOT and TOWS analysis

Applying SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis in tourism studies and TOWS (Threats, Opportunities, Weaknesses, Strengths) analysis provides valuable insights into theoretical strategic planning and management frameworks. These analytical tools facilitate the development of effective strategies to improve destination sustainability and resilience, particularly in the face of challenges such as environmental changes or social pressures. SWOT analysis is widely recognised for its ability to assess internal and external factors impacting destinations. Ahmad et al. (2024) emphasise its utility in identifying management strategies to improve sustainable tourism in ecologically sensitive regions. Similarly, research by Roy (2021) identifies effective strategies for destination management, utilising SWOT to navigate the complexities of tourism resilience. The adaptability of SWOT as a theoretical tool enables stakeholders to gain valuable insights into destination issues and establish effective pathways for development. However, implementing SWOT alone does not provide sufficient depth for rigorous strategic planning. This is where the TOWS analysis adds value by focusing on actionable strategies derived from the insights gained through the SWOT analysis. TOWS is employed to explore how destinations can translate their internal strengths and weaknesses into strategies that leverage opportunities and mitigate threats. For instance, Asadpourian et al. (2020) utilise TOWS analysis to suggest alternative tourism development strategies tailored for destinations,

thereby optimising their tourism potential. This highlights the importance of TOWS in prioritising action items that emerge from the SWOT analysis.

Despite their efficacy, existing applications of SWOT and TOWS models in identifying destination issues may exhibit shortcomings (Ahmad et al., 2024). Many studies fail to adequately address the dynamic nature of destinations, neglecting the continuous evolution of challenges and opportunities. The static application of these models may overlook the need for iterative assessments that adapt to changing conditions in destinations. Therefore, incorporating real-time data from SWOT and TOWS analyses into the TSCM framework is essential for maintaining ongoing relevance and effectiveness. Moreover, while SWOT and TOWS can provide significant insights during management planning phases, the absence of definitive quantitative measures can restrict their practical applicability. This challenge is acknowledged by Popović et al. (2018), who advocate for incorporating such methodology prioritisation, ensuring that further research strategies can be systematically assessed based on the potential impact of destination issues (Popović et al., 2018). By leveraging such methodologies, tourism stakeholders can more adequately prioritise their perceptions of sustainability and resilience to maximise destination development outcomes. Therefore, this study employs the theoretical SWOT analysis to evaluate, compare, and prioritise issues for further investigation. The analysis is structured around two main categories:

- Internal Factor Analysis involves assessing the strengths and weaknesses inherent to the system's internal environment. Strengths enable the system to achieve its objectives, while weaknesses are constraints hindering its progress (Wasike et al., 2011).
- External Factor Analysis entails evaluating the external environment's opportunities and threats. Opportunities are external factors that can benefit the system, while threats are external factors that pose risks or challenges (Wasike et al., 2011).

The destination selected for further analysis is Brighton, United Kingdom. Brighton, situated on the south coast of England, is a vibrant and popular seaside destination renowned for its rich history, breathtaking shoreline, cultural diversity, and vibrant atmosphere. Tourism is a significant industry in the Brighton & Hove district. The city attracts over 11 million visitors, delivering nearly £886 million of spending in Brighton & Hove (Brighton & Hove City Council, 2023). Tourism accounts for around 14% of all employment, equivalent to 21,000 direct jobs in the local economy. The city's hotels are busy most of the year, achieving an average occupancy rate of 80%. However, there is some capacity and a recognised need to attract more weekday leisure short breaks outside the conference season and peak summer months (Brighton & Hove City Council, 2023). Brighton's volume of overnight trips and international visitors has grown significantly over the last five years. Proximity and easy access from Gatwick contribute to the city's performance in international tourism. Because tourism is well-established and successful, the focus in Brighton & Hove in recent years has been primarily on day-to-

day management and tactical activities, all of which are essential for the smooth running of the sector and the city. However, in a highly competitive marketplace, no destination can stand still. Additionally, when tourism thrives, some of its broader positive and negative impacts become more pronounced and noticeable, potentially causing damage if not managed responsibly (Borowy, 2021). The SWOT analysis presented below (Table 5) provides an overview of the internal strengths and weaknesses and the external opportunities and threats facing Brighton, UK. The city's stakeholders need to consider these factors when planning for sustainable development and growth.

Table 5. The SWOT analysis of Brighton

STRENGTHS	**WEAKNESSES**
1. Tourist attractions: Brighton boasts a diverse range of tourist attractions, including Brighton Pier, the Royal Pavilion, and Brighton Beach. 2. Cultural diversity: The city is known for its vibrant and diverse cultural scene, with numerous festivals, art galleries, and a thriving music and arts community. 3. Transportation hub: Brighton's strategic location as a transportation hub, with good air (Gatwick and Brighton city airports), rail, and road connections, makes it easily accessible for tourists from London and other nearby areas. 4. Education and innovation: The University of Brighton contributes to a dynamic and innovative atmosphere, fostering research, education, and technology. 5. Seaside location: The city's coastal setting enhances its appeal, offering a range of recreational opportunities, water-based activities, and a unique atmosphere. 6. The sunny climate and chalk soil have helped to create award-winning vineyards, with Sussex sparkling wine granted protected regional status by DEFRA. 7. An artistic and vibrant city, boasting a lively nightlife and an impressive festival scene.	1. Over-tourism: During peak tourist seasons, overcrowding strains infrastructure, creates congestion, and impacts the overall visitor experience. 2. Seasonal dependency: The city experiences significant seasonal fluctuations in tourism, which makes maintaining a stable economy and employment throughout the year challenging. 3. Affordability: The cost of living, including housing prices, may lead to affordability issues for residents and businesses. 4. Infrastructure strain: The increase in tourism strains local infrastructure, including transportation, waste management, and public services, negatively impacting residents' quality of life. 5. Environmental concerns: Brighton is a coastal destination vulnerable to environmental issues, including erosion, rising sea levels, and the effects of climate change. 6. High labour shortages: Research shows that 24% of businesses in the 'Accommodation and Food Services' sector are experiencing worker shortages, which is twice the rate of the rest of the economy. This leads to some businesses pausing trading or being unable to meet demand.
OPPORTUNITIES	**THREATS**
1. Sustainable tourism practices: Sustainable tourism initiatives can help mitigate environmental concerns and promote responsible tourism. 2. Diversification of attractions: Developing new and unique attractions can attract more visitors and reduce dependency on traditional tourist hotspots. 3. Cultural events and festivals: Expanding cultural events and festivals can enhance the city's appeal and attract tourists annually. 4. Technology and innovation: Leveraging technology and innovation, mainly through partnerships with the University of Brighton, can stimulate economic growth and attract new businesses. 5. Collaboration with nearby areas: Collaborating with nearby destinations can create regional tourism packages, encouraging tourists to explore multiple locations. 6. The combination of Brighton's coastal scenery includes rural landscapes, historic towns and vibrant resorts. The South Downs National Park covers an area of 1,625 km2, including the South Downs Way National Trail, Seven Sisters Country Park and the Sussex Heritage Coast, which incorporates the chalk cliffs of Beachy Head and the Seven Sisters. The UNESCO Living Coast Biosphere is a key feature, symbolising the area's biodiversity and a catalyst for developing ecotourism.	1. Globalisation: Continued growth in tourism without effective management could lead to over-tourism, negatively impacting the local environment and community. 2. Economic dependence and lack of private investment: The city's heavy reliance on tourism makes it vulnerable to economic downturns and external shocks. 3. Climate change impacts: Brighton is a coastal city vulnerable to the effects of climate change, including rising sea levels, which can impact infrastructure and property. 4. Competition from other destinations: Nearby cities or alternative tourist destinations pose competition, requiring continuous efforts to differentiate and maintain Brighton's attractiveness. London dominates the inbound visitor economy—the capital accounted for 52% of all international overnight stays and 56% of international visitor spending in 2019. 5. Global events: Political, economic, or health crises on a global scale can significantly impact international tourism and disrupt local economies. 6. An increasingly competitive global travel market—while the market's overall size increases as more tourists have the means to travel, the UK's market share has declined, falling from being the sixth most visited country in the world in 2016 to 10th in 2019.

Compiled by the author, following Durrant et al., 2018; Garbuzov et al., 2015; Easteal et al., 2014

As noted by various researchers and outlined in the SWOT analysis above (Table 5), Brighton, one of the most vibrant and popular coastal cities in the United Kingdom, encounters various tourism-related issues common to many popular destinations (Novelli, 2024; Durrant et al., 2018; Garbuzov et al., 2015; Easteal et al., 2014). Some of the prevalent issues are outlined in Table 6:

Table 6. Identified issues of Brighton through SWOT analysis

ISSUE	RESULT & IMPACT
Over-tourism	Overcrowding, causing strain on infrastructure, public spaces, attractions and amenities
Environmental degradation	Pollution, waste generation and energy consumption
Overuse of natural resources	Inbalance between tourism growth and environmental conservation
Traffic and transportation	Air and noise pollution (Gatwick airport); congestion. Impacts residents, infrastructure and air quality
Housing and accommodation	Short-term accommodation necessity minimises housing availability for residents, leading to increased pricing.
Community and cultural preservation	Changing city's identity, which needs to be preserved
Economic dependency	Dependent on tourism, which is affected by external factors
Seasonality	A challenge to maintain a stable economy and employment.

Compiled by the author

As noted by M. Novelli, (2024), the importance of sustainable and resilient development is also revealed in several Sustainable Development Goals (SDGs) that Brighton is failing to achieve by 2030 that is SDGs 9, 11, 12, 13 and 15. The need for TSCM to improve sustainability and resilience is highlighted in Brighton due to severe crises (Brighton & Hove City Council, 2023):

- Brighton is the most affected tourism destination in the UK by Covid-19 (health-related tourism crises).
- Has overmanaged tourism infrastructure (environmental crisis);
- Harmfully impacted by pollution caused by unsustainable activity (environmental crisis);
- Brighton & Hove declared a climate and biodiversity emergency in December 2018.

Addressing these issues requires a delicate balance between catering to tourists' needs and preserving the city's and its residents' well-being and sustainability (Novelli, 2024). Sustainable tourism management strategies, community engagement and col-

laboration between stakeholders are essential to effectively manage these challenges in Brighton (Durrant et al., 2018). A TOWS analysis has been employed to address the tourism-related challenges in Brighton. It facilitates strategic planning by evaluating internal strengths and weaknesses alongside external opportunities and threats and enhances decision-making by identifying interactions between these factors, enabling prioritisation of initiatives (Asadpourian et al., 2020). Additionally, TOWS analysis aids in risk management by anticipating potential threats and developing proactive strategies to mitigate them. It is a valuable tool for researchers and strategic management planners. It enables them to locate informed decisions, manage risks, and gain a competitive advantage by helping destinations adapt to change effectively (Roy, 2021). Below is a TOWS analysis with several solutions that can be considered to create a more sustainable and resilient destination for Brighton (Table 7)

The diverse strengths of Brighton (Table 7), including its tourist attractions, cultural diversity, and seaside location, present significant opportunities for economic growth and tourism development. However, the city also faces weaknesses and threats, such as over-tourism, seasonal dependency, and competition from other destinations. TOWS analysis is essential to address these challenges and capitalise on opportunities (Novelli, 2024). By implementing sustainable tourism practices, diversifying the economy, addressing affordability issues, investing in infrastructure resilience, promoting cultural heritage, and enhancing labour market strategies, as outlined in the WT section, Brighton can navigate the complexities of globalisation, economic dependence, climate change impacts, and intense competition in the global travel market. The WT section can be categorised into the following issues of Brighton, which will be addressed in the empirical part of this thesis (Fig. 17)

Identifying counterparts through TOWS (Fig. 17) analysis is crucial for further research to develop tailored strategies that align internal strengths with the destination's external opportunities while mitigating weaknesses and threats (Asadpourian et al., 2020). This analytical approach helps to summarise the destination's issues, which will be addressed further in the 'interrogation of stakeholders' - a research methodology that involves direct engagement with key stakeholders at the destination to gather perceptions while examining the necessity of management improvement strategies.

The empirical applicability of identified destination issues through SWOT and TOWS analysis may be limited due to a lack of definitive quantitative measures. This deficiency can hinder stakeholders in effectively evaluating and prioritising strategies, presenting challenges to implementing comprehensive and data-driven decisions (Espiner et al., 2017). Authors discuss the need to evolve the conceptual framework to incorporate metrics, providing tangible evidence that supports strategic insights (Espiner et al., 2017). This underscores the limitations of relying solely on subjective assessments of strengths, weaknesses, opportunities, and threats. The subjective nature of these assessments may lead to inconsistencies and a potential lack of comparability

Table 7. The TOWS analysis of Brighton

Market attractiveness

	STRENGHTS	WEAKNESSES
OPPORTUNITIES	**SO** Enhance visitor experiences through targeted marketing campaigns Invest in infrastructure maintenance to sustain iconic landmarks Expand year-round cultural events Foster partnerships to promote Brighton's vibrant arts community globally Develop integrated transportation solutions to improve connectivity Collaborate on combined travel packages with discounted fares Strengthen ties between the University of Brighton and local businesses to foster innovation, establish incubators to support start-ups and technology ventures. Promote water-based activities and coastal conservation efforts. Develop wine tourism initiatives and partnerships with local wineries and restaurants.	**WO** Implement sustainable tourism practices, promoting responsible behaviours Diversify attractions with eco-tourism initiatives Expand cultural events year-round Collaborate on regional tourism packages with nearby destinations. Develop affordable housing initiatives. Support local businesses with grants. Invest in infrastructure technology to improve efficiency and capacity Collaborate with the University of Brighton for innovative solutions. Leverage coastal scenery for eco-tourism initiatives promoting conservation. Implement coastal protection measures and climate resilience strategies. Develop training programs with the University for hospitality industries and invest in employee training.
THREATS	**ST** Leverage diverse tourist attractions to attract visitors beyond traditional hotspots Implement sustainable tourism practices in collaboration with environmental organizations. Capitalize on cultural diversity to attract private investment, diversifying the economic base. Foster innovation and entrepreneurship through partnerships with the University of Brighton and local businesses. Utilize seaside location for eco-tourism initiatives and climate resilience strategies. Highlight unique attractions to differentiate from competitors. Enhance transportation connectivity for convenient access from nearby cities. Strengthen cultural events and festivals to stimulate local economies during global uncertainty. Develop flexible cancellation policies and contingency plans in collaboration with tourism stakeholders. Promote Brighton's artistic and vibrant nightlife to appeal to international tourists. Market sunny climate and coastal location for outdoor leisure and vineyard tours.	**WT** **Implementation of sustainable tourism practices to manage over-tourism and environmental degradation;** **Collaboration amongst stakeholders to enhance visitor experience and destination sustainability and resilience;** **Destination branding to maintain attractiveness;** **Diversification - to reduce reliance on seasonal fluctuations.** **Investing in infrastructure resilience;** **Developing optimised tourism management strategies to adapt to global events and maintain visitor interest** Attracting of private investment to enhance economic resilience. Development of affordable housing initiatives to address cost of living concerns Promotion of Brighton's unique attractions and cultural heritage to differentiate from competitors Addressing labour shortages through training programs and incentives to attract and retain workers.

Competetive strength of the destination

Compiled by the author, following the SWOT

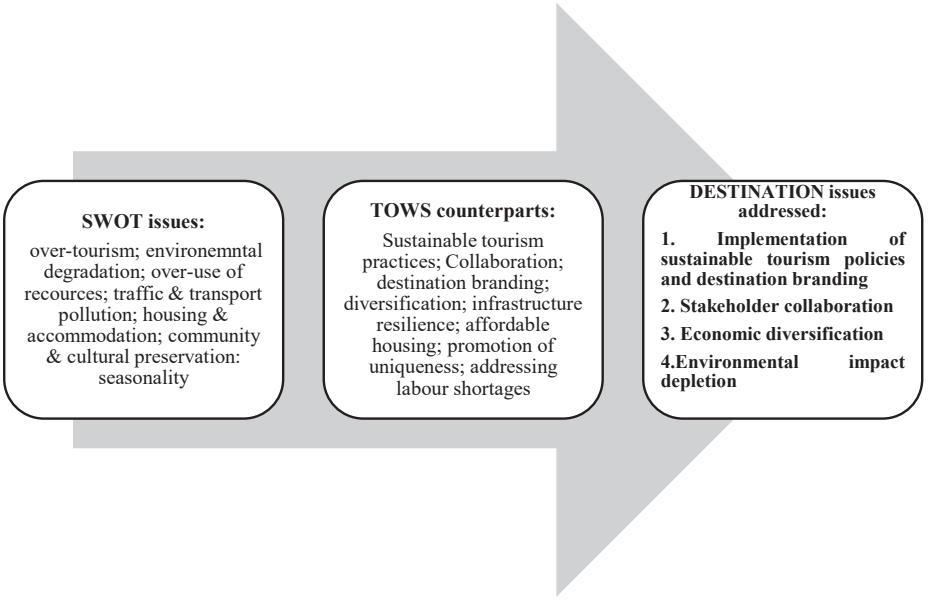

Figure 17. Identified counterparts of Brighton through TOWS and research issue determination

Compiled by the author, following TOWS

across different studies. Moreover, integrating indicators enhances the resilience of tourism destinations (Robinson & Carson, 2016). Community engagement, environmental sustainability, and economic performance provide a multifaceted perspective on resilience in destination management. Incorporating metrics enables the real-time assessment of planned strategies, allowing stakeholders to adjust TSCM effectively to improve destination sustainability and resilience (Venkatachalam et al., 2020). This can be achieved and measured through tourism indicators. Tourism indicators help assess tourism's positive and negative impacts on a destination, encompassing economic, social, environmental, and cultural aspects. They are essential tools for planning, monitoring and evaluating TSCM strategies.

1.3.3. Indicators supporting management improvement

In the scientific literature, it is argued that indicators play a fundamental role in evaluating the performance of policies within tourism supply chain management, aiming to achieve sustainable and resilient destinations (Kadir & Chew, 2024; D'Ambrosio, 2024; Beck & Ferasso, 2023). Indicators are crucial tools for assessing the effective-

ness of interventions promoting sustainability and resilience across destinations (Rezapouraghdam et al., 2024). Researchers and decision-makers rely on indicators to monitor key aspects of tourism operations, such as environmental impact, resource management, community engagement, and tourists' understanding of a destination's sustainability and resilience (Nilashi et al., 2015). For example, indicators related to carbon emissions, water usage, waste management, and biodiversity conservation are used to measure the environmental sustainability of tourism activities (Beck & Ferasso, 2023). Similarly, indicators related to community involvement, local employment, cultural preservation, and social equity are used to assess the social sustainability of tourism initiatives (Kadir & Chew, 2024). These indicators help to ensure that tourism development benefits local communities, respects cultural heritage, and promotes social inclusivity. Furthermore, indicators related to economic performance, tourism revenue distribution, infrastructure development and market diversification are used to evaluate the economic resilience of tourism destinations (Jeelani et al., 2024). By monitoring these indicators, researchers and decision-makers can identify vulnerabilities in the tourism economy and develop strategies to improve resilience, such as diversifying tourism products, attracting new markets and investing in infrastructure upgrades (Varelas & Tsoupros, 2024).

All things considered, indicators are essential in steering TSCM research procedures towards resilient and sustainable locations. Indicators help guide policy formulation, track progress, and hold stakeholders responsible for attaining sustainable tourism results using objective, quantifiable measurements of sustainability and resilience (Bo et al., 2022). Building a more sustainable and resilient destination depends on their involvement in encouraging evidence-based decision-making and supporting stakeholder cooperation (Cimbaljeć et al., 2023). Tourism indicator systems track, evaluate, and control many facets of tourist activity and its effect on locations (EC, 2016). In scientific tourism literature of the last decade, two prominent examples of tourism indicator systems are Key Performance Indicators (KPIs) and the European Tourism Indicator System (ETIS). There are other examples of indicator systems tailored to specific contexts and objectives; however, the following three are used chiefly, empirically validated, and nationally acknowledged (Fig. 18).

As illustrated in Fig. 18, tourism indicator systems, such as KPIs (Key Performance Indicators), ETIS (European Tourism Indicator System), and the GSTCIs (Global Sustainable Tourism Council Indicators), play a crucial role in monitoring, assessing, and managing tourism activities and their impact on destinations (Rezapouraghdam et al., 2024; Crotts et al., 2022). While each system has strengths and limitations, they collectively promote sustainability, resilience and responsible tourism practices worldwide (Jeelani et al., 2024). The practical implementation of these indicator systems requires collaboration, capacity building, and stakeholder engagement to ensure

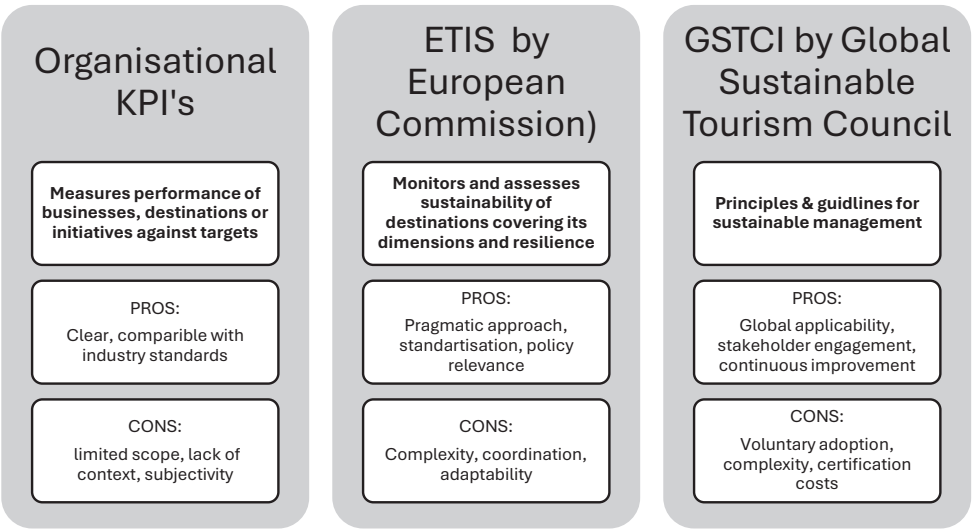

Figure 18. Scientific indicators measuring destination sustainability and resilience

Compiled by the author, following Rezapouraghdam et al., 2024; Jeelani et al., 2024; Lew et al., 2016

that meaningful and actionable insights are generated for sustainable and resilient destination development (Bo et al., 2022).

ETIS is the most suitable metric for assessing stakeholder perceptions towards sustainability and resilience due to its comprehensive approach and relevance to destinations (Cimbaljević et al., 2023; De Marchi et al., 2022; EC, 2016; Cannas & Theuma, 2013). ETIS encompasses environmental, economic, social, and governance aspects, offering a pragmatic understanding of a destination's sustainability and resilience. Its standardised indicators enable consistent measurement and comparison across destinations, facilitating benchmarking and identifying best practices (Gasparini & Gasparini, 2021). For further study, ETIS has been selected as the most suitable indicator system to assess TSCM stakeholder perceptions of improved sustainability and resilience in destinations such as Brighton, UK, and Palanga, Lithuania, similar to seaside destinations. Below are the visions of both seaside destinations (see Fig. 19).

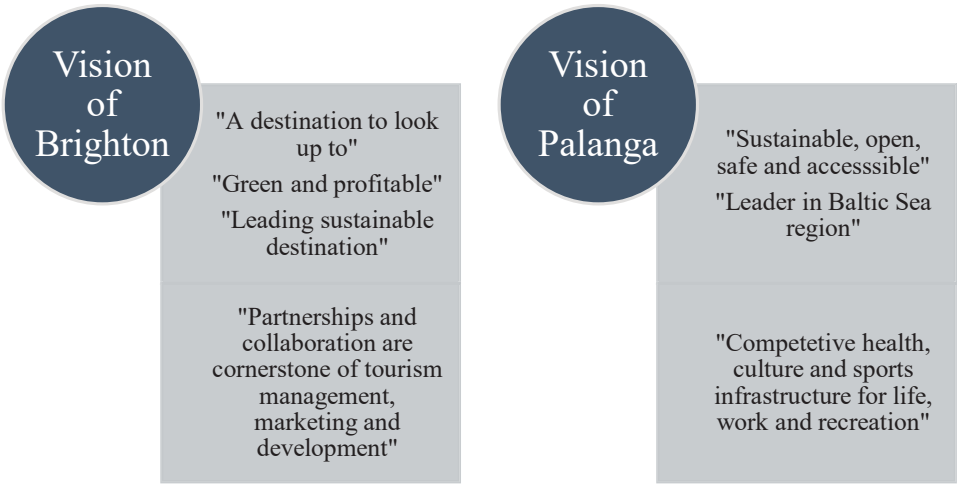

Figure 19. Visions of selected destinations

Compiled by the author, following Brighton and Hove City Council, 2023; Palanga Municipality, 2024@ https://palanga.lt/savivaldybe/administracine-informacija/planavimo-dokumentai/6682?lang=en#c-270/t-1052

Both visions underline the dedication of the destinations to sustainability and resilience (Fig. 19) as well as their initiatives to use alliances and teamwork for the development and management of tourism. With a focus on environmental projects and profitability, Brighton stresses the resort's reputation as a sustainable tourism leader. The vision positions Brighton as a model for other locations (Novelli, 2024), emphasising the inclusion of sustainability ideas into development processes, marketing, and tourism management. Likewise, Palanga's vision stresses its dedication to sustainability, safety, and accessibility, positioning the destination as a leader in the Baltic Sea region (Povilanskas & Armaitienė, 2011). The vision underlines Palanga's competitive and creative infrastructure in health, culture, and sports and its commitment to conserving natural resources and cultural legacy while building a modern environment for residents and visitors. Both visions highlight sustainability, creativity, and cooperation, reflecting the desires of the locations to build resilient and sustainable tourism systems that help locals and visitors.

The all-encompassing character of both sites addresses several aspects vital for sustainable tourism growth, making them suitable for different locations throughout Europe. Conversely, Brighton shows more progress in sustainable development than Palanga and a broader range of stakeholders. Compared to Palanga, Brighton & Hove

City displays more thorough use of renewable energy sources, complete waste management systems, and efficient urban planning techniques to reduce environmental effects. Key problems include seasonal overcrowding, ecological strain on the shore and socio-economic inequalities between tourist attractions and local populations are revealed by a SWOT & TOWS study of Brighton in chapter 3.2. Likewise, Palanga, Lithuania, famous for its sandy beaches and cultural legacy, struggles with too much reliance on seasonal tourists, limited infrastructure, and the necessity to preserve cultural heritage in fast expansion.

Using ETIS guidelines, convening focus groups with stakeholders from Palanga - including local businesses, government officials, and environmental groups - allows cooperative dialogues on priority areas for sustainable tourism development following the University of Brighton's validation of chosen ETIS criteria. Identifying key ETIS criteria is essential for both locations. These factors direct more investigation and analysis to identify TSCM techniques (De Marchi et al., 2022). Brighton and Palanga may create customised plans to increase sustainability and resilience by using ETIS and involving stakeholders in decision-making. This cooperative strategy guarantees that all stakeholders' requirements and viewpoints are considered, producing more efficient and fair results of destination management (Iștoc et al., 2022). Using ETIS and stakeholder involvement helps places evaluate their present sustainability performance, spot areas for development, and create customised plans to enhance sustainability and resilience (McLoughlin et al., 2020). Destinations can reach long-term sustainability objectives, build resilience, and preserve cultural and environmental integrity using cooperative initiatives and educated decision-making (Ma et al., 2021).

In summary, Chapter I underlines the importance of tourism supply chain management in improving destination sustainability and resilience. Examining the tourism supply chain management (TSCM) concepts, unique qualities, relationships, and affiliation to destination, this chapter offers a theoretical basis for comprehending its ability to handle issues like over-tourism and environmental degradation by improving destination sustainability and resilience.

The tourism supply chain differs significantly from conventional supply chains regarding management, structure, and goals. TSCM requires coordinating interconnected key stakeholders - including destination management organisations (DMOs), tour operators (TOs) and travel agencies (TAs), accommodation and transportation service providers - while traditional supply chain management focuses on the manufacturing and delivery of physical products. In TSCM, the emphasis changes to improving the sustainability and resilience of destinations, producing seamless experiences for consumers, and demanding a more dynamic and flexible management style.

Its particular network structure and goals, which fit the general aims of sustainable and resilient destinations, define TSCM. TSCM stresses cooperation among stakeholders inside the theoretical framework to maximise resource usage, preserve

service quality, boost consumer satisfaction, and strengthen destination management. Because of the linked character of tourism supply chains, inefficiencies or misalignments in one section of the chain may impact the sustainability and resilience of the destination. Essential issues in TSCM are balancing stakeholder relationships to meet destination objectives, controlling environmental and social consequences, and handling the complexity of changing visitor demand.

Including sustainability and resilience into destinations via TSCM and its operational performance means using techniques that guarantee economic viability, improve social fairness, and reduce environmental effects. Pathways help enable the multi-stakeholder management approach by offering a systematic method for tracking and enhancing destinations' sustainability and resilience. TSCM is crucial to destination management in a competitive market since tourism destinations require supplier collaboration, coordination, and partnerships.

The foundation of tourism supply chain management is destination sustainability and resilience. While sustainable tourism stresses the responsible use of resources to satisfy present and future requirements, resilient tourism underlines a destination's capacity to adjust to shocks and disturbances. TSCM weaves together these two elements to direct the creation of plans supporting destination management. Framed within sustainability, resilience emphasises the destination's ability to endure and bounce back from disturbances while complementing its goals. Building on existing ideas, this paper finds a framework stressing the need for stakeholder cooperation, consumer-centric initiatives, and data-driven decision-making to enhance destination sustainability and resilience.

Integrating sustainability and resilience principles through measurable management improvement phases, applying a multi-stakeholder management approach, identifying destination issues and incorporating technological advancements addresses the core theoretical principles of analysing TSCM to improve destination sustainability and resilience and is presented in the theoretical model. Further, a thorough analysis of the chosen destination's strengths, weaknesses, possibilities, and dangers provides vital insights into its issues and possible areas for development. Using the TOWS study strengthens the destination's resilience and sets a destination management path to close sustainability gaps. Guiding decision-making in TSCM depends on the use of tourism-specific indicators. Indicators like the European Tourism Indicator System and consumer satisfaction scores offer TSCM practical ideas to improve destination sustainability and resilience.

II.

Research Methodology for Managing Tourism Supply Chain to Improve Destination Sustainability And Resilience

In the second part of this dissertation, based on the previously analysed links between tourism supply chain management and destination sustainability and resilience, the methodology of empirical research, the creation of research instruments, the research strategy, the characteristics of the research sample, and data analysis methods are justified.

2.1. Methodological justification, philosophy and strategy of the study

In all tiers of academic inquiry, it is essential to consider diverse research philosophies and paradigms, particularly about the fundamental aspects of ontology and epistemology, which are crucial for understanding the scope of the research problem (Karali et al., 2024; Gobo, 2023). The methodology is shaped by the researcher's philosophical position when tackling the research problem (Voumik et al., 2024). The person's ideas, values, knowledge, and beliefs - all impacted by their experiences and perceptions of the real world - form this position. When the researcher ignores their reflections on the problem and only relies on the opinions of other academics without critically analysing them, a problem occurs. As Arenas et al. (2024) noted, when addressing the research problem, the researcher establishes a stance based on their beliefs and values, reflecting societal expectations. This exercise in critical thinking

holds paramount significance in appraising existing research and delineating and rationalising the research framework towards destination sustainability and resilience in managing tourism supply chains.

Before embarking on any research endeavour, the researcher must have well-defined and articulated paradigms guiding their approach (Means & Mowatt, 2024). This ensures clarity in applying the findings, as the specific research paradigm directs the purpose, ontology, epistemology, and research methodologies and invites critique (Buskell, 2024). Tribe (2001) argues that a paradigm represents a systematic framework combining essential concepts, variables, and issues, alongside suitable methodological approaches and tools. Tribe, Dann, and Jamal (2015) characterise a paradigm as a "worldview," encapsulating fundamental beliefs and assumptions that steer research endeavours. Ramoglou and McMullen (2024) advocate for analysing the paradigm through its four core elements: ontology, epistemology, methodology, and methods and techniques, as shown in Fig. 20.

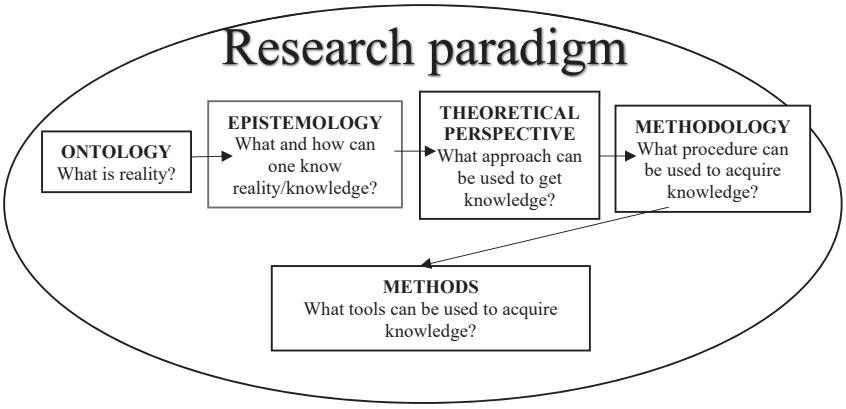

Figure 20. Research paradigm clarification

Compiled by the author, following Ramoglou & McMullen, 2024

The structure of the research paradigm can be likened to the concentric ring, where each box contributes to the overall framework (Fig. 20). The lower box represents the methods and techniques employed in the research methodology, including practices such as expert assessment, focus groups, interviews, surveys and case analysis (Tribe et al., 2015). As emphasised by the authors, these methods are contingent upon three core research dimensions: ontology, epistemology, and methodology. Ontology refers to philosophical assumptions concerning the essence of reality, delineating the form and

nature of reality and what can be discerned from it (Buskell, 2024). Epistemology encompasses a broad set of assumptions regarding approaches to understanding the world and the researcher's knowledge and comprehension attainable through diverse research types and alternative methodologies (Berchicci & Alexy, 2024). Methodology involves integrating methods to investigate a specific scenario, where research methods, regulations, and assumptions are scrutinised, formulated, and substantiated (Gobo, 2023).

Durbarry (2018) notes that research methods are peripheral to a paradigm, which directs researchers in method selection and provides ontological and epistemological justification for these choices. Understanding and considering these factors is essential to ensuring that the research methods used align with the research question's goals and objectives, since these parameters include perceptions, beliefs, assumptions, and conceptions of reality and truth (Gobo, 2023). Jere-Jakulin (2017) argue that all researchers exhibit some bias, which can influence research design.

As the scholars mentioned earlier, a research paradigm represents a comprehensive and interconnected framework that defines the nature of research across four dimensions. TSCM must be examined from the whole perspective and requires a system that forms the basis for research conduction (Gruchmann et al., 2022). Following the determination of the TSCM approach that attributes to sustainability and resilience, the thesis aims to introduce destination management strategies by examining the stakeholder input (Clouser & Rickly, 2024; Ramoglou & McMullen, 2024). Such strategies will align with the research aim and question, outlining the methodological background for implementation, as illustrated in Figure 21.

According to Ramoglou and McMullen (2024), the research philosophy entails a thorough analysis of the TSCM approach to creating resilient and sustainable destinations, as shown in Fig. 21. This philosophical framework explores the many facets of TSCM, examining its complex interconnections and implications for resilient and sustainable destination development. It draws on the work of renowned scholars, such as Groenewald et al. (2024) and Tang (2024). Empirical research is fundamental to this philosophical and theoretical investigation (Tang, 2024). The researcher will obtain practical insights into the dynamics of tourism supply chains, resilience and sustainability improvement tactics, and stakeholder-consumer relationships through methodical data collection and analysis techniques. In addition to enhancing comprehension of theoretical ideas, this empirical perspective offers valuable information for guiding managerial choices and legislative initiatives in the tourism industry (Pernecky, 2024). Fundamentally, this research philosophy is supported by a dedication to expanding knowledge and tackling urgent issues in modern TSCM. Research aims to create a model for managing stakeholder-consumer relationships within TSCM by combining theoretical understanding with empirical data. Research attempts to improve tourist destinations' long-term sustainability and resilience, adding to the body of knowledge and practical applications in the field of TSCM for the industry.

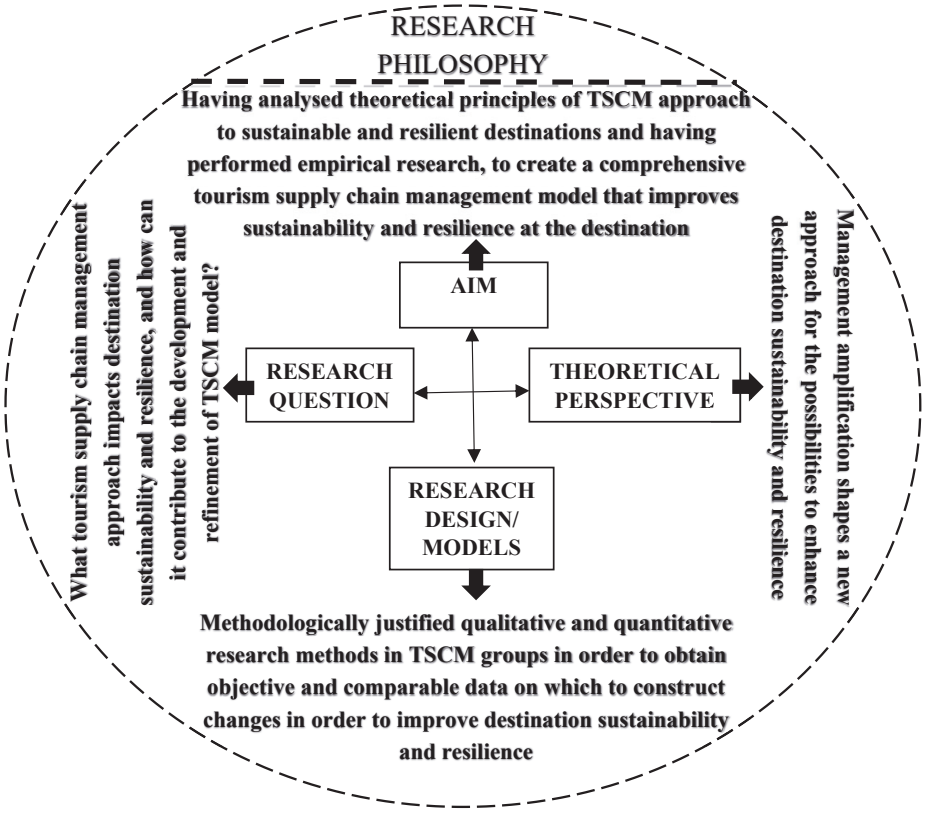

Figure 21. Research philosophy outlook

Compiled by the author, following Ramoglou and McMullen, 2024

Piboonrungroj & Disney (2009) suggest that crafting a research structure involves delineating philosophical assumptions by the researcher upon deciding to undertake a research inquiry. Researchers integrate their worldviews, paradigms, or belief systems into the research structure, shaping both the execution and documentation of the research. Tribe et al. (2015) highlight that articulating the researcher's paradigmatic perspective reveals ontological and epistemological assumptions, serving as the metatheoretical foundation governing the interaction between research inquiries and methodologies. In scrutinising this interaction process, it is pertinent to explore, and comprehend the research framework outlined in Fig. 22.

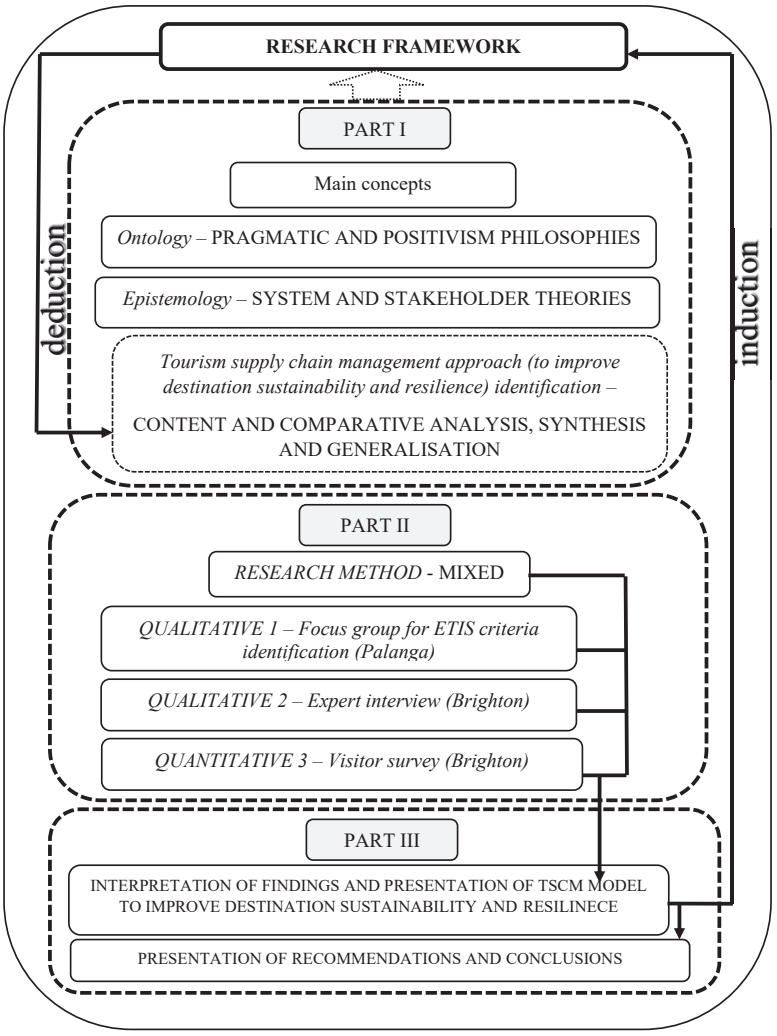

Figure 22. Logical research framework

Compiled by the author, following Gore et al., 2024; Tribe et al, 2015

As illustrated in Fig. 22, the methodological basis of the study comprises the following concepts: the philosophies of pragmatism and positivism, system and stakeholder theories, content analysis, and mixed-methods empirical study.

Pragmatism in tourism research represents an approach that strongly emphasises practicality, problem-solving, and real-world application in studying tourism-related issues (Harrill et al., 2024; Pansiri, 2005). Pragmatism in tourism research, according to Pansiri (2005), is flexible and adaptive; therefore, researchers may adjust their focus and methods based

on changing circumstances and emerging issues within the tourism industry. Pragmatic research in tourism leads to developing policies and strategies that address pressing issues, such as overcrowding, crisis resilience, environmental sustainability, and economic development in tourism destinations (Damanik et al., 2021). Pragmatic researchers are interested in the outcomes of their research, particularly the impact it has on real-world practices and decision-making within the tourism sector; pragmatist researchers may continuously evaluate the effectiveness of their recommendations and adapt them as necessary, taking into account changing circumstances and feedback from stakeholders (Schönherr, 2024). Pragmatism in tourism research prioritises practicality, problem-solving, and applying research findings to improve the tourism industry and its sustainability. It prioritises qualitative methods while also accommodating quantitative research approaches. It generates actionable recommendations and meaningful contributions by advocating continuous stakeholder involvement. (Schönherr, 2024; Weaver et al., 2022).

Positivism suggests that knowledge can be gained through empirical observation and quantitative methods. It offers a robust framework for studying tourism. Applying positivist principles to the study of tourism involves systematically observing and measuring various aspects of the TSCM process (Means & Mowatt, 2024). Researchers primarily employ quantitative methods to collect data on transportation logistics, inventory management, and consumer behaviour (Ross et al., 2024). Using statistical analysis techniques, they seek to identify patterns, correlations, and causal relationships within the supply chain network. In this thesis, positivist research assesses consumer preferences for sustainable and resilient destination management practices. This empirical investigation aims to generate actionable insights to inform decision-making and policy formulation in the tourism industry.

One of the fundamental aspects of positivist philosophy in TSCM is emphasising cooperation among supply chain members. Nam et al. (2022) discuss how collaboration within the tourism supply chain enhances the performance of the supply chain and individual stakeholders in Vietnam. Their findings confirm the vital role of collaboration in supply chain management strategies and demonstrate that effective coordination significantly benefits the tourism industry. Similarly, Mulyani (2024) emphasises that a robust tourism supply chain has a positive impact on tourism performance, suggesting that a more extensive and efficient tourism supply chain leads to improved overall tourism outcomes and that the application of quantitative analyses is pivotal as it allows for the examination of relationships and impacts within the TSCM.

Another critical area where positivist philosophy is evident is in risk management strategies within TSCM. Chowdhury et al. (2024) present findings suggesting that risks affecting different sectors of the TSCM can be assessed and managed using quantitative frameworks. Their work suggests that effective risk management enables destinations to navigate challenges and foster resilience, demonstrating that comprehensive data analysis can yield actionable strategies applicable across various segments of the TSCM. By applying positivist philosophy to the study of TSCM, researchers seek to enhance the understanding of the

complex dynamics that shape the tourism sector. Empirical research grounded in positivist principles contributes to developing evidence-based strategies for fostering sustainability, resilience, and efficiency within destinations.

Systems theory, or systems thinking, is an approach used in tourism research to understand and analyse the tourism industry and its components as interconnected and interdependent systems (Dang et al., 2020). A fundamental aspect of system theory applied to TSCM is the notion of interconnected subsystems. For example, Wiweka and Arcana (2019) emphasise the importance of distinguishing between internal and external subsystems that influence tourism dynamics, highlighting how both micro (e.g., consumer behaviour) and macro (e.g., economic, social, and environmental factors) elements interact to shape tourism supply chain outcomes. This dual-subsystem framework offers a deeper understanding of the complexities within the tourism supply network, enabling the development of targeted management strategies considering various influencing factors.

Moreover, using systems theory in tourism facilitates the exploration of collaborative models. Rapp and Corral-Granados (2024) emphasise that successful innovative tourism initiatives depend on robust interpersonal connections among diverse stakeholders, including service providers and governmental tourism bodies. This focus on collaboration underscores the importance of adaptive systems where stakeholders can share resources, knowledge, and capabilities to enhance supply chain performance. Collaboration enables stakeholders to remain agile, respond to changes in demand, and foster resilience against external shocks, such as economic downturns or health crises.

Another application of systems theory in TSCM is recognising the critical role of information sharing. Xu et al. (2015) introduce a model that addresses consumer information sharing in the online tourism supply chain, positing that adequate data flows enhance decision-making capabilities among supply chain partners. This empirical foundation demonstrates that information sharing is a vital mechanism within a system-oriented approach, enhancing responsiveness and facilitating improved coordination among actors in the TSCM.

The theoretical framework of systems theory also plays a crucial role in addressing sustainability within the tourism sector. Babu et al. (2018) emphasise the importance of integrating sustainability practices throughout the TSCM, arguing that a systems approach can foster stronger stakeholder relationships and promote sustainable practices essential to long-term success. By evaluating the interconnected impacts of sustainability practices, stakeholders can better understand their roles in preserving resources for future generations. By applying systems theory in tourism research, scholars aim to provide a more comprehensive understanding of the tourism industry and its complexities. This approach is particularly valuable in addressing issues related to resilience and sustainability management and planning, as it considers the interactions between the TSCM stakeholders that shape destinations (Rapp & Corral-Granados, 2024; Jere-Jakulin, 2017).

Stakeholder theory in TSCM focuses on the roles and influences of various actors involved in the tourism ecosystem, emphasising the necessity for their active engagement in decision-making processes. This theory posits that the success of tourism development hinges on recognising and balancing the interests of all stakeholders, including government entities, local communities, service providers, and tourists. Mondoñedo (2021) highlights that stakeholder involvement is crucial to sustainable tourism development. This suggests that all relevant groups should be identified and their interests integrated into tourism initiatives' planning and operational phases. He argues that neglecting a primary stakeholder can jeopardise developmental processes. This foundational tenet emphasises the importance of a holistic approach, where engaging diverse stakeholders is essential for achieving sustainable outcomes in tourism supply chain management.

Moreover, Mulyani (2024) notes that stakeholders in the tourism supply chain must operate acutely aware of their influence on one another, promoting effective communication and cooperation. This observation is consistent with stakeholder theory, which posits that interdependencies among participants necessitate coordination and dialogue to enhance the performance of TSCM. Efficient communication fosters partnerships and facilitates collective problem-solving, essential in navigating challenges such as demand fluctuations or environmental impacts. Identifying stakeholders and their respective interests forms a critical component of stakeholder theory applied to tourism. Kartimin et al. (2023) outline a systematic process for identifying and engaging stakeholders in developing sustainable tourism attractions. They break down this process into key steps: identifying stakeholder groups, managing their relationships, and co-managing transactions, which are necessary to ensure all interests are aligned towards mutual goals. Such a systematic approach to stakeholder involvement facilitates the establishment of effective governance structures that support sustainable and resilient tourism practices.

Stakeholder theory has gained prominence in discussions of corporate governance, business ethics, and resilience and sustainability (Song et al., 2021). It suggests responsible management extends beyond delivering financial returns to shareholders (Yrigoy et al., 2024). Instead, it acknowledges that organisations are embedded in a broader societal context and should consider the impacts of their actions on a wide range of stakeholders. By recognising the interests of multiple stakeholders and managing their relations to fulfil their legitimate expectations, organisations throughout tourism destinations aim to create a more sustainable and resilient approach (Theodoulidis et al., 2017).

The Pragmatic Positivist System Stakeholder (PPSS) theoretical construct represents a framework that aligns with the research's tenets (Gobo, 2023; Beck & Ferasso, 2023). The latter paradigm fosters a thorough and cohesive approach to understanding complex phenomena by highlighting the crucial role that expert opinions play in the analysis. In particular, the PPSS construct offers an organised method for comprehending the intricate relationships between tourism supply chain relationships and resilient and sustainable destination management. A more sophisticated comprehension

of the complex dynamics and management optimisation techniques within these domains is made possible by its methodical and interconnected viewpoint, which blends expert insights and customer preferences (Groenewald et al., 2024).

Content analysis: To clarify the implementation aspects of resilience and sustainability in Brighton, a case study and document analysis were employed to gather the required information for formulating statements and validating research results. This analysis has the advantages of being systematic, rigorous, and always verifiable, as the data are taken from the texts (Yan et al., 2024). Considering the specifics of the research, content analysis can be considered an important method of data collection, used to confirm the internal and external validity of the theoretical analysis and to confirm theoretical assumptions. Content analysis in tourism research involves systematically analysing and evaluating textual, visual, or audio content related to tourism to derive meaningful insights and identify patterns and trends (Bernal et al., 2024). As noted by latter authors, it is a qualitative research method that allows researchers to examine various types of tourism-related data, such as tourism-related documents, social media posts, articles, videos, or any other content that provides tourism information (Bernal et al., 2024). Conclusions and insights are drawn from the content analysis, and these findings contribute to understanding tourism-related phenomena.

According to Bengtsson (2016), document content analysis enables determining and understanding substantive information, themes, patterns, and meanings within a given set of documents. Used to implement research objectives and statements, it allows the identification of dominant subjects and patterns; key information extraction; warrants interpretation; permits the understanding of context and relationships between different concepts and interconnections; entitles to a deeper comprehension of the information encapsulated within analysed materials and validates interpretations and the identification of subjective elements for qualitative and quantitative researches.

2.2. Qualitative research methods and organisation

Using qualitative methods is a realistic and valuable way to get thorough and representative data for sociological research (Gunawan, 2015). Researchers improve their comprehension of intricate social phenomena by incorporating methods like focus groups and expert interviews (Gupta & Sahu, 2021). Focus groups facilitate conversations between participants with various viewpoints, opinions, and experiences, providing a forum for collecting explicit qualitative data (Krueger & Casey, 2015). This interactive environment promotes idea sharing, which makes it easier to explore subtle insights and gain a deeper comprehension of the topic.

Nonetheless, it is critical to recognise the difficulties in preserving group dynamics (Mehrdad et al., 2022). According to the authors, focus groups can occasionally

become a sequence of one-on-one interviews in a group environment (Mehrdad et al., 2022). To guarantee a thorough understanding, researchers might need to add more qualitative techniques to these findings. The focus group approach assumes that the group discussions' collective responses are not arbitrary or fleeting responses limited to the current situation. Instead, they symbolise collective awareness (Kasdorf et al., 2024). This method allows for a more thorough comprehension and interpretation of group dynamics and opinions, especially in smaller cohorts, which benefits studies with few participants. A small cohort representing a target audience is gathered for focus groups, a qualitative research method (Krueger & Casey, 2015). Under a moderator's direction, participation happens in organised discussions examining particular subjects, goods, services, or ideas. A focus group offers a forum for in-depth conversations and insights into different facets of TSCM and usually consists of up to ten participants with comparable traits.

Expert interviews, the primary qualitative research method, are enhanced by focus groups (Plakoyiannakia & Stavrakis, 2022). Researchers investigate causal relationships and create controlled environments for analysing the influence of particular factors on variables found through focus group studies by conducting expert interviews (Ji et al., 2024). These interviews provide a wealth of objective, verifiable, and substantial data that can be used to draw well-informed conclusions about consumer relationships and stakeholder dynamics in the TSCM (Kostjens & Moster, 2017). Expert interviews enable researchers to interact directly with people with specialised knowledge and expertise, and they are beneficial for offering in-depth insights into complex phenomena (Kostjens & Moster, 2017). Through structured interviews, researchers can probe participants on key issues, theories, and practices, eliciting rich qualitative data that contributes to a more comprehensive understanding of the research topic (Eckardt et al., 2019; Marshall & Rossman, 2006). Additionally, because expert interviews are flexible, researchers can modify their questions and delve deeper into particular topics of interest in response to the responses they receive (Silverman, 2012). This iterative process allows for refining research inquiries and exploring emergent themes or patterns within the data.

The expert interview is a crucial qualitative empirical research technique for examining TSCM stakeholder relationships and their importance for sustainability and resilience. This approach has been widely used since the early 1990s and has received much attention in the scientific literature, highlighting its importance in social research (Candra Susanto et al., 2024; Chen et al., 2024). According to Pung and Chiappa (2020), the expert interview is a qualitative research technique designed to extract insights from people with expert knowledge in a given field of action. The definition of an expert, the characteristics of expert knowledge, and the characteristics that set good experts apart from bad experts have all been discussed in the social science community (Gobo, 2023). However, there is general agreement on the essential cha-

racteristics of experts - specific knowledge in a particular field, community position, or status (Yayla et al., 2023). Notably, practitioners in the field generally accept the expert interview methodology (Kasdorf et al., 2024). Expert interviews are described by Hartman and Sampson (2024) as an inquisitive and educational method of elucidating knowledge. Instead of traditional information-gathering conversations, expert interviews reassemble the unconscious reasoning behind expert routines and decisions. Since expert knowledge frequently exists implicitly in their actions rather than being explicitly expressed, this reconstructive method seeks to glean insights from experts' statements (Hartman & Sampson, 2024).

Several important characteristics distinguish the expert interview. Respondents must first know a particular field pertinent to the research question. Second, the respondent's knowledge is the primary focus, with less attention paid to personal biographical information. Lastly, to guarantee relevance and depth of insight, a pragmatic approach is used in the interviewing process, employing guidelines and selective data evaluation (Hartman & Papp, 2024). A practical method for examining stakeholder relationships in the TSCM is expert interviews. They reveal the complex relationships and fundamental processes that underpin resilient and sustainable practices (Chen et al., 2024). Researchers can obtain important insights into the tactics, difficulties, and opportunities involved in promoting sustainable tourism development by utilising the knowledge of industry experts (Zemla & Zemla, 2023).

Emphasising the value of methodological rigour and matching research goals with suitable sampling techniques is crucial. Shalom H. Schwartz created the well-known Schwartz method, which provides a thorough framework for comprehending stakeholder variances and is used to study human values and motivations (Weeden, 2011). The author claims that Schwartz's theory identifies universal values encompassing broad motivational goals like security, achievement, and self-direction (Weeden, 2011). These value dimensions can be used as selection criteria by researchers to find experts whose viewpoints represent a variety of value orientations pertinent to resilient and sustainable tourism practices. This approach is used in this study because it supports the goal of expert interviews, which is to gather nuanced perspectives on complex phenomena within particular social and cultural contexts.

Focus groups and expert interviews provide researchers with a potent toolkit for examining the intricate social phenomena of TSCM (Gunawan, 2015). Expert interviews offer detailed information and verifiable data required to comprehend causal relationships and the dynamics of stakeholder interactions. In contrast, focus groups help to foster group discussions and the investigation of various viewpoints. Such a methodological approach aims to advance sociological knowledge by utilising these complementary qualitative methods to obtain a practical understanding of the subject matter. Focus groups and expert interviews were selected to gather detailed information about stakeholder viewpoints (Kasdorf et al., 2024). While the expert interview

ensured depth of understanding, the focus group was intended to promote lively discussions. Triangulation was used to improve reliability by comparing results with quantitative data.

***Focus groups*: The aim** *is to select ETIS criteria relevant to chosen destinations.*
Task: *To categorise and select the ETIS criteria.*

***Sampling*:** The focus groups were conducted in two stages. At the first stage, experts conducted a 2-hour face-to-face discussion in Palanga on January 30, 2024. The second stage took place in Brighton on February 15th. It involved a 1-hour debate on selected criteria, which was finalised by singling out the most important ones corresponding the issues of the latter destination. Below is the table presenting the selected experts (Table 8), as recommended by ETIS.

Table 8. Focus group structure and organisation

FOCUS GROUP STAGES AND EXPERTS SELECTED		
SUGGESTED SWG ACCORDING TO ETIS	**STAGE 1 (PALANGA)**	**STAGE 2 (BRIGHTON)**
a regional/local tourism organisation and/or tourism development company	TOUR OPERATOR Manager, X1	-
local planning, transport and rural/urban development departments	2 members of MUNICIPALITY of PALANGA X2,X3	-
an airport/port authority (if applicable	Passenger screening and airport security manager @PALANGA AIRPORT, X4	-
a local hotel or tourism association	2 HOTEL managers X5, X6	-
relevant non-governmental organisations	Member of PALANGA SMALL BUSINESS ASSOCIATION, X7	-
relevant academic institutions involved in associated research	_	Tourism, Hospitality, Events Research and Enterprise Group THEREG Lead @ University of Brighton, X8

Compiled by the author as per European Commission guidelines for selecting the Stakeholder Working Group (EC, 2016)

In the first stage (Table 8), experts were selected through rigorous criteria following scientific recommendations for including destination Stakeholder Working Group (SWG) members (Niezgoda, 2023; Marzo, 2016). Experts' eligibility criteria were as follows: they had worked in a selected SWG organisation for at least 3 years in leading positions. They had a minimum of 5 years of experience in the tourism field. A purposive presentation was used to engage the experts to increase the depth, rather than breadth, of understanding about sustainable and resilient destination phenomena. This involved a comparison of the SWOT analyses for the local destination (Palanga) and the research destination (Brighton).

Methodology: During the first stage, invited experts deliberated on the selection of criteria based on the European Tourism Indicator System (ETIS) for sustainable and resilient destination development. Experts have identified seven broad categories for measuring sustainable and resilient destination development, comprising core and supplementary indicators, out of four core ABCD groups (n=43) and supplementary indicators (n=21) representing sustainability and resilience. These selected indicators (a total of 17) reflected diverse and inclusive perspectives on the subject matter. Of the 17 indicators selected, 29% represented core aspects, while 23% were supplementary.

The second stage (Table 8) involved the scientific confirmation of the selected criteria by the Tourism, Hospitality, Events Research and Enterprise Group (THEREG) Lead at the University of Brighton. The THEREG functions as an interdisciplinary open pool of researchers and PhD students from across the University of Brighton, as well as practitioners from a well-established network of international agencies, governments, private businesses, and DMOs, and destination communities at the local level. Through critical scholarship and interdisciplinary approaches, the THEREG aims to enhance the quality of decision-making that underpins the development and management of the tourism sector in Brighton while also deepening the understanding of the socio-economic, cultural, and natural environments within which these processes occur. THEREG's vision is to produce world-leading, innovative, impactful research through interdisciplinary and transformative approaches that rethink knowledge and practices in socially resilient and environmentally sustainable ways. Out of 7 categories and 17 indicators selected in stage 1, 5 categories corresponding to 5 indicators were confirmed as most closely correlating with the important issues of Brighton (over-tourism and environmental degradation), which are relevant to the aim of this dissertation and can be further explored through this study. The logical scheme of both selections is presented below (Table 9).

Table 9. The logical scheme of ETIS criteria selection

ETIS		FOCUS GROUP		
		STAGE 1		STAGE 2
CORE INDICATORS (CI)		SELECTED INDICATORS		CONFIRMED INDICATORS
SECTION A Destination Management	A1-Sustainable tourism public policy A2-Customer satisfaction & perception	CATEGORIES	CI/SI/AI	
		Sustainability	B4,C5,D1, D2, D7, eco-certification	**D1, D2 - Environmental impact assessment** (TRANSPORTATION)
SECTION B Economic Value	B1-Tourism flow B2 - tourism enterprise performance B3-Quantity & quality of employment B4-Tourism supply chain	**Resilience**	B1, B2, Collaboration & partnerships, Crisis preparedness	**B1, B2 - Economic diversification** (ACCOMMODATION)
		Operational efficiency	Collaboration & Infrastructure maintenance	**(SI) Stakeholder collaboration** (TOs/TAs)
SECTION C Social & Cultural Impact	C1-Community/ social impact C2-Health &Safety C3-Gender equality C4-Inclusion & Accessibility C.5 Protecting and enhancing cultural heritage, local identity and assets	**Governance and policy**	A1	**A1 - Implementation of sustainable tourism policies & (SI) - Destination branding** (DMOs)
		Innovation & technology	Use of technology and development of innovative products	⬇
		Monitoring & evaluation	Regular audits	QUALITATIVE STUDY

Table 9. Continued

SECTION D Environmental impact	D1- Reducing transport impact D2-climate change D3-Solid waste management D4-Sewage treatment D5-Water management D6-Energy usage D7- Landscape and biodiversity protection	**Tourist experience**	A2 Overall visitor satisfaction with the destination Repeat visitation Tourist adherence to responsible behaviour	**A2 - Customer satisfaction and perception**
SUPPLEMENTARY INDICATORS (SI)		**ADDITIONAL INDICATORS (AI)**		
MAIN CATEGORIES	-TSC stakeholder collaboration -Destination's branding -Passengers and ports -Water quality -Beaches -Accessible tourism policy -Sustainable tourism policy -Reducing transport impact	-Eco-certifications -Emergency response plans, communication strategies -Infrastructure maintenance and upkeep -Use of technology for destination management -Development of innovative tourism products and experiences -Regular audits and assessments of sustainability and resilience practices		QUANTITATIVE STUDY

Compiled by the author, using ETIS classification

After the completion of stage two, five categories out of the seven selected at stage one were singled out (Table 9). They are as follows: sustainability with environmental impact indicators, assigned to the transportation section; resilience with economic diversification indicators, assigned to the accommodation sector; operational indicators, such as supply chain collaboration, assigned to TOs and TAs; and the policy effectiveness category, which is measured by the implementation of sustainable tourism policies and destination branding. This category, like others, is assigned but not

confined by DMOs. These four selected categories and their criteria fall under the qualitative expert interview study. Lastly, the selected category is tourist experience indicators, which fall under the quantitative study. Such a meticulous focus group process underscored the nuanced understanding and considerations embedded within the expert-driven discussions, highlighting the comprehensive mixed-methods approach employed in the study (Chai et al., 2024; Gobo, 2023) and aligning with its aim.

Expert interview: ***The aim*** *is to use selected ETIS criteria to gather expert feedback from stakeholders regarding their input on sustainability and resilience in Brighton and identify deficiencies.*

Task: *To investigate stakeholder input to determine deficiencies of sustainability and resilience in Brighton.*

Sampling: The survey was conducted from February to March 2024 by face-to-face attendance. The experts were selected using the VisitBrighton platform, the largest tourism website for Brighton. VisitBrighton is the official destination management organisation for the city and the wider local area, promoting it as a leisure and business destination for domestic and international visitors, working in partnership with approximately 350 other tourism stakeholders. 48 experts were selected in total (5 DMOs, including VisitBrighton main visitor information point, 13 TOs and TAs (ranking 5 star rating on their websites), 20 accommodation providers (only hotels and B&B's which rank 4 - 5 stars on the platform according to AA or Visit England Stars grading) and 10 transportation providers (that had Accessibility, Attraction and Travel & Trade facilities). 28 selected representatives agreed to participate in the study through face-to-face interviews, each lasting up to 30 minutes, resulting in a response rate of 50% or higher, as shown in Table 10.

Table 10. Stakeholder-expert selection

VisitBrighton Platform stakeholder selection	Responded stakeholders		Code attached	Expert position	Expert years at current position
	Response result	Percentage %			
DMO **5**	5	100%	DMO1	Sustainability officer	5
			DMO2	Communications manager	7
			DMO3	Executive assistant	5
			DMO4	Destination development manager	12
			DMO5	Destination development manager	4

Table 10. Continued

VisitBrighton Platform stakeholder selection	Responded stakeholders		Code attached	Expert position	Expert years at current position
	Response result	Percentage %			
TO&TA (5* rating) **13**	7	54%	TO1	Sales manager	4
			TO2	Executive assistant	5
			TA3	Operations manager	3
			TA4	Executive assistant	7
			TA5	Product development manager	6
			TA6	Senior reservations agent	4
			TA7	Marketing manager	5
Accommodation providers (4 - 5* AA or Visit England Stars) **20**	11	55%	AC1	Operations manager	3
			AC2	Front office manager	5
			AC3	Executive assistant	3
			AC4	Executive assistant	8
			AC5	Sales manager	11
			AC6	Hotel operations assistant	4
			AC7	Reservation supervisor	5
			AC8	Sales manager	6
			AC9	Hotel operations assistant	5
			AC10	Executive assistant	3
			AC11	Hotel supervisor	4
Transportation providers (Accessibility, Attraction and Travel & Trade facilities) **10**	5	50%	TR 1	Fleet manager	4
			TR2	Marketing and communications manager	5
			TR3	Operations manager	7
			TR4	Executive assistant	5
			TR5	Operations manager assistant	3
TOTAL SELECTED	**TOTAL RESPONDED**	**RESPONSE RATE %**			
48	28	58%			

Compiled by the author

The study sample size (Table 10) was calculated using the Schwarze formula (Weeden, 2011).

$$n = \frac{N \times 1{,}64^2 \times p \times q}{\varepsilon^2 \times (N-1) + 1{,}64^2 \times p \times q} \quad (1)$$

- N - general entity, which consists of 48 initially selected stakeholders of Brighton;

- p/q - the probability of the test grade appearing/not appearing (the probability of the worst option was taken, i.e. 50%, then p=q=0.5);

- ε - desired accuracy, in this case ε = 0.1 (10 per cent); a value of 1.64 corresponds to a 90% confidence level of the standardised normal distribution.

A total of 28 (58%) Brighton tourism supply chain stakeholders were interviewed, which agreed to participate in the study and which, according to the Schwartz formula, is sufficient in size to ensure the representativeness of the research sample, given the total number of respondents available from the general entity (Choi et al., 2015; Weeden, 2011).

Methodology. A semi-structured interview is based on an interview plan that includes specific questions and a predetermined sequence of questions (Parrilla-González, 2024; Gobo, 2023). It is a qualitative research method combining structured and unstructured interviews (Gunawan, 2015). A semi-structured interview allows flexibility, follow-up questions, and exploration of emergent themes by having the interviewer stick to a predetermined set of open-ended questions or topics (Zemla & Zemla, 2023). This method balances the flexibility needed to thoroughly examine participants' viewpoints and experiences with the structure required for consistency. The employed execution methods were media platforms and face-to-face. Through interviews, it is possible to obtain information that is difficult to obtain in other ways, such as the internal experiences of the respondents and their social, cultural, political, and economic attitudes, as well as their attitudes and beliefs, which was the goal of choosing an in-depth strategy. The reliability of the interview was also given extra attention, as the questions were made according to the selected ETIS criteria approved by the THEREG working group lead at the University of Brighton. 4 sets of questions, relating to 4 singled out ETIS criteria, addressed to DMOs, TOs & TAs, accommodation and transportation providers were structured, as shown in the Table 15 below.

Table 11. Question structure according to the selected ETIS criteria

ETIS criteria	Allocation	Categories & Subcategories			
		Strategy & policy	**Stakeholder engagement and collaboration**	**Advocacy & implementation**	**Communication and perception management**
Implementation of sustainable tourism policies and destination branding	Destination Management Organisations (DMOs)	Vision on sustainable and resilient practices	Engagement with stakeholders	Addressing issues	Enforcement of regulations
		Governance mechanisms that ensure sustainable management	Role in facilitating collaboration		Strategies to communicate decisions
					Consumer perceptions influence
Stakeholder collaboration	Tour Operators and Travel Agencies (TOs & TAs)	Practices that promote sustainability and resilience	Collaboration with DMOs in alignment with sustainability	Integration of feedback from customers and stakeholders	Education of customers on responsible travel practices.
		Incorporation of sustainability and resilience principles into travel packages	Strategies for hotel engagement		
		Steps to minimise the carbon footprint and environmental impact			
		Addressing the challenges of overtourism			
Economic diversification	Accommodation service providers	Contribution to diversification	Partnerships to support local businesses	Contribution to the creation of employment opportunities and skill development	Promoting cultural and heritage experiences
		Positive operational contribution	Collaboration with tour operators		
		Customer diversity policy	Engagement with local authorities		
Environmental impact assessment	Transportation service providers	Assessment and mitigation of an environmental footprint	Collaboration with environmental organisations	Importance of consumer demand for eco-friendly transportation	Measuring and reporting on the environmental performance
		Measures to reduce carbon emissions	Engagement with visitors		Integration of environmental considerations into route planning
		Eco-friendly technologies and alternative fuels			

Compiled by the author following the focus group outcome

Initially, a pool of 45 questions was generated, encompassing 4 designated ETIS criteria allocated to 4 principal stakeholder groups in tourism supply chain management. Subsequent scientific scrutiny and alignment with the research aim and objectives resulted in the retention of 32 questions (Table 11), categorised into four distinct domains: strategy and policy, stakeholder engagement and collaboration, advocacy and implementation, and communication and perception management. These categories comply with the expert interview's objective and underscore this research's central focus, as McClintock & Lowe (2007) suggested. The classifications were subsequently subdivided into more granular subcategories. The responses were subsequently scrutinised to identify efficiencies in the experts' statements and deficiencies in further analysis. Nevertheless, further investigation is warranted to delve into the quantitative study of consumer perceptions of sustainability and resilience.

2.3. Quantitative survey and its organisation

The sustainability and resilience input executed by destination stakeholders, including destination management organisations, tour operators and travel agencies, accommodation and transportation service providers, is crucial for understanding the complex dynamics of TSCM (Xu et al., 2024). A quantitative survey is essential for this purpose. Using surveys to gather data and analyse it quantitatively, researchers learn more about tourists' attitudes, actions, and preferences, which helps the tourism industry make well-informed decisions and develop policies (Dolnicar et al., 2024). Several eminent researchers have used surveys as the primary methodological tool to examine different facets of TSCM. One study used surveys by Azeem et al.(2024) to gauge visitors' opinions and actions regarding water conservation measures in tourist locations. The study clarified how visitor perceptions influence sustainable water management tactics.

Additionally, a thorough survey-based study that assessed the environmental sustainability practices implemented by various lodging types in the area was carried out by Espiner et al. (2017). The researchers benchmarked the performance of establishments against sustainability criteria and identified critical areas for improvement through surveys given to accommodation users. A survey-based study by Filipiak et al. (2020) examined the role of local authorities in promoting sustainability within tourist destinations in the context of the destination's vitality. The study found ways to improve destinations' sustainability in the face of outside shocks and difficulties by conducting stakeholder surveys.

The researcher will use these studies as inspiration for the case of surveying tourists in Brighton, UK, to find out how they feel about sustainability and resilience strategies used by stakeholder groups. The researcher will assess visitor perceptions,

attitudes, and behaviours regarding sustainable tourism practices and the destination's resilience by creating a structured survey instrument specific to Brighton's qualitative research findings. Stakeholders, legislators, and business professionals will be able to use this data to guide the implementation of practical measures that will improve sustainability and resilience in the Brighton tourism ecosystem. According to Azeem et al. (2024), the quantitative survey method uses self-completed questionnaires. The lifestyles, behaviours, values, knowledge, expectations, opinions, and attitudes of tourists towards different options are all gathered with the help of this method. It has been widely accepted and used in various research fields, such as consumer behaviour studies (Ellis, 2017; Lőrincz et al., 2020). Therefore, the questionnaire design should be closely aligned with the research objectives and contain clear and concise questions to facilitate accurate data collection. To set response boundaries for respondents, the authors stress the importance of pre-coding questions in quantitative data analysis (Azeem et al., 2024).

Many research projects use questionnaire surveys and quantitative data analysis methods. The quantitative method provides numerical insights into consumer behaviour by quantifying issues and comprehending their dimensions (Santos et al., 2021). As Xu et al. (2024) suggested, the study's questionnaire includes normative and descriptive questions. While descriptive questions seek to clarify the subtleties of resilient and sustainable destination management, normative questions probe individual attitudes. The questionnaire is organised into two question blocks: 1) Sociodemographic information and 2) Perceptions and attitudes regarding the development of sustainable tourism, using the UNWTO-developed Brighton-adapted Statistical Framework for Measuring the Sustainability of Tourism (SF-MST) scale (UNWTO, 2024; Dwyer, 2024). According to Cavalletti et al. (2023), the Statistical Framework for MST is a globally accepted framework that outlines the key terms, definitions, and data organisation structures to facilitate the collection and arrangement of data on the effects and interdependencies of tourism on the environment, economy, and society. The leading international statistical standard for the travel and tourism industry is SF-MST (UNWTO, 2024). According to Glyptou (2024), SF-MST broadly refers to three primary stakeholder groups, each of which has unique connections to data for making decisions about sustainable tourism. These groups include:

- Data producers (DMOs), who rely on SF-MST for generating comparable and reliable statistics;
- Data integrators (TOs and TAs) benefit from SF-MST's standardised definitions, classifications, and organisational structures, which collate and synthesise data from diverse sources to inform decision-making.
- Decision-makers (Accommodation and Transportation) in both public and private sectors who use SF-MST as a shared framework to discuss advancements in sustainable tourism.

SF-MST presents opportunities to link tourism statistics with policy areas such as economic development, climate change, circular economy, disaster preparedness, employment, and social and cultural heritage (Tarigan et al., 2024; Tejada et al., 2021). It is assumed by Albrecht et al. (2021) that while the broad coverage facilitates discussions on various dimensions of tourism sustainability, the data organisation does not directly evaluate the sustainability of tourism in specific contexts. Such evaluations necessitate data from SF-MST alongside diverse information and assumptions, including visitor preferences, perceptions and behaviours (Marques, 2022). SF-MST measures sustainable tourism's economic, environmental, and social dimensions, intended to support applications at all spatial scales, from the local tourism destination level to the global scale (Fig. 23).

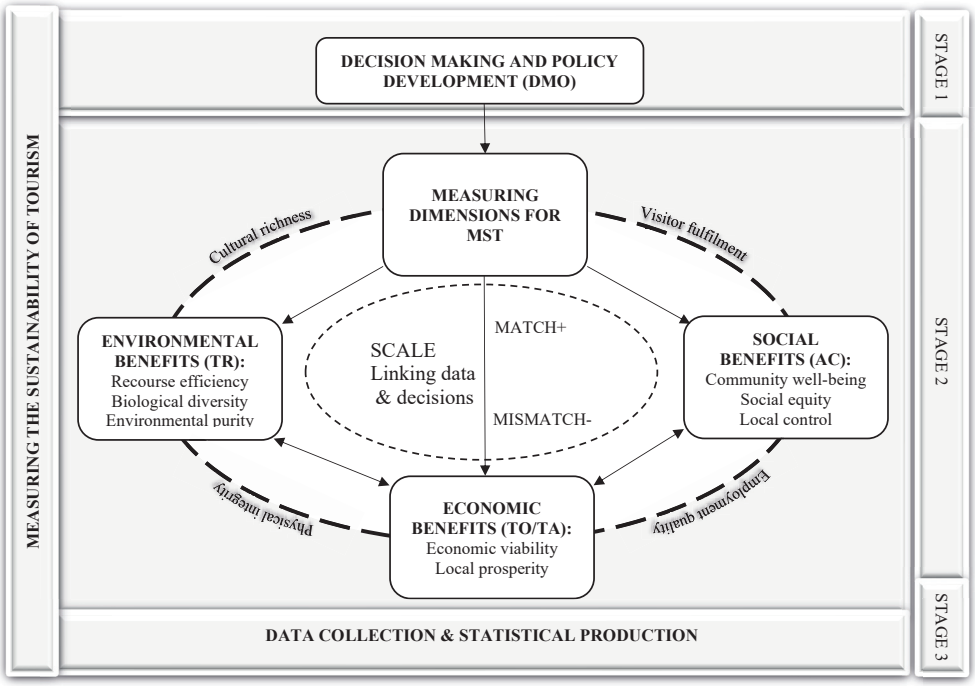

Figure 23. Statistical SF-MST framework with relationships between policy areas and key dimensions

Compiled by the author, following Glyptou, 2024; Cavalletti, Di Bella, Fabbris & Lagazio, 2023

Measuring the sustainability of tourism through the lens of visitors involves assessing the environmental, socio-cultural, and economic impacts of tourism across various scales (Fig. 23). At the local scale, SF-MST considers the direct impacts of

tourism on host communities, natural environments, and cultural heritage sites (Cavalletti et al., 2023; Tejada et al., 2021). SF-MST recognises tourism destinations as complex systems with interconnected components and feedback loops (Glyptou, 2024). Sustainable tourism assessment at the destination level involves evaluating carrying capacity, visitor satisfaction, destination authenticity, and community resilience (Sarigiannidis et al., 2024; Beck & Ferasso, 2023). By adopting SF-MST, the study will assess the impact of tourism activities on the sustainability and resilience of destinations and identify opportunities for improvement in infrastructure, management practices, and visitor experiences. This research also differs from previous ones because a special questionnaire with customised questions is used here to survey visitors. Notably, the design of the questionnaire was tailored to address limitations identified in previous studies, ensuring comprehensive coverage of sustainable tourism dimensions - economic, environmental, and social - as well as the practical application of resilience principles in sustainable destination management.

Quantitative research within the dissertation is underpinned by the philosophical perspective of positivism, which asserts that genuine and accurate knowledge can only be derived from empirical observations and tangible phenomena, thereby rejecting the epistemological significance of philosophical inquiry (Gobo, 2023). This philosophical stance emphasises the primacy of empirical sciences in generating valid and reliable knowledge. The data obtained through quantitative surveys directly influence decision-making processes, complementing insights derived from qualitative research. Due to its statistical nature, quantitative data can effectively convey information, particularly when advocating for specific directions. Additionally, the sample size in quantitative research holds significant importance and should be carefully determined. This is crucial as quantitative research yields precise metrics based on a specific sample, with the potential for replication across the entire studied population (Sio et al., 2024).

Visitor survey: ***The aim*** *is to investigate visitors' perceptions of stakeholder input to improve the destination's sustainability and resilience.*

Task: *to investigate consumer output on sustainability and resilience in Brighton.*

Sampling: The survey was conducted from May to August 2024. Various sampling methods can be employed to ensure the representativeness of the research sample in studying consumer perceptions on sustainability and resilience. In this case, the sample selection process incorporates statistical techniques such as target sampling, which involves selecting elements based on predefined objectives, and typical sampling, which aims to highlight characteristic cases within the population. The sample was designed to provide equal representation across different age groups as suggested by Radnić et al. (2022), such as 18-24/25-44/45-64/and 65 and above, ensuring that individuals with travel experience to Brighton have an equal chance of being selected

for the interview. The reliability of the research data is emphasised, with the methodology highlighting that selecting respondents plays a pivotal role, often surpassing the significance of sample size calculation. As Marshall and Rossman (2006) assert, the method by which respondents are chosen significantly influences the reliability of the data. In this study, respondents were selected via an online platform that also serves as a walk-in interface for tourists in Brighton, providing the opportunity for face-to-face interviews.

Drawing on the recommendations of V. Praude and S. Bormane (2022) and E. Shalkovska and V. Praude (2009), who suggest surveying 400 respondents when the general population exceeds 100,000, the research adopts a targeted approach. According to VisitBrighton, Sussex attracts 62 million visitors annually, so the research sample is warranted with Cochran's sample size formula (Formula 2) for finite population correction (Sen & Lahiri, 2025).

$$n = \frac{z^2 p(1-p) \;\; N}{\Delta^2 N + z^2 p(1-p)} \tag{2}$$

n- sample size;

p - the value for which the variance of the characteristic is the largest, i.e. 50%;

z - quantile of the α level of the normal distribution with confidence of 95%, z=1.96;

delta - permissible error, chosen @ 5%;

N- the size of the population (62 million).

While the population surveyed has a sample size (N) of N = 412, it can be inferred that a sufficient number of respondents were interviewed to provide insights into the traveller population's perceptions. The research sample aims to comprehensively understand consumer perspectives and behaviours regarding sustainability and resilience in Brighton as a tourism destination by adhering to established recommendations.

Methodology: The validity and reliability of the research instrument are essential when conducting quantitative research. A bespoke research instrument was crafted for this empirical study, drawing on the latest theoretical insights and models (Sio et al., 2024). The instrument underwent thorough empirical validation utilising statistical methods, including factorial validity checks and assessment of internal consistency through Cronbach's alpha coefficient.

The SF-MST question scale, comprising 40 statements (10x4 key stakeholder groups on three spatial scales - environmental, economic and social), gauges participant agreement levels on a 5-point Likert scale. The stratification of research participants was analysed by demographic and socioeconomic parameters, including gender,

age cohorts, educational attainment, employment status, and household income, all of which were quantified as percentage distributions. To facilitate the evaluation of scores related to distinct sectors within the Brighton tourism supply chain, explicitly concerning SF-MST metrics, both the arithmetic mean and standard deviation were utilised, serving as primary descriptive statistics.

During the statistical examination, the assumption of normality for the distribution of each quantitative dataset was evaluated using the Kolmogorov-Smirnov goodness-of-fit test. Due to consistent deviations from normality in all datasets, as indicated by statistically significant results ($p < 0.05$) across all scenarios, a non-parametric analysis was necessitated. Consequently, the Kruskal-Wallis H test, which does not presuppose normally distributed data, was employed for comparisons involving three or more independent samples. Factorial analysis of variance (ANOVA) was employed to examine the sources of variance in sector ratings. Following identifying statistically significant differences between groups, a post-hoc analysis was conducted using the Bonferroni correction method to adjust for multiple comparisons and mitigate Type I error rates, ensuring the robustness of the inferential conclusions.

A non-parametric Spearman's rank-order correlation coefficient was computed to elucidate the potential associations between categorical demographic variables, such as age stratifications, educational levels, household income brackets, and the evaluative scores allocated to Brighton tourism supply chain sectors. This metric was selected for its ability to measure monotonic relationships, irrespective of linearity. The correlation coefficient, denoted as r_s, varies within the interval [-1, 1], with its absolute magnitude indicating the strength of association and the sign denoting the directionality of the relationship. A positive correlation ($r_s > 0$) signifies that as the value of one variable increases, there is a concomitant increase in the value of the paired variable. Conversely, a negative correlation ($r < 0$) indicates an inverse association, where an increase in one variable corresponds to a decrease in the other.

The interpretation of the correlation strength was guided by established benchmarks (Table 12), where coefficients closer to |1| represent stronger associations. Specifically, values in the range of |0.9| to |1.0| suggest a powerful relationship, |0.7| to |0.9| a strong relationship, |0.5| to |0.7| a moderate relationship, |0.3| to |0.5| a weak relationship, and |0.0| to |0.3| indicate a negligible or non-existent relationship.

Table 12. Evaluation of the nature and strength of the relationship based on the obtained correlation coefficient values

CORRELATION COEFFICIENT VALUE RANGE	EVALUATION OF THE NATURE AND STRENGTH OF THE RELATIONSHIP
(0.9; 1.0] or (-0.9; -1.0]	Powerful positive (negative) relationship
(0.7; 0.9] or (-0.7; -0.9]	Strong positive (negative) relationship
(0.5; 0.7] or (-0.5; -0.7]	Moderate strength positive (negative) relationship
(0.3; 0.5] or (-0.3; -0.5]	Weak positive (negative) relationship
[-0.3; 0.3]	Very weak or no relationship between variables

Compiled by the author using SPSS

This methodological rigour (Table 12) underscores the validity of the observed patterns and supports the derivation of statistically sound conclusions.

For all analytical procedures, data processing and computations were conducted using advanced statistical software packages - Microsoft Office Excel 2016 for preliminary calculations and SPSS Statistics 23.0 for in-depth inferential analysis, ensuring methodological precision and compliance with conventional statistical standards. Statistical significance was consistently evaluated at the conventional threshold of $p = 0.05$, reinforcing the reliability of the findings. This study offers insights into consumer perceptions regarding sustainable and resilient destination management through meticulous methodological application and rigorous analysis techniques.

2.4. Research integrity

Validity of the results. Qualitative research validity measures aim to ensure the trustworthiness and reliability of the findings in studies that utilise non-numeric data, such as interviews, observations or textual analysis (Jere-Jakulin, 2017). One of the most important things an expert interview allows a researcher to obtain is that this method elicits valid opinions from experts in the area (Chen et al., 2024). An opinion is a belief that may or may not be backed up with evidence; therefore, an expert interview does not produce any right or wrong answers; instead, it produces a valid expert opinion (Eckardt et al., 2019).

Several indicators (Table 13) are employed to justify the validity of qualitative research, and when considering the expert interview within this context, specific measures have been implemented:

Table 13. Validity criteria

PROPERTY	CHARACTERISTIC	DESCRIPTION
Reliability	Reflexivity	Interpretations by other researchers
	Confirmability	Documentation and similarity with other research
	Stability	Ability for reproduction
Internal validity	Truthfulness	Without bias
	Accuracy	No misinterpretation
External validity	Credibility	Findings make sense to readers
	Transferability	Transferable findings

Compiled by the author following Plakoyiannakia & Stavrakis, 2022

According to Plakoyiannakia and Stavrakis (2022) and as shown in Table 13, to guarantee the reliability of the results, the expert interview's validity depends on the strict application of criteria like reflexivity, confirmability, stability, truthfulness, accuracy, credibility, and transferability. The research improves the validity of its findings in qualitative studies by methodically addressing these factors, offering more reliable and solid insights (Cropley, 2023). The results are more credible and trustworthy because of the study's structured procedure, varied expert input, controlled verification methods, transparency, and iterative nature, all of which increase validity.

The interview process incorporated structured procedures, diverse expert inputs, transparent verification mechanisms, and an iterative design to ensure credibility further. These elements work together to bolster the validity of the results. In addition, the reliability of the interview questions was carefully considered. Using European Tourism Indicator System (ETIS) criteria selected by a focus group by stakeholders in Palanga and subsequently approved by the Research Excellence Group lead at the University of Brighton, four sets of questions were developed, each addressing specific ETIS criteria for destination management organisations, tour operators & travel agencies, accommodation and transportation sector providers. This rigorous approach contributes significantly to the validity and reliability of the qualitative study's outcomes, producing credible and robust insights.

Regarding the quantitative survey, the reliability and internal consistency of all four questionnaires utilised in this study using the Statistical Framework for Measuring the Sustainability of Tourism (SF-MST) scale were assessed by calculating Cronbach's alpha coefficient. As demonstrated in Table 14, Cronbach's alpha values ranged from 0.600 (tour operators and travel agencies) to 0.853 (accommodation sector). Consequently, it can be concluded that the internal consistency of all the questionnaires used

in the study was sufficiently reliable, with all coefficients meeting or exceeding the threshold of ≥0.60. This justifies further analysis and addressing the research objectives and questions.

Table 14. Evaluation of reliability and internal consistency of the scales used in the study

Questionnaires	Number of Items	Cronbach's Alpha Coefficient
Destination Management Organisations	10	0.696
Tour Operators & Travel Agencies	10	0.600
Accommodation sector providers	10	0.853
Transportation sector providers	10	0.605

Compiled by the author using SPSS

In a statistical context, Cronbach's alpha coefficient is a measure of internal consistency, often used to gauge the reliability of a psychometric instrument. The coefficient ranges between 0 and 1, where higher values suggest better reliability. A Cronbach's alpha value of 0.60 is generally regarded as the threshold for acceptability (Table 14), particularly in exploratory research. In this analysis, the observed coefficients indicate that the scales employed across all four sectors - DMOs, TOs & TAs, Accommodation, and DMOs - achieved a reliability level that permits confident use of the collected data for subsequent statistical examinations.

The Cronbach's alpha values for each questionnaire highlight variances in reliability, potentially attributable to the intrinsic heterogeneity of the constructs being measured within each sector. The highest coefficient was observed in the Accommodation sector ($\alpha = 0.853$), signifying strong internal coherence among the questions through the SF-MST spatial scale. Conversely, the Travel Operators and Travel Agencies questionnaire displayed the lowest acceptable level of internal consistency ($\alpha = 0.600$), suggesting that while the items are reasonably related, they may measure a more diverse set of underlying factors. This characteristic warrants careful interpretation of results.

Such methodological action reduces the possibility of random error or measurement inconsistencies while highlighting the fundamental reliability of the data gathered. This enables the extraction of significant insights. Since each questionnaire has 10 items, as Duffy et al (2017) suggest, the comparability across sectors is still valid despite Cronbach's alpha being sensitive to the number of items in the scale. However, future research might look into improving or broadening the item pool to improve reliability scores, especially in sectors with lower alpha values. By following these strict reliability standards, the study guarantees that the instruments are methodologically and statistically sound, enabling precise evaluations of the relationships and phenomena being studied.

Research ethics. Research ethics is vital to qualitative and quantitative studies as it ensures that participants' rights, dignity, and welfare are respected throughout the research process. Qualitative research involves fluid interactions between researchers and participants, with ethical challenges arising during the research process. Tang illuminates that qualitative researchers frequently encounter "ethically important moments" that require on-the-spot ethical decision-making due to the evolving nature of their investigations (Tang, 2024). This adaptability is crucial in qualitative studies, where researchers may need to reassess consent and confidentiality in response to unexpected participant disclosures or changing circumstances. Furthermore, the representation of participants in qualitative research poses ethical dilemmas that cannot be overlooked. Summers stresses the necessity of ethical reflections that differentiate between the individual rights of research participants and the collective interests of the groups they represent (Summers, 2020). This distinction is significant in sociological research where power dynamics related to class and social standing can complicate ethical commitments.

In quantitative research, ethical considerations are often structured around formal protocols and regulatory compliance. Ethical review processes are established to ensure compliance with ethical standards before research can commence. Ethics committees scrutinise research proposals to identify potential risks to participants and require informed consent practices that empower participants to make educated decisions regarding their involvement (Groenewald et al., 2024). This research has been approved by the "Description of the Procedure for the Assessment of Research Ethics of Klaipėda University (refer to the addendum section).

Power, dominance and interests represent a critical dimension in the discussion of research ethics, particularly in understanding how various stakeholders navigate ethical dilemmas (Tang, 2024). The interplay between power dynamics and the interests of diverse actors shapes ethical considerations and decision-making within research environments. This research considers the power and dominance aspect in the relationship between the researcher and participants. Research prioritised the anonymity and welfare of participants over broader societal interests, which reflects an essential ethical principle that the integrity of individuals involved in research was not compromised to advance knowledge or fulfil institutional goals. No conflicts, power or dominance were involved, and no institutional, group interests or regulatory frameworks governed the research.

The anonymity of the expert interview provides an equal chance for each expert to present and react to ideas, unbiased by the identities of other participants (Arenas et al., 2024). Reactions are given independently, so each opinion carries equal weight and is treated with the same importance in the analysis. This way, subject bias is eliminated as the respondents are not known to each other. Such anonymity enables respondents to be open and truthful about their views on specific issues, which, in

turn, provides the researcher with insightful data. Furthermore, this allows participants to express their opinions without feeling psychologically pressured. Anonymity plays a significant role in enhancing the validity of expert interviews in several ways (provided in Figure 23):

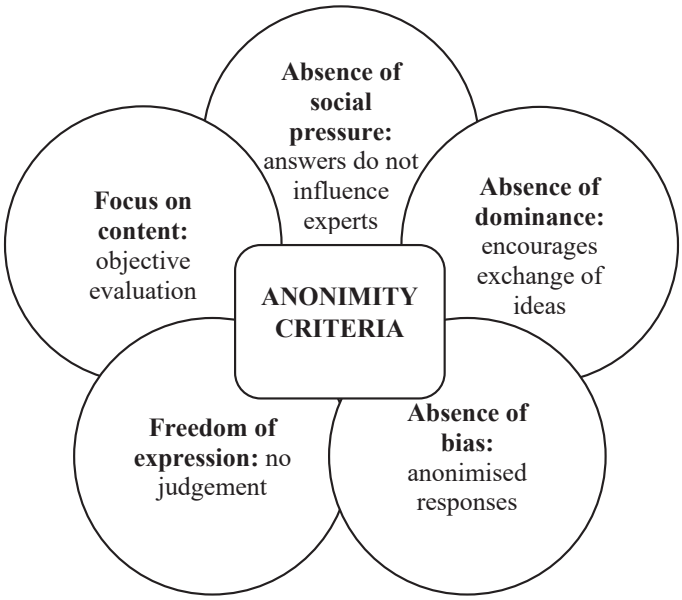

Figure 24. Anonymity criteria

Compiled by the author following Arenas et al., 2024

Conducting research fosters a more open, diverse, and unbiased exchange of expert opinions by providing a shield of anonymity (Fig. 23). This, in turn, enhances the study's validity by ensuring that the collected data and subsequent conclusions are based on the expertise and insights of the experts rather than their social dynamics or personal interests.

III.

Study Results and Model for Managing Tourism Supply Chain to Improve Destination Sustainability and Resilience

This part has two main components: qualitative research, which interviews experts like destination management organisations, tour operators and travel agencies, and accommodation and transportation service providers, and quantitative research, which surveys destination visitors. A qualitative study illuminates the tourism supply chain's input on sustainability and resilience through expert interviews. By involving destination stakeholders, improvement opportunities are found. These interviews explore complex themes like destination management policies, infrastructure development, environmental conservation, visitor education, and stakeholder engagement. Through visitor surveys, quantitative research complements qualitative findings by revealing tourists' preferences and perceptions of improving destination sustainability and resilience. Survey questions include satisfaction with tourism services and amenities, destination authenticity and sustainability, responsible tourism practices, willingness to pay for eco-friendly products or experiences, destination loyalty, and repeat visitation intentions. The researcher analyses survey responses from a representative sample of visitors to identify patterns and correlations of their perceptions in alignment with key stakeholder sustainability and resilience inputs and proposes innovative strategies to improve the destination's sustainability and resilience. The study concludes with a tourism supply chain management model to improve destination sustainability and resilience. Evidence-based and strategic destination management requires qualitative

and quantitative assessments. The model delivers practical interpretations and recommendations for tourism supply chain management.

3.1. Results of the expert interview "Key tourism supply chain stakeholder management to improve destination sustainability and resilience"

Destination Management Organisations (DMOs), Tour Operators (TOs) and Travel Agencies (TAs), accommodation and transportation service providers, all carefully selected as experts, were interviewed for the qualitative study. Expert responses fall under four categories: *strategy and policy, stakeholder involvement and collaboration, advocacy and implementation, and communication and perception management.* Such an organised method ensures a complete grasp of TSCM's potential to increase destination sustainability and resilience by extensively exploring each category's issues. Stakeholders discuss destination sustainability, resilience strategy, policy development, and implementation. Visioning, goal-setting, policymaking, and strategic decision-making are covered. *Stakeholder engagement and collaboration* emphasise interactions and the necessity of partnerships, collaboration, and engagement in attaining common goals and managing shared difficulties. *Advocacy and implementation* examine stakeholders' efforts to promote sustainable and resilient tourism policies. *Implementation and monitoring* strategies highlight ways and direct input schemes on sustainability and resilience. *Communication and perception management* studies how stakeholders influence visitors and communities to shape views, manage reputations, and promote sustainable and resilient tourism. The first selected ETIS criteria, 'Implementation of sustainable tourism policies & destination branding', is used to obtain stakeholder perspectives on essential topics. Interviewing destination management organisations allows the researcher to understand destination governance, strategy, and stakeholder dynamics (Table 15). This initial interaction prepares for a complete study of tourism supply chain management to improve destination sustainability and resilience.

Table 15. Destination management organisations' selected expert interview

	DESTINATION MANAGEMENT ORGANISATIONS (DMOs)		
	CATE GORY	**SUB CATEGO-RY**	**EXPERT INTERVIEW STATEMENTS**
ETIS: IMPLEMENTATION OF SUSTAINABLE TOURISM POLICIES & DESTINATION BRANDING	STRATEGY & POLICY	Organisation's vision on sustainable and resilient policies in Brighton	"…Aims to safeguard the long-term sustainability of tourism…(DMO1) "The value grows through higher-spend year-round overnight visitors...",",... the number of visitors and trips will not change significantly, but the type of people will..."(DMO2) "Need a deeper cultural fit between the city and local people...",",... future planning must chime with local culture and lifestyles"(DMO3) "…City must be included in the regional planning to benefit all…" (DMO4) "Everyone sharing the same focus...",",... year-round tourism and focused investment in people and place..." (DMO5)
		Governance mechanisms that ensure enduring management	"Visitor Economy Strategy „ was developed at the same time as the Economic Strategy and Action Plan, as well as the Greater Brighton Inward Investment and Export Strategy. It is designed to align with the cultural framework for Brighton and inform the 20-year vision for Brighton & Hove…", "…those strategies draw recommendations for the city and look at how it can support wider city objectives to ensure tourism continues to deliver..." (DMO1) "...Encouragement of job creation, differentiation of facilities, inward investment and the broader image of town are significant ..." DMO2. "Be clear about the visitor markets...","Develop a brand that builds on the values of the destination...",",...work with regional partners to boost positioning...",",...access to support and funding..." (DMO3) "...Make tourism central in economic strategy for the city...",",... and visitor needs are integral to city planning..." DMO4 "...Developed a five-year destination management plan..."(DMO5)
	STAKEHOLDER ENGAGEMENT& COLLABORATION	Engagement with stakeholders	„...Through transparency...","...communicates regularly with stakeholders, providing updates, reports, research findings and other relevant information..." (DMO1) "...Identifies key stakeholders...",",... organises regular meetings, workshops, forums and advisory committees where stakeholders can come together to discuss tourism-related issues, share information…(DMO2) "Conducts consultations and surveys to gather feedback and opinions from stakeholders on various aspects of tourism governance..."(DMO3) "...By inviting them to contribute ideas, identify priorities and co-create strategies and action plans..."(DMO4) "...Through public hearings and consultation events...",",...online platforms, where stakeholders can access information, submit comments and engage in discussions related to tourism governance..."(DMO5)
		Role in facilitating collaboration	„... Supports collaboration among stakeholders…"(DMO1) "...Provides support and resources to build the capacity of stakeholders involved in tourism management...",",...conflict resolution..."(DMO2) "...Leads collaborative planning processes..."(DMO3) "...Provides platform for stakeholders to come together, share information, exchange ideas, and discuss issues ..." (DMO4) "...Serves as a central hub for information sharing..." (DMO5)

Table 15. Continued

	ADVOCACY & IMPLEMENTATION	Ways of addressing issues	„Utilise data analysis and monitoring systems to identify trends and patterns related to visitor numbers and environmental impacts...“,“...yearly economic impact on tourism in Brighton & Hove...“ (DMO1) “...Implement zoning regulations and crowd management measures to mitigate the negative impacts...”,” Brighton & Hove city tracker survey allows to consider the carrying capacity of the destination...”(DMO2) “We continuously launch education and awareness campaigns for residents, visitors and tourism stakeholders…(DMO3) “...Through infrastructure development…”,”…developing and implementing a new transport plan for Brighton & Hove...”(DMO4) “Engage with a wide range of stakeholders, including environmental organisations and tourism associations, to gather input, share insights and develop strategies to address emerging challenges...”(DMO5)
	COMMUNICATION & PERCEPTION MANAGEMENT	Enforcement of regulations	“…Clear regulatory framework for all as mentioned earlier…” (DMO1) “… Through education and training, recognition of businesses that demonstrate compliance, engagement of residents and consumers in planning… ”(DMO2) “...Through fostering collaboration with stakeholders, including public and private sectors, customers and also community groups...”,”...to collectively promote and improve sustainable tourism practices...”(DMO3) “…Place brand should be integral to the Vision 2030…(DMO4) “...New branding of the city (4 pillars - creative, European, free, saving energy) should encourage all stakeholders to implement sustainability goals (DMO5)
		Strategies to communicate decisions	“… Decisions communicated through Visitor Economy Strategy. It is for the city first, but it looks outside to identify how the region can work together on tourism for mutual benefit…”,”…it is a strategy for everyone …” (DMO1) “…Prepared destination management plan sets out priority actions for partnership working to improve visitors’ experience of the city, and arrangements for a newly created destination experience group…”(DMO2) “…Visitor economy strategy provides a platform to talk about the city at a national and international level that creates positioning…”(DMO3) “…Visitor economy strategy has been implemented and it is about new ways of thinking, about tourism to channel these opportunities and potential…” (DMO4) “...Official website where residents and visitors can find information about governance decisions, policy changes and relevant updates...”(DMO5)
		Consumer perception influences	„...Shape destination‘s image and competitiveness, influencing decisions of travellers, regarding whether to visit, how long to stay and how much to spend...“(DMO1) “...Trust with travellers is built through transparent governance and clear communication of policies...” (DMO2) “...Knowing that the local government prioritises public safety and has effective policies in place makes tourists feel more comfortable...”(DMO3) “Well-maintained infrastructure influences travel decisions...”, “...cultural preservation and heritage conservation...”(DMO4) “If Brighton is perceived as a destination with strong environmental policies and commitment to sustainability, it will attract visitors who prioritise eco-friendly experiences”(DMO5)

Compiled by the author following the interview

The 1st selected ETIS criteria, "Implementation of sustainable tourism policies & destination branding", was assigned to the destination management organisations as they carry responsibilities for managing and promoting sustainable tourism practices within TSCM to improve destination sustainability and resilience (Table 15). By fostering collaboration, branding and marketing the destination, building capacity and managing destinations, DMOs play a central role in ensuring that tourism contributes to the well-being of communities, preserves natural and cultural heritage, and sustainably generates economic benefits. **'Strategy and policy'** category's 1st subcategory statements on ‚*Organisation vision*' provide valuable insights into sustainable and resilient tourism development in Brighton with a focus on changing visitor perceptions (DMO2), cultural fit (DMO3), destination planning to benefit all (DMO4&5), reduction of seasonality and increased finance (DMO5). However, there is limited mention of specific strategies that focus on waste reduction, energy efficiency, and conservation efforts. Secondly, while DMO3 acknowledges the importance of community engagement, further discussion on how tourism development can benefit residents, including initiatives like community-based tourism projects and equitable distribution of tourism revenues, is warranted. Thirdly, the significance of promoting responsible tourism practices, such as ethical wildlife tourism and sustainable transportation options, is not addressed, highlighting the need to incorporate these principles into the organisation's vision. Addressing these areas can fortify Brighton's commitment to responsible tourism and bolster sustainability.

In the following subcategory, statements on *'Governance mechanisms*' inform that tourism development is aligned with broader economic objectives and sustainable urban planning principles (DMO1-5) through various destination management policies. Particular interest falls on job creation and the differentiation of facilities (DMO2) and destination branding (DMO3). DMO4 mentions the integration of visitors'needs into strategic planning. While the outcomes touch on various policies and documents, there is little discussion on mechanisms for monitoring and evaluating the effectiveness of those policies. Establishing clear performance indicators and regular assessment processes would help track progress, ensure accountability and identify areas for improvement. Also, the flexibility and adaptability of policies are not sufficiently addressed to respond to changing market trends, socio-economic conditions, or external shocks. Addressing these would strengthen the governance framework to improve Brighton's sustainability and resilience.

The second category, **'Stakeholder engagement and collaboration**', exploring the subcategory of *'DMOs engagement with stakeholders*' underscores transparency and accountability (DMO1), identification and routine meetings (DMO2), consultations and surveys to gather stakeholder feedback on tourism governance (DMO3), contribute ideas and co-create strategies (DMO4). DMO5 facilitates public hearings and consultation events complemented by online platforms for accessibility and

inclusivity. While these outcomes show input on various engagement methods, certain areas require further attention. Capacity-building activities to empower stakeholders are rarely mentioned. Training and resources would boost stakeholder contributions. Second, long-term engagement must augment episodic engagement to build trust and collaboration. Addressing these areas would boost stakeholder participation.

The subcategory of ‚*DMOs role in facilitating collaboration'* highlights several key functions for DMOS, such as a catalyst for collaboration (DMO1), conflict resolution (DMO2), collaborative planning processes (DMO3), provision of a platform for stakeholder communication (DMO4), and information sharing (DMO5). However, resource constraints pose challenges in adequately meeting stakeholders' needs. DMOs must negotiate power relations and conflicting interests, guaranteeing inclusiveness and reflecting variety. Meaningful involvement and active participation require effective outreach initiatives and communication techniques.

Statements in the subcategory *'Ways of addressing issues'* under the third category '**Advocacy and implementation'** offer insights into several DMOs' different ways for addressing challenges: data analysis and monitoring systems (DMO1), zoning rules, visitor management policies (DMO2), infrastructure improvements (DMO2&4), educational campaigns (DMO3). The comments, meanwhile, lack detail in handling problems and guaranteeing sustainable tourism practices. Talk of assessment tools is scant. Constant development depends on monitoring the effects of carried-out actions and changing plans according to comments. Though education and awareness programs are highlighted, there is no debate on including local populations in decision-making processes and empowering them to engage in sustainable tourism projects.

The fourth category, '**Communication and perception management',** contains statements about the subcategory *'Enforcement of regulations'*. While DMO2 supports the use of education and training, DMO3 gives priority to working with different stakeholders. DMO4 recommends including place branding in the long-term strategy. DMO5 talks about city branding, stressing sustainability objectives. DMO1 emphasised the need for a regulatory framework relevant to all parties involved. Still, lacking specific enforcement tools, including inspections, penalties, or legal actions, could impede the efficient execution of the regulations. Moreover, there is no discussion of monitoring and evaluation systems to ensure compliance, which is vital for spotting gaps and applying reform plans. The focus on resident and consumer involvement neglects the need to actively include local communities in enforcement activities actively, hence promoting ownership over tourism control.

The following subcategory remarks about '*Strategies for communicating decisions'* draw attention to numerous essential perspectives. While DMO2 refers to a ready destination management plan detailing priority actions for cooperative activities, DMO1, DMO3, and DMO4 allude to the Visitor Economy Strategy to spread governance decisions. DMO5 is an official website where visitors and locals may

find information about policy changes and government decisions. Establishing two-way communication channels would allow the public and stakeholders to interact and offer comments to decision makers. Effective communication depends on information sharing, and systems include local communities participating in decision-making activities. Community involvement in tourism management builds confidence, openness, and responsibility. There is no discussion of social media outlets or multimedia platforms to reach a varied audience. The comments are vague on the means of feedback to assess the effectiveness of communication plans and solicit stakeholder opinion on their information needs and preferences.

The third group of comments on '*The impact of consumer perception'* emphasises how much consumer perception affects destinations, affecting travellers' choices about whether to go, how long to stay, and how much to spend (DMO1). While DMO3 emphasises the importance of public safety in affecting tourist comfort levels, DMO2 stresses open government and policy communication. Rising consumer interest in sustainable and resilient destination management techniques is suggested by well-maintained infrastructure, cultural and heritage preservation (DMO4) and eco-friendly tourism legislation (DMO5). Though they greatly affect tourists' impressions, repeat visits, and referrals, service quality and hospitality are left out. Little is said about how places handle security events or health crises. Crisis management that is efficient builds consumer confidence. Moreover, comments ignore the part that marketing and promotional plans play in influencing consumer opinion and visits. The importance of community involvement and local authenticity, however, is neglected. Genuine experiences and relationships with local culture, customs, and communities increase the location's attractiveness and distinguish it from rivals.

Addressing various deficiencies in the current landscape is imperative in pursuing sustainable tourism practices (Atasoy & Eren, 2023). If left unattended, shortcomings can impede progress towards achieving long-term benefits for stakeholders and the destination. Table 16 provides a summary of deficiencies identified in Brighton.

Table 16. Destination Management Organisations' expert interview deficiency outcomes

DEFICIENCY IDENTIFIED	DESCRIPTION
Lack of focus on specific environmental sustainability strategies	Little emphasis on waste reduction, energy efficiency, and conservation efforts
Inadequate addressing of responsible tourism practices	Failure to explicitly promote ethical wildlife tourism, sustainable transportation options, and respect for local culture
Absence of clear Performance Indicators and assessment processes	Lack of established performance indicators to monitor progress, identify areas for improvement, and ensure accountability

Table 16. Continued

Insufficient mechanisms for flexibility, adaptability and monitoring	Lack of incorporation of mechanisms for governance flexibility to respond to market trends, socio-economic conditions, and external crises
Limited capacity-building initiatives	Failure to implement capacity-building initiatives to empower stakeholders with the necessary knowledge and skills for effective participation
Weak stakeholder relationships and communication	Lack of effort to foster long-term relationships and maintain regular communication channels with stakeholders, leading to limited trust and collaboration
Neglect of resource constraints and power dynamics	Failure to address resource constraints and power dynamics among stakeholders results in unfair and exclusive decision-making processes
Inadequate representation and voice for stakeholders	Lack of ensuring all stakeholders are represented and have a voice in decision-making, hindering genuine collaboration and buy-in.
Insufficient involvement of local communities	Failure to actively involve local communities in decision-making processes and integrate sustainability principles into tourism management
Lack of attention to service quality, crisis management, and marketing	Neglect of the importance of service quality, crisis management, and marketing strategies in shaping consumer perception and destination resilience

Compiled by the author following the DMO interview

One significant deficiency (Table 16) is the lack of DMO focus on specific strategies to improve destination management practices. Destination management organisations are fundamental in managing, marketing, and promoting tourism within specific destinations. They are responsible for fostering stakeholder collaboration and managing visitor experiences. The lack of a structured DMO focus on management often leads to fragmented management, inconsistent policies, and a declining appeal of the destination. Studies emphasise that such deficiencies adversely affect sustainability and resilience outcomes, highlighting the urgency of improvement of frameworks and models (Hallmann et al., 2024; Gretzel, 2021). Below is the table of common DMO deficiencies in the latest scientific literature, investigated by researchers (Table 17).

The absence of a functional Destination Management Organisation specifically focused on implementing strategies to improve destination management practices is a significant deficiency in tourism governance (Table 17), which is not the case in the destination of Brighton. However, in Brighton, DMOs face multifaceted challenges, from fragmented stakeholder engagement to sustainability and resilience management issues, which underscore the critical need for strategic improvement. As the tourism industry continues to transform, the establishment of robust DMO strategies to address identified deficiencies must be prioritised to enhance the economic, cultural,

and environmental sustainability of the destinations they represent. By prioritising these areas of improvement, stakeholders can work towards realising the long-term benefits of sustainable tourism for all: stakeholders, communities and the destination environment.

Table 17. DMO deficiencies in destination management practices through scientific navigation

DEFICIENCY	AUTHOR	COMPARABLE INSIGHTS
Absence of centralised DMO	Gupta & Sahu, 2022; Boom et al, 2020; Batinić; 2018	Lack of cohesion and cooperation among local stakeholders involved in tourism
Ineffective resource management	Hizmi & Junaid, 2023; Mihalič & Kuščer, 2021	Mismanagement of resources results in suboptimal economic returns and adverse environmental impacts, leading to unsustainable tourism practices
Inconsistent marketing and destination branding	Hartman & Papp, 2024; Herasimovich et al, 2024; Hall et al., 2018	Absence of a unified image for the destination, which is essential for competition in a crowded market; cultivation of new attractions that resonate with tourists‘ evolving preferences
Sustainability challenges	Ji et al., 2024; Hizmi & Junaid, 2023; Hussain, 2021;	Destinations lacking effective management frameworks struggle to implement strategies that ensure sustainability across environmental, socioeconomic, and cultural dimensions, failing to adequately engage local communities and preserve resources.
Absence of theoretical framework	Hizmi & Junaid, 2023	The stakeholder theory emphasises the necessity of aligning the interests of various stakeholders in tourism governance, the lack of which causes operational challenges.
Digital transformation of DMOs	Gretzel, 2021	Innovative technologies are essential for enhancing destination management within an increasingly digital tourism landscape.

Compiled by the author

The 2nd selected ETIS criteria to reflect on improving destination sustainability and resilience efforts analyses „Supply chain stakeholder collaboration**“**(Table 18). This section also highlights this study’s selected tourism supply chain management approach. Accordingly, it has been assigned to Tour Operators (TOs) and Travel Agencies (TAs) because they are continuously and actively involved in coordinating and managing various aspects of tourism activities, also engaging with a wide range of stakeholders within and beyond the destination.

Table 18. Tour operators and travel agencies selected expert interview

	TOUR OPERATORS AND TRAVEL AGENCIES		
	CATE GORY	**SUB CATE GORY**	**EXPERT INTERVIEW STATEMENTS**
ETIS: TOURISM SUPPLY CHAIN COLLABORATION	STRATEGY & POLICY	Practices that promote destination sustainability and resilience	„Developed tour options that highlight eco-friendly attractions...“,“... green spaces, sustainable restaurants...“,“...collaborating with local suppliers…(TO1) “Tours include educational components that raise awareness about environmental issues...”,”...guided discussions, informational materials...”,”...we aim to empower travellers to make sustainable choices during visit...” (TO2) “Prioritise working with local suppliers that share our commitment to sustainability...”,”...Reduce carbon footprint, support local economy...” (TA3) “Engage with local communities to ensure the tours we sell are respectful of culture and way of life...”,”...partnerships with local businesses...” (TA4) “...Implemented measures to reduce waste and minimise plastic use during tours...”,” ...Provide reusable water bottles and encourage refill...” (TA5) “Donate a portion to local conservation organisations...”,”...financial support helps fund conservation projects...”, “we engage with local producers...” (TO6) “...Combination of environmentally friendly practices, community engagement, educational initiatives of tourists...” (TA7)
		Incorporation of sustainability and resilience principles into travel packages	„We select accommodations that prioritise sustainability...“,“...eco-friendly…“,“...have certifications for energy efficiency, waste reduction, water conservation...“,“...incorporate local production into tour packages...“(TO1) “...Encourage customers to use low-impact transportation options...”,”... assist in planning itineraries to minimise carbon emissions...” (TO2) “...Support local businesses and artisans...”,”...our customers contribute to the local economy and support sustainable livelihoods....” (TA3) “…Provide reusable or biodegradable materials whenever possible…” (TA4) “...Encourage participation in carbon offset programs or donate to environmental conservation projects…” (TA5) “...Provide information about conservation projects and ways to minimise environmental impact, like off-set carbon emissions, leave no trace principals, reusable water bottles and bags, opt for walking or biking...” (TO6) “Involve community members and seek their input on how to minimise negative impacts on the local environment” (TA7)

Table 18. Continued

		Steps to minimise the carbon footprint and environmental impact	„Partner with airlines that prioritise sustainability and offer carbon offset programs for flights and eco-friendly accommodations...“ (TO1) “...Carbon offset programs are not a substitute for reducing emissions...”,”... fuel-efficient aircraft, investing in renewable energy is...” (TO2) “Financial support from our sales on beach clean-ups, wildlife conservation efforts, tree planting initiatives...” (TA3) “...Provide reusable water bottles, promote the use of refill stations and encourage travellers to carry reusable bags and utensils...” (TA4) “...Encourage eco-friendly transportation options...” (TA5) “Collaborate with hotels that have implemented sustainable practices such as energy efficiency, waste reduction and use of renewable resources...” (TO6) “Educate tourists about responsible tourism practices and encourage them to minimise their environmental impact while exploring...”,”... principles of leave-no-trace, wildlife conservation, protecting the local environment...” (TA7)
		Addressing the challenges of over-tourism	„...Monitoring visitor trends and feedback allows us to adapt our strategies and interventions accordingly...“, „...collaboration with DMOs...“ (TO1) “...Diversification...”,”...lesser-known and off-the-beaten-path experiences...”,”...collaboration with local stakeholders...”,”...monitoring flows, regulating group sizes and protecting sensitive areas from overuse...” (TO2) “...Work closely with local authorities, communities and stakeholders...” (TA3) “...Educate visitors about responsible tourism, encourage them to respect culture and heritage...”,”... minimise waste, supporting local businesses...” (TA4) “...Off-peak travel seasons and weekdays to distribute visitor numbers more evenly...”,”...discounted rates, cheaper packages during quieter periods...” (TA5) “...Concept of ‘slow tourism’...”,”...engage with local culture and form connections with the community...”,”...focus on quality over quantity...”(TO6) “...Engaging residents fosters sense of ownership and pride...”,”...creates more inclusive destination...”, “happy residents - happy tourists...” (TA7)
	STAKEHOLDER ENGAGEMENT& COLLABORATION	Collaboration with DMOs in alignment with sustainability	„...Partner with DMOs to foster collaboration and mutual support...“, „Visit Brighton, Brighton & Hove city council, Brighton tourism alliance...“ (TO1) “...Work with DMOs to establish metrics for measuring the impact of our operations through various surveys and visitor economy strategy...” (TO2) “Educate tourists on sustainability initiatives outlined by the DMO...” (TA3) “Collaborate with DMOs to educate visitors about responsible tourism and encourage them to respect the environment, culture and communities…” (TA4) “Relationships with DMOs allow us to stay informed about Brighton’s sustainability initiatives and share best practices...” (TA5) “Participate in destination management planning processes led by DMOs to contribute our expertise and insights...” (TO6) “...Support DMO-led initiatives that involve local communities ....” (TA7)

Table 18. Continued

		Strategies with hotel engagement	„Partner with hotels that have obtained eco-certifications...“,“...encourage visitors to choose eco-friendly options...“ (TO1) “...Develop sustainable tourism packages in partnership with hotels that incorporate eco-friendly activities...”,”...exploring local nature reserves, participating in conservation projects...” (TO2) “...Collaborate with hotels that implement green initiatives...”,”...reducing single-use plastics, energy-efficient lighting and appliances...” (TA3) “...Communicate the sustainability efforts of partner hotels to tourists through our marketing channels, website and pre-trip materials...” (TA4) “…Cooperate with hotels that source locally-produced goods…”(TA5) “...By acknowledging and rewarding hotels for sustainability achievements...” (TO6) “...Collaborate with hotels and communities on initiatives that engage residents and visitors in sustainability education...”,”...environmental workshops...” (TA7)
	ADVOCACY & IMPLEMENTATION	Integration of feedback from customers and stakeholders	„...Integrate feedback into our policy efforts...“,“...collaboration and dialogue with stakeholders...“ (TO1) “Customer feedback mechanisms, such as post-tour surveys, online reviews, to gather insights about their experiences during their tours…” (TO2) “…Customer feedback mechanisms…”,”...overall satisfaction with our tours...”,”…allows continuous improvement...” (TA3) “...On the feedback received, we develop targeted initiatives...” (TA4) “Feedback analysis...”,”...identify trends, improvement, innovation...” (TA5) “By fostering open dialogue and collaboration with stakeholders, we gain perspectives and priorities on sustainability and resilience...” (TO6) “Customer and stakeholder feedback advocate for policy changes...” (TA7)
	COMMUNICATION & PERCEPTION MANAGEMENT	Education of customers on responsible travel practices	“…Pre-trip, during-trip, post-trip communication and feedback…”, „... includes emails, newsletters, welcome packets that outline sustainable practices, cultural sensitivities, and environmental considerations relevant to their visit...“ (TO1) “...Distribute sustainability guidelines and codes of conduct for travellers visiting Brighton...” (TO2) “Incorporate educational resources on our websites, booking platforms” (TA3) “During tours and activities in Brighton, our guides serve as ambassadors for responsible travel, providing educational discussions...” (TA4) “...Encourage customers to reflect on their travel experiences...” (TA5) “...Offer sustainable tour options and experiences that emphasise eco-friendly practices, cultural immersion...”, “encourage local shopping...” (TO6) “Maintain communication, like follow-up emails, sometimes surveys, to reinforce the importance of responsible travel and sustainability...” (TA7)

Compiled by the author following the interview

The first category **'Strategy and Policy'** outcomes (Table 18) of the subcategory *'Examples and practices that promote sustainability and resilience',* TO1, TA3 and TA4 highlights the development of tour options that showcase eco-friendly attractions and collaborations with local suppliers, while TO2 emphasises the inclusion of educational components in tours to raise awareness about environmental issues. TA5 provides reusable water bottles to customers, while TO6 donates a portion of their tour proceeds to local conservation organisations and engages with local producers. TA7 emphasises community engagement and educational initiatives for tourists. However, while the examples provided by the TOs and TAs demonstrate efforts to promote sustainability, there is a lack of examples of the long-term benefits these practices bring to Brighton's sustainability and resilience efforts.

Further, in the second subcategory, '*Incorporation of sustainability principles into travel packages*', TO1 mentions the careful selection of accommodations prioritising sustainability; TO2 and TA5 encourage customers to use low-impact transportation options. TA3 and T6 promote experiences that support local businesses and contribute to the local economy. TA4 focuses on providing reusable materials whenever possible, while TA7 suggests involving community members and seeking their input on minimising negative impacts. While the TOs and TAs outline various sustainability principles incorporated into travel packages, more emphasis should be placed on the specific criteria for selecting sustainable accommodations and experiences. Providing transparency about certification standards and criteria would increase customer trust and credibility.

Following the third subcategory *'Steps to minimise the carbon footprint and environmental impact',* TO1 and TA5 partner with airlines that offer carbon offset programs and eco-friendly accommodations, while TO2 argues that carbon offset programs are not a substitute for reducing emissions and emphasises the importance of reducing emissions through fuel-efficient aircraft and renewable energy. TA3 mentions financial support for local environmental conservation projects.TA4 encourages travellers to minimise plastic use, while TA7 educates tourists about responsible tourism; TO6 collaborates with hotels, guesthouses, and B&Bs that implement sustainable practices. However, there is no mention of quantifiable goals or metrics to measure the effectiveness of these efforts. TOs and TAs could set specific targets for carbon reduction or waste diversion to demonstrate their commitment to sustainability and track progress over time.

In the fourth subcategory, '*Addressing challenges of over-tourism'*, TO1, TO2 and TA3 highlight monitoring visitor trends and collaborating with DMOs, while TO2 also emphasises diversification of tourism offerings. TA4 educates visitors about responsible tourism and supports local businesses. TA5 promotes off-peak travel and discounted rates during quieter periods. TO6 encourages "slow tourism" and engaging with local culture. TA7 engages residents in positioning tourist crowds and fostering a sense of ownership. Nevertheless, there is a lack of emphasis from all except TA7 on community engagement and empowerment. TOs and TAs should involve residents in

decision-making processes and seek their input on strategies to mitigate the negative impacts of tourism. Additionally, promoting off-peak (as suggested by TA5) travel and advocating for sustainable tourism practices could be more explicitly highlighted as strategies to manage visitor numbers.

In the second category **'Stakeholder engagement and collaboration'**, which also highlights selected approach of the TSCM in this thesis, the first subcategory *'Collaboration with DMOs in alignment with sustainability',* all interrogated TOs and TAs seek partnerships with local DMOs in Brighton to establish metrics (TO2), to educate tourists (TA3), to encourage responsible tourism (T4 and TA5). TO6 participates in DMO-led planning processes and supports DMO-led initiatives involving local communities, as does TA7. However, although the TOs and TAs demonstrate engagement with DMOs in sustainability efforts, there is a continuous need for more emphasis on specific collaborative projects or initiatives undertaken with DMOs. Providing examples of joint sustainability campaigns, workshops and community projects led by DMOs could demonstrate the depth of collaboration and impact achieved.

In the second subcategory, *'Strategies with hotel engagement',* TO1 prioritises partnering with eco-certified hotels and encouraging visitors to choose eco-friendly options. At the same time, TO2 develops sustainable tourism packages with eco-friendly activities and collaborates with hotels on green initiatives with TA3. TA5 cooperates with hotels to source locally produced goods and implement green initiatives, while TA4 and TA7 communicate the sustainability efforts of partner hotels to tourists and community organisations. TO6 acknowledges and rewards hotels for sustainability achievements, but no TOs or TAs emphasise evaluating the impact of these strategies. Incorporating impact measurements or hotel certification programs would implement tracking of sustainable practices by partner hotels and assess the effectiveness of collaborative initiatives in reducing environmental impact.

In the third category, **'Advocacy and implementation'** statements in the subcategory *'Integration of feedback from customers and stakeholders'*, each answer emphasises the importance of integrating feedback from customers and stakeholders into decision-making processes to drive continuous improvement, inform policy advocacy efforts, and enhance sustainability and resilience practices. Experts highlight various mechanisms and approaches to gather, analyse, and act upon feedback to drive positive outcomes. Implementing robust customer feedback mechanisms, such as post-tour surveys and online reviews, to gather insights on sustainability practices (TO1, TO2, TO6 and TA7). TA3 and TA4 encourage customers to share their thoughts on sustainability initiatives, environmental impact, and overall satisfaction. TA5 discusses feedback analysis; however, there is limited mention of specific actions based on this feedback and no examples demonstrating how feedback is systematically integrated into policy advocacy efforts or operational improvements. Additionally, there appears to be a lack of emphasis on transparency and accountability in the feedback integration process.

The fourth category**, 'Communications and perception management'** subcategory '*Education of customers on responsible travel practices',* TO1 and TA5 emphasised communication and feedback mechanisms throughout the travel experience, including pre-trip emails or packets outlining sustainable practices. However, the method lacks specificity regarding the content of these communications and the effectiveness of feedback mechanisms. TO2 distributes sustainability guidelines and codes of conduct for travellers visiting Brighton. While it addresses the dissemination of information, it may overlook the need for ongoing education and engagement throughout the travel experience, similar to TA3 and TA7. Interestingly, TA4 highlights the role of guides and tour leaders in educating travellers during tours and activities in Brighton. It effectively utilises personal interaction to promote responsible travel practices. TO6 emphasises sustainable tour options and experiences in Brighton, and encourages local shopping. It effectively integrates responsible practices into the travel experience, but may not address ongoing education beyond the tour.

The analysis of responses from Tour Operators and Travel Agencies reveals several key issues, shedding light on areas requiring attention and improvement within sustainability and resilience efforts (Table 19).

Table 19. Tour operators' and Travel Agencies' expert interview deficiency outcomes

DEFICIENCY IDENTIFIED	SPECIFICATION
Incomplete stakeholder engagement	A comprehensive approach involving communities, businesses, and government agencies is needed to ensure inclusive decision-making.
Feedback loop integration	Lack of emphasis on integrating feedback into continuous improvement processes
Lack of quantifiable metrics	Lack of specific metrics or indicators to measure the effectiveness of sustainability efforts, hindering the ability to track progress or impact
Inclusive approach	Neglect of the interconnectedness of social, environmental, and economic factors, which could increase the impact
Limited collaboration with DMOs	Emphasis on specific collaborative projects or initiatives to demonstrate the depth of collaboration and impact achieved
Inadequate evaluation of hotel engagement	Lack of emphasis on tracking the adoption of sustainable practices and involving hotels in joint sustainability reporting
Ineffective feedback mechanisms	Limited mention of actions taken based on feedback or how feedback is integrated into policy advocacy or operational improvements
Absence of real-time engagement	Responses overlook the need for ongoing education and engagement throughout the travel experience, including real-time engagement opportunities to reinforce responsible travel practices.

Compiled by the author following TAs & TOs interview

While some responses acknowledge engagement with stakeholders (Table 19), there is a clear need for a more comprehensive approach. Inclusive decision-making demands involvement from a broader spectrum, including local communities, businesses, and government agencies. It ensures that diverse perspectives are considered, leading to more robust and inclusive sustainability strategies (Altexsoft, 2020). Tour operators and travel agencies are integral intermediaries within the TSCM stakeholder framework, facilitating connections between service providers and travellers. However, various collaboration deficiencies can undermine their effectiveness (Barroga, 2024; Gursoy, 2015). To confirm the transferability, reflexivity, and conformability of the findings, a comparison with other scientific studies is essential, as presented in Table 20.

Table 20. TO & TA deficiencies in stakeholder collaboration practices through scientific navigation

DEFICIENCY	AUTHOR	COMPARABLE INSIGHTS
Communication and coordination	Álvarez-Albelo & Martínez-González, 2023; Ndegwa, 2022).	Lack of efficient communication channels and coordination mechanisms leads to misalignment of objectives; mismatched priorities between tour operators and local communities stifle initiatives to enhance environmental sustainability
Siloed operations and information sharing	Barroga, 2024; Nam et al, 2022; Guo, 2012	Travel agencies and tour operators often operate in silos, limiting the flow of valuable information that enhances collective decision-making processes; information sharing among stakeholders is essential for identifying opportunities for sustainability-enhancing innovations
Corporate social responsibility implementation	Ibarnia et al, 2020; Theodoulidis et al, 2017	There is a gap in understanding how environmentally friendly practices embrace CSR principles; promoting coordinated CSR initiatives among tourism stakeholders would enhance overall destination resilience and sustainability efforts
Integrated tourism management approaches	Putro et al., 2024; Albrecht et al., 2021	Destinations benefit significantly from adopting stakeholder cooperative governance structures, facilitated by Destination Management Organisations
Adoption of sustainable practices	Rezapouraghdam et al, 2024; Sigala, 2008	Perceived environmental value and sustainable destination development enhance tourist satisfaction; fostering a culture of sustainability among tour operators and travel agencies is imperative for driving improvements across the industry
Implementing technology and data	Chen et al., 2024; Skiver, 2022; Ivanov, 2021;	Utilising advanced technologies, such as the Internet of Things (IoT), can enhance the operational efficiency of tourism stakeholders by facilitating better resource management and more informed decision-making processes

Compiled by the author

As presented in Table 20, collaboration deficiencies among tour operators, travel agencies, and other stakeholders within the tourism supply chain management pose significant challenges to achieving sustainable and resilient tourism destinations (Robinson & Carson, 2016; Calgaro et al., 2014; Gill & Williams, 2014). To improve these dynamics, stakeholders, such as Tour Operators and Travel Agencies, must address communication and coordination gaps and promote CSR practices, which was not mentioned among interviewers in Brighton. However, effective feedback utilisation, whether for policy advocacy or operational improvements for stakeholders in Brighton, is essential for ensuring the responsiveness and relevance of sustainability initiatives and implementing integrated management strategies. The third selected ETIS criteria "**Economic diversification"** aligns with the integration of resilience measures and is attributed to the Accommodation sector in Brighton (see table 21), because the accommodation sector plays a central role in supporting economic diversification by providing a lodging infrastructure for tourism activities. 11 interviews were conducted with selected experts. However, to mitigate redundancy in responses, the selection of the most informative ones is presented below (Table 21).

Table 21. Accommodation service providers' expert interview

	ACCOMMODATION SERVICE PROVIDERS		
	CATE GORY	**SUB CATE GORY**	EXPERT INTERVIEW STATEMENTS
ETIS: ECONOMIC DIVERSIFICATION	STRATEGY & POLICY	Contribution to diversification	„... Prioritise sourcing products and services from local suppliers…"(AC1) "...Offer employment opportunities to residents in event planning...","...we provide training and skill development programs..."(AC2) "...Seek partnerships with local organisations...","...fundraising events and community development projects...","...sourcing local products..." (AC4) "...Outsourcing local production...", "...promote local artists, cultural events by showcasing their work within our hotel or hosting..." (AC5) "... Incentivise off-peak travel by offering deals during shoulder seasons" (AC6) "...Provide resources and opportunities for local producers to showcase their products and services...","...employ residents..."(AC8) "...Hosting pop-up shops, organising networking events, offering mentorship programs, promoting employment to locals, sourcing local production..." (AC9) "...Create marketing campaigns that target niche markets, specific segments of travellers, such as adventure seekers, cultural enthusiasts, eco-tourists..." (AC11)

Table 21. Continued

		Positive operational contribution	„...Educating guests...“,“...energy-efficient practices such as LED lighting, motion sensors, appliances reduce energy consumption and carbon emissions...“,“...low-flow faucets, toilets and showerheads...“ (AC1) “...Purchase of locally sourced, organic, sustainably produced goods...”,”... reduce transportation emissions...” (A3) “...Implementing waste reduction and energy saving strategies...”,”...encourage towel usage reduction...” (AC5) “...Invest in maintaining property to provide a high-quality experience...” (AC6) “...Promote Brighton, highlighting attractions, heritage and community...”,”… support local businesses, cultural and service providers...” (AC8) “...Engage with organisations to support community development projects...”,” buy local products...”,”...water, energy and waste reduction policies...” (AC11)
		Customer diversity policy	„Commitment to flexibility, guest satisfaction allows us to attract and cater to the needs of diverse segments...“,“...offer special wellness packages...“ (AC1) “...Room packages designed to appeal to different consumer segments...” (AC2) “...Specialised amenities to enhance experience for different consumer segments...”,”... pet-friendly facilities for guests with disabilities...” (AC3) “...Variety of menu choices to accommodate consumer segments, including vegetarians, vegans, gluten-free diners, other dietary restrictions...”(AC4) “...Provide personalised services to our guests...”,”...arranging luxury transportation, local attractions, fulfilling any special requests...” (AC6) “...Offer a range of cultural activities to appeal to different segments...” (AC7) “Multilingual staff ensure that all guests feel welcome...” (AC10) “...Feedback from guests to understand needs and preferences better...” (AC11)
	STAKEHOLDER ENGAGEMENT& COLLABORATION	Partnerships to support local businesses	„...Have established a local supplier program to prioritise sourcing goods and services from businesses based in Brighton and the surrounding area...“(AC1) “...Collaborate with local businesses and local industries to host events...” (AC3) “...Partnerships with local restaurants and diners to offer guests exclusive dining experiences and discounts...”,”...promotes local culinary diversity...” (AC4) “...Work with local tour operators and cultural institutions to create tourism packages that highlight the best of what Brighton has to offer...” (AC7) “...Collaborate with local businesses to offer corporate event packages...” (AC9) “...Partner with local environmental organisations to promote eco-friendly practices...”,”…supporting wildlife conservation efforts…”(AC10) “...Engage with the local community through sponsorships, donations...”, “… supporting local charities, schools and non-profit organisations…” (AC11)

Table 21. Continued

		Collaboration with tour operators	„... Cooperate with travel operators who prioritise responsible tourism practices by engaging with local communities and promoting conservation...“ (AC1) “...Work closely with travel agents to co-create tourism experiences that showcase the unique culture, heritage and natural beauty of Brighton...” (AC2) “...Work with tour operators to incorporate education and conservation principles into their tour experiences...”,”...highlighting local conservation efforts...” (AC3) “...Encourage tour operators to engage with local communities...” (AC4) “...Work together with tour operators to promote responsible tourism practices...”,”...educate tourists about customs, support local businesses...” (AC6) “...Monitor the experiences offered by our partner tour operator...”,”...helps us ensure that they adhere to sustainable tourism principles...”(AC7) “...Get feedback from guests who participate in sustainable tourism experiences and use this feedback to continually improve and refine our offerings...”(AC11)
		Engagement with local authorities	„...Tourism is key driver of economic diversification and community prosperity...“,“...engage with economic development agencies...“ (AC1) “...Actively promote local businesses and attractions to guests...” (AC2) “...Share relevant data and insights with local authorities and economic development agencies to help inform strategic planning...” (AC5) “...Collaborate with local authorities on projects that promote economic diversification and tourism development, including joint marketing campaigns, business development initiatives, and workforce training programs...” (AC7) “...Support small businesses, infrastructure investment...” (AC8) “...Participate in stakeholder meetings and forums organised by local authorities...”,”... insights and opportunities on tourism-related issues...” (AC10) “...Maintain communication channels with local DMOs...”
	ADVOCACY & IMPLEMENTATION	Contribution to the creation of employment opportunities and skill development	„...Prioritise hiring locally whenever possible...“ (AC1) “...Offer training and development programs for our employees...” (AC2) “...Provide opportunities for apprenticeships and internships for individuals who are interested in pursuing careers in the hospitality industry...” (AC3) “...Prioritise promoting from within the hotel...” (AC4) “...Collaborate with local educational institutions...” (AC5) “...Create diverse and all-inclusive workplace...” (AC6) “...Engage with the community through outreach programs and career fairs, and Brighton University...” (AC7) “...Implement cross-training and job rotation programs...” (AC8) “...Identify high-potential employees and provide them leadership..” (AC9) “...Foster a culture of continuous learning and skill development...”(AC10) “...Offer CRM (customer relationship management), PMS(property management system), POS(point of sale), RMS(revenue management system)...” (AC11)

Table 21. Continued

	COMMUNICATION & PERCEPTION MANAGEMENT	Promoting cultural and heritage experiences	„...Promote the preservation and sustainable management of Brighton‘s cultural heritage, working closely with local authorities...“ (AC1) “...Embrace and celebrate Brighton’s cultural diversity and heritage...” (AC3) “...Promote cultural experiences through our marketing channels...”,”...guest communications...”, “...resources to help guests explore...” (AC4) “...Sponsor local festivals, support arts organisations...” (AC5) “...Promote Brighton’s culinary heritage...” (AC7) “...Collaborate with local cultural institutions, historical sites, museums and art galleries to offer guests curated experiences...” (AC8) “...Provide our guests with exclusive access to exhibitions...” (AC9) “...By working with local agents to offer heritage tours and excursions that explore Brighton’s history, architecture, and landmarks...” (AC10) “...Host cultural events and programming within our hotel...”,”...live music performances, art exhibitions...” (AC11)

Compiled by the author following the expert interview

As outlined in Table 21, through strategic partnerships, sustainable practices, and community engagement, hotels in Brighton diversify the local economy, create employment opportunities, and support the growth of various industries beyond traditional tourism sectors. The first category, **‘Strategy and Policy’,** includes three subcategories, where the first subcategory enquires the *‘Contribution to diversification’* of the accommodation sector. It encompasses sourcing from local suppliers (AC1, AC5, AC9), offering employment opportunities and training programs to residents (AC2, AC9), seeking partnerships with local organisations (AC4, AC9), promoting local artists and culture (AC5, AC8), incentivising off-peak travel (AC6), hosting pop-up shops and creating targeted marketing campaigns (AC8), applying targeted segmentation (AC11). By these efforts, Brighton’s accommodation industry stakeholders encourage economic diversification and highlight the city’s cultural diversity. The emphasis should extend further on technology to increase the influence even more by widening the community’s economic foundation. Furthermore, encouraging sustainable tourism experiences like eco-tourism and historical tourism would highlight Brighton’s special features and help to preserve a local legacy for future generations by promoting environmental responsibility.

In the following *‘Positive operational contribution’* subcategory, the answers include education of guests on energy-efficient practices, implementing technologies aimed at reducing energy consumption and carbon emissions (AC1, AC5, AC11), as well as procurement of locally sourced, organic, and sustainable goods (AC5). Some invest in property maintenance to elevate the guest experience (AC6, A8), as well as promote Brighton as a destination and lend support to local businesses, cultural institutions, and service providers (AC8), contributing to community development initiatives (AC11). However, providing specific details on active support through contracts, collaborations, and referrals would strengthen positive operational contribution.

In the third subcategory *'Customer diversity policy'* varied needs and preferences of client ranges are being addressed (AC1, AC2, AC6), enhancing guest satisfaction; promotion of relaxation and rejuvenation (AC1), while a diverse packages (AC2), specialised amenities (AC4), pet-friendly and facilities for disabled (AC3), cultural and recreational activities (AC6,AC7), multilingual staff (AC10) and feedback (AC11). However, there are opportunities for improvement, such as combining initiatives to attract more guests through inclusive amenities. Implementing accessibility features for guests with disabilities in each hotel would further reinforce the hotel's commitment to inclusivity and ensure accessibility for all visitors.

In the second category, '**Stakeholder engagement and collaboration'**, the first subcategory '*Partnerships to support local businesses'*, experts mention the local supplier program (AC1, AC11), prioritising the sourcing of goods and services from Brighton and surrounding areas (AC3), and promoting culinary diversity (AC4). However, there are missing points in promoting eco-friendly practices through partnerships with environmental organisations (except AC10) and deeper engagement with the local community through sponsorships and donations to charities, schools, and non-profit organisations.

The answers in the second subcategory, '*Collaboration with tour operators'*, reveal that all hotels engage with travel operators. However, there is room for encouraging tour operators to further engage with local communities and support community development initiatives (AC4). Additionally, monitoring and evaluating adherence to sustainable tourism principles (AC7) and soliciting feedback (A11) from guests to improve sustainable tourism offerings would enhance collaboration among all accommodation service providers.

The third subcategory *'Engagement with local authorities'* discloses recognition of economic diversification (AC1, AC7) while actively promoting local businesses and attractions (AC2), sharing data with local authorities (AC5), yet there is scope to support initiatives related to small businesses, entrepreneurship, and infrastructure investment (AC8). More consistent communication with local DMOs could strengthen engagement, as highlighted by AC10.

In the third category, 'Advocacy and implementation', experts prioritise local hiring (AC1), offer training and development programs (AC2, AC11), provide apprenticeships and internships (AC3), promoting from within (AC4, AC9), collaborate with local educational institutions (AC5), fostering a diverse workplace (AC6), engage with the community through outreach programs and career fairs (AC7), implement cross-training and job rotation programs (AC8) and foster a culture of continuous learning (AC10). Nevertheless, several other strategies should be considered to increase the impact on employment and skill development, such as specialised training initiatives tailored to various roles and career paths within the hospitality sector. Additionally, implementing mentorship programs could offer continuous guidance and support to

employees across all levels. Furthermore, access to online learning platforms would empower employees to achieve self-directed skills. Lastly, incorporating feedback mechanisms would enable evaluation of the efficiency of such training opportunities.

In the fourth category, **'Communications and perception management'** in the subcategory '*Promoting cultural and heritage experiences',* the experts mention various initiatives to promote and preserve sustainable management of cultural heritage themed cultural packages could be curated to cater to diverse guest preferences, such as architecture enthusiasts, literary buffs, musicians or historians. Hosting cultural exchange programs or events and facilitating interactions between guests and local residents would foster mutual understanding and appreciation of Brighton's cultural heritage. Immersive technologies like virtual or augmented reality experiences could be incorporated to offer innovative ways for guests to explore the city's cultural landmarks and heritage sites.

The deficiencies for improving the Accommodation sector's diversification efforts present key missing points that, if addressed, could further improve destination sustainability and resilience (Table 22).

Table 22. Accommodation service providers' expert interview deficiency outcomes

DEFICIENCY IDENTIFIED	SPECIFICATION
Inclusivity and cultural understanding training	Diversity can be achieved through inclusive amenities and cultural understanding training for staff to ensure that the hotel is accommodating guests from various backgrounds and cultures
Accessibility features for guests with disabilities	Improving accessibility for guests with disabilities, including wheelchair ramps and braille signage, is crucial for diversity and inclusion
Specialised training programs	Training programs designed for various roles within the hospitality industry would increase the impact on employment and skill development
Collaborations with training centres	Would provide access to fill gaps in a diverse pool of potential candidates for employment opportunities
Mentorship programs	Provide guidance and support to employees across all levels, encouraging professional development
Incorporating sustainability initiatives	Carbon footprint and waste generation reduction, resource conservation must be implemented throughout the accommodation service provider sector
Collaboration with local historians and cultural experts	Would provide unique insights and perspectives on the city's history and culture
Application of immersive technologies	Would improve the guest experience and appeal to tech-savvy travellers
Community heritage preservation	Participating in restoration or heritage conservation projects, as well as supporting local heritage organisations

Compiled by the author following Accommodation service providers' expert interview

The accommodation sector plays a crucial role in the tourism supply chain, essential for improving sustainability and resilience through economic diversification in tourism destinations. Despite its significance, various deficiencies (Table 22) in the accommodation sector hinder its contribution to these goals. Table 23 presents a multifaceted approach, leveraging insights from recent studies.

Table 23. Accommodation service providers' diversification deficiencies through academic navigation

DEFFICIENCY	AUTHOR	COMPARABLE INSIGHTS
Integration of local food supply chain	Jain et al., 2021; Sarigiannidis et al, 2021; Guo, 2012	Opportunity to bolster local economies and minimise economic leakages
Optimising logistics	Chowdhury et al., 2024; Dharmaratne et al., 2023; Guo et al., 2013	Essential for improving operational efficiencies and customer satisfaction within the accommodation sector
Management of waste and resources	Huishan & Singh, 2024; Huang, 2014	Applying eco-friendly strategies in accommodation fosters sustainable tourism and enhances visitor experience by preserving local culture and the environment
Gaps in sustainability skills	Hussain, 2021; Melián-Alzola et al., 2020	Addressing skill deficits, particularly in green and social practices, is essential for improving the overall impact of accommodations on sustainability and resilience efforts
Technological integration	Chen et al., 2024; Ivanov, 2023; Jialang et al., 2021; Adams et al., 2014	Digital technologies provide pathways for contactless and virtual engagement that reshape visitor experiences and instil confidence in travel safety

Compiled by the author

Addressing the deficiencies presented (Table 23) in the accommodation sector in the TSCM requires a systemic approach involving community engagement, efficient logistics, skills development, and technological advancement. Expanded and more detailed deficiencies were outlined after the Accommodation sector in Brighton was interrogated, such as accessibility features, a local community integration process, and continuous learning and training programs to enhance sustainable and resilient practices. By focusing on these areas, the accommodation sector could significantly enhance economic diversification while promoting sustainability and resilience within destinations (Karolak, 2018).

The fourth ETIS criteria selected to improve destination sustainability and resilience '**Environmental impact assessment'** was assigned to the transportation service

providers in Brighton. This sector plays a key role in shaping the city's environmental footprint due to its significant contribution to emissions and resource consumption (Table 24).

Table 24. Transportation service providers' expert interview

	TRANSPORTATION SERVICE PROVIDERS		
	CATE GORY	**SUB CATE GORY**	**EXPERT INTERVIEW STATEMENTS**
ETIS: ENVIRONMENTAL IMPACT ASSESSMENT	STRATEGY & POLICY	Assessment and mitigation of an environmental footprint	„...Invest in carbon offset projects...“,“...tree planting initiatives, renewable energy and investments in carbon capture and storage technologies...“ (TR1) “...Promote the use of public transport, cycling and walking among our employees...”,”...subsidies for public transportation passes, bike-sharing memberships, facilities for cyclists such as bike racks and showers...” (TR2) “... Utilise route optimisation software, save fuel, reduce congestion...” (TR3) “...Explore and invest in electric, hybrid or biofuels where feasible...” (TR4) “...Assess the fuel efficiency and emissions of our vehicles...”,”... invest in fuel-efficient vehicles and adhere to strict maintenance schedules...” (TR5)
		Measures to reduce carbon emissions	„...Developing our fifth local transport plan for Brighton & Hove to set vision and priorities for transport and travel across the city to 2030...“ (TR1) “...Fleet of electric vehicles for our urban delivery...”, “...installed solar-powered charging stations...”,”...reduce our reliance on grid electricity...” (TR2) “...In dense urban areas of Brighton, we offer a bicycle courier service for smaller packages and deliveries...” (TR3) “...Implemented packaging optimisation strategies...”,”...using recyclable and biodegradable packaging materials...” (TR4) “...Regular training to our employees on eco-driving techniques and the importance of environmental sustainability...” (TR5)

Table 24. Continued

		Eco-friendly technologies and alternative fuels	„Compliance with environmental regulations, emission standards and government incentives...“,“...informed about local, regional and national policies related to transportation emissions and renewable energy incentives...“ (TR1) “...Initiatives of reducing carbon emissions, air pollutants...”,”...electric vehicles, hydrogen fuel cells and biofuels...” (TR2) “...Perform a cost-benefit analysis to evaluate the long-term financial implications...”,”...savings in fuel costs, maintenance expenses...”,”... compliance with environmental regulations...” (TR3) “Support of infrastructure such as charging stations, refuelling stations and maintenance facilities for eco-friendly vehicles and alternative fuels...” (TR4) “...Assessment of the feasibility...”,”...vehicle availability, infrastructure requirements, operational costs, and regulatory considerations...” (TR5)
	STAKEHOLDER ENGAGEMENT& COLLABORATION	Collaboration with environmental organisations	„...Collaborate with City Council to align our sustainability initiatives with local policies and regulations...“,“...developed transport Plan for 2030...“ (TR1) “...Partnership with the Brighton Environmental Group....”,”...community events, workshops and advocacy campaigns aimed at raising awareness...” (TR2) “...Collaborate with the University of Brighton on research projects and pilot programs related to sustainable transportation...” (TR3) “...We partner with local environmental organisations to address specific sustainability challenges in the Brighton area...”,”...enable us to share best practices, exchange ideas and work together towards common goals...” (TR4) “...Partner with local environmental organisations to engage in community outreach programs focused on sustainable transportation...” (TR5)
		Engagement with visitors	„...Seek feedback, organise educational events, workshops...“, „... encourage eco-friendly commuting, green sightseeing, informational signage…” (TR1) “...Provide materials...”,”... utilise digital platforms...”,”...real-time updates on public transit schedules, bike-sharing availability, walking tours, as well as tips for reducing carbon emissions while travelling...” (TR2) “...Partner with hotels in Brighton to promote sustainable transportation options to their guests...”,”…interactive maps and apps…” (TR3) “...Information kiosks and booths at airports, train stations and bus terminals to provide personalised assistance …”,” through marketing and branding…” (TR4) “...Collaborate with tourist information centres and visitor bureaus to integrate information about sustainable transportation into their visitor resources...” (TR5)

Table 24. Continued

	ADVOCACY & IMPLEMENTATION	Importance of consumer demand for eco-friendly transportation	„...Monitor market trends and consumer preferences, which informs our strategic decision-making…", "… investments in eco-friendly technology..." (TR1) "...Feedback regarding preferences for eco-friendly options...","... tailor our offerings, identify areas to improve and innovate..." (TR2) "...We differentiate ourselves from competitors and attract environmentally conscious customers..." (TR3) "…Eco-friendly transportation drives innovation within the company...","...enables us to stay ahead and position ourselves as an eco-friendly leader..." (TR4) "...By aligning our sustainability strategy with consumer values and preferences, we enhance our and city's brand and build trust..." (TR5)
	COMMUNICATION & PERCEPTION MANAGEMENT	Measuring and reporting on the environmental performance	„Adhere to recognised standards, such as the Global Reporting Initiative (GRI) guidelines and the Carbon Disclosure Project (CDP)..." (TR1) "...track and monitor greenhouse gas emissions and other air pollutants...","...quantifying emissions of carbon dioxide (CO2), nitrogen oxides (NOx), particulate matter (PM) and other pollutants using emission factors, vehicle performance data and modelling tools..." (TR2) "...Performance metrics to measure the environmental impact of our transportation operations...","...CO2 emissions per mile travelled, fuel efficiency of the fleet, percentage of vehicles meeting emission standards and waste diversion rates...." (TR3) "...We publish annual sustainability reports that provide a comprehensive overview of our environmental performance…" (TR4) "...Fuel consumption, vehicle emissions, energy usage, waste generation and other relevant indicators...","...data is gathered from on board vehicle sensors, fuelling stations, maintenance records..." (TR5)
		Integration of environmental considerations into route planning	„...Use advanced route optimisation software...","...distance, traffic patterns, delivery windows, vehicle capacity, environmental impact criteria..." (TR1) "...Incorporate emissions counting tools...","...by quantifying emissions of greenhouse gases and air pollutants for each route, we identify opportunities to prioritise low-emission routes..." (TR2) "...Monitor real-time traffic conditions and congestion levels..." (TR3) "...Our fleet is equipped with emissions reduction technologies such as exhaust gas recirculation (EGR) systems, diesel particulate filters (DPF), and selective catalytic reduction (SCR) systems...." (TR4) "...Prioritise the use of eco-friendly vehicles powered by alternative fuels such as electric, hybrid, or compressed natural gas (CNG)..."(TR5)

Compiled by the author following the expert interview

The responses of the category, **'Strategy and policy'**, first subcategory *'Assessment and mitigating of an environmental footprint'* offer a variety of strategies for assessing and mitigating environmental footprints (Table 24), such as investing in

carbon offset projects (TR1), promoting of eco transport and facilities (TR2), utilising of advanced route optimisation software to saving fuel and reducing congestion (TR3), investing in alternative fuel options such as electric, hybrid, or biofuels where feasible (TR4), assessing the fuel efficiency and emissions (TR5). Some repetitions, such as investments in carbon capture and storage technologies and promoting public transport, appear across different answers. Additional measures like incentivising carpooling, promoting telecommuting, implementing green procurement policies, and adopting circular economy principles could be considered to enhance environmental sustainability further.

The following subcategory *'Measures to reduce carbon emissions'* provides further insights on improving environmental sustainability. TR1-5 is committed to environmental sustainability through planning, carbon-reduction initiatives, eco-friendly solutions, and education. However, to further reduce carbon emissions, the transport organisations should increase investment in renewable energy sources like wind or hydroelectric power to minimise reliance on grid electricity; expand the use of electric vehicles beyond urban delivery; promote reusable packaging solutions in addition to using recyclable and biodegradable materials to reduce further carbon emissions associated with production and transportation; foster a culture of sustainability within the organisation through green team initiatives to achieve long-term reductions in carbon emissions across all aspects of operations.

In the third subcategory, '*Eco-friendly technologies & alternative fuels*', TR1 and TR3 mention compliance with environmental regulations. TR3 and TR4 address the importance of infrastructure, with TR4 specifically mentioning charging, refuelling stations, and maintenance facilities. TR3 and TR5 both mention the importance of conducting assessments, with TR5 focusing on feasibility. Nevertheless, further enhancement could include incorporating a lifecycle analysis to assess the environmental impact of adopting eco-friendly technologies and alternative fuels, leading to innovation and more significant reductions in carbon emissions and environmental impact.

The second category is **'Stakeholder engagement and collaboration',** where the first subcategory, '*Collaboration with environmental organisations'*, discloses that both TR1 and TR4 collaborate with the City Council, indicating a focus on governmental partnerships; TR2 and TR5 highlight partnerships with local environmental organisations; and TR3 cooperates with Brighton University. Transport organisations demonstrate a commitment to collaboration with environmental organisations, diversifying partnerships. However, expanding engagement efforts beyond advocacy and outlining long-term collaboration strategies could further enhance the environmental impact and sustainability efforts.

The subcategory *'Engagement with visitors'* reveals that TR1 and TR2 both emphasise seeking feedback from visitors, while TR3 and TR4 mention partnerships with hotels and transportation hubs to promote sustainable transportation options. This in-

dicates a focus on collaboration with key stakeholders to enhance visitor experiences and promote sustainable travel practices. Collaboration with tourist information centres and visitor bureaus is also mentioned (TR5). Further engagement with visitors could be achieved by incorporating interactive tools such as mobile apps and real-time updates on transportation options. Exploring partnerships with additional stakeholders beyond hotels and transportation hubs, such as local attractions and restaurants, could create a more comprehensive support network for sustainable travel initiatives.

The answers to the category '**Advocacy and implementation'** subcategory '*Importance of consumer demand for eco-friendly transportation'* reveal that TR1 and TR4 highlight the significance of consumer demand for eco-friendly transportation. At the same time, TR2, TR3 and T5 underscore the importance of soliciting customer feedback to tailor services and offerings, differentiate from competitors, and build trust with environmentally conscious consumers. Transport organisations recognise the importance of consumer demand for eco-friendly transportation, but providing quantitative data, expanding collaboration with stakeholders, and outlining long-term strategies could enhance responsiveness to consumer preferences.

In the fourth category, '**Communication and perception management',** subcategory of '*Measures and reports on environmental performance'* discloses that TR1 and TR4 emphasise the importance of adhering to recognised reporting standards, indicating transparency and accountability. TR2 and TR5 mention tracking and monitoring greenhouse gas emissions and other air pollutants, highlighting a dedication to quantifying environmental impacts. TR3 and TR5 discuss establishing performance metrics and targets to measure the environmental impact. However, incorporating external verification and trend analysis could further enhance environmental performance reporting and transparency efforts.

The second subcategory, '*Integration of environmental considerations into route planning*', discloses that TR1 and TR2 both emphasise using advanced technologies to optimise routes and quantify emissions, indicating a commitment to reducing environmental impact through efficient transportation operations. TR4 and TR5 discuss implementing emissions reduction technologies and prioritising eco-friendly vehicles, demonstrating a multi-faceted approach to reducing emissions and promoting sustainability within the fleet. Transportation service providers are committed to utilising advanced technologies and implementing measures to reduce emissions. However, integrating technologies, conducting lifecycle analysis, and fostering collaboration for innovation could further enhance environmental performance within transportation operations.

The experts' answers highlight several critical areas where the optimised management approach to environmental sustainability may be lacking. Table 25 specifies each point to understand its implications and potential improvements:

Table 25. Transportation service providers' expert interview deficiency outcomes

DEFICIENCY IDENTIFIED	SPECIFICATION
Partial specifics	Lack of details for clarity in minimising environmental impact, such as initiatives on carpooling or implementing green procurement policies
Limited scope	Neglected areas include waste management, energy efficiency and water conservation
Limited integration	Sources of renewable energy and their integration with transportation infrastructure would lead to effective sustainability strategies
Limited stakeholder engagement	Employees, customers, suppliers, and local engagement are limited
Absence of metrics	Measuring and monitoring targets would support accountability and transparency
Limited awareness and learning	Continuous learning within the company, education and awareness of stakeholders would lead to improved implementation of sustainability initiatives throughout the destination
Absence of continuous improvement	Requires regular review and update of sustainable and resilient strategies to progress

Compiled by the author following the expert interviews with Transportation service providers.

As detailed in Table 25, effectively implementing sustainability measures requires actionable steps. Clear strategies, such as delineating procedures for adopting green procurement policies, are essential for guiding successful implementation. Focusing solely on carbon emission reductions in transportation overlooks other key areas critical for environmental sustainability. Expanding the scope to include waste management, energy efficiency, and water conservation promotes a more comprehensive and impactful approach. This aligns with the proposals of other researchers, whose findings on the shortcomings of the transportation sector are outlined in Table 26.

Table 26. Transportation service providers' environmental impact assessment deficiencies through academic navigation

DFICIENCY	AUTHOR	COMPARABLE INSIGHTS
Inadequate integration of sustainability metrics	Kadir & Chew, 2024; Lyubka et al, 2024; Durrant et al., 2018; Liu et al., 2017;	Transportation providers typically concentrate on immediate operational impacts without considering how their practices might influence future resilience, leading to a reactive rather than proactive approach to environmental management
Lack of comprehensive methodologies that evaluate the entire transportation supply chain.	Bentalha, 2023; Tyrrell & Johnson, 2008	Transportation services often operate in isolation, limiting their capacity to evaluate cumulative environmental impacts across the broader tourism supply chain; an integrative assessment approach would enhance comprehension.
Failure to adopt modern technologies for monitoring and mitigating environmental impacts is prevalent among transportation service providers	Gaki & Koufodontis, 2022; Álvarez-García et al., 2107; Bellini et al., 2017	Transportation providers still rely on traditional methods that yield limited data on environmental impacts. Innovating with technologies such as telematics and data analytics could facilitate real-time monitoring and operational efficiencies, leading to reduced emissions and a more sustainable operational model
The transportation sector lacks a robust framework for assessing the carbon footprint of various modes of transport utilised in tourism	Chen et al., 2024; Erriciello, & Micera, 2021; Bao & Dai, 2021	Existing assessments overlook detailed emissions accounting, which is vital to align operational practices with sustainability goals and advocate for environmentally friendly alternatives, such as promoting public transportation and non-motorised options
The adaptive capacity of transportation systems fails to address climate change and environmental volatility complexities	Chowdhury et al., 2024; Lew & Cheer, 2018; Singh, 2014	By neglecting to recognise and incorporate potential future climate scenarios, transportation providers create systemic vulnerabilities
Significant deficiency in stakeholder engagement processes	Keller et al., 2024	Practical transportation impact assessments should actively involve local communities and regional stakeholders to gather diverse perspectives reflective of the socio-economic realities that affect destination sustainability and resilience

Compiled by the author

Addressing these deficiencies (Table 26) in the transportation sector's environmental impact assessments within the tourism supply chain requires an integrated approach. This includes adopting modern technologies for monitoring, embracing comprehensive frameworks that consider the entire supply chain, engaging stakeholders effectively, and aligning transportation policies with sustainable tourism goals. Isolated measures, mentioned by Transport sector stakeholders in Brighton, limit the synergistic benefits that arise when different sustainability initiatives work together. For example, integrating renewable energy with transportation infrastructure or embedding sustainability principles in procurement policies enhances the overall coherence and effectiveness of the strategy. Engaging stakeholders - including employees, customers, suppliers, and local communities - is crucial for building support and ensuring the successful implementation of sustainability efforts. Stakeholder involvement in decision-making fosters buy-in and provides valuable insights, enhancing both the feasibility and effectiveness of sustainable practices.

The main results of the stakeholder survey highlight the crucial importance of managing tourism supply chain stakeholders to enhance destinations' sustainability and resilience. The survey shows that current approaches often lack an integrated perspective and customised strategies. This emphasises the need to broaden the focus to include interconnected sustainability and resilience aspects beyond just reducing carbon emissions. Effective TSCM should encompass waste management, energy efficiency, water conservation, and cultural sensitivity to create a comprehensive approach to sustainability and resilience. (Figure 25 A&B).

The figures (Fig. 25 A&B) present an analysis of efficiencies and deficiencies in sustainable and resilient tourism destination across two main groups: Model A focuses on sustainable tourism policy optimisation for destination management organisations (DMOs) and stakeholder cooperation improvement for tour operators/travel agents (TOs & TAs). Model B addresses diversification and environmental impact reduction and optimisation accordingly for the accommodation and transportation sectors. Collectively, the analysis provides a roadmap of current best practices and areas for urgent improvement needed to achieve comprehensive TSCM. By separating the two groups, the model highlights the distinct roles and interdependencies of each sector, helping to identify specific gaps and intervention points that will be further addressed to improve destination sustainability and resilience.

Prior studies, such as those by Joshi (2022) on sustainable tourism supply chain management and Kac et al. (2019) on tourism supply chain integration, have underscored the importance of aligning stakeholder efforts across multiple sustainability dimensions. Extending engagement beyond traditional stakeholders, such as government and business leaders, to include employees, customers, suppliers, and local communities is essential. Furthermore, strong relationships between various stakeholders have been a focus of González-Torres et al., who highlight the necessity of managing

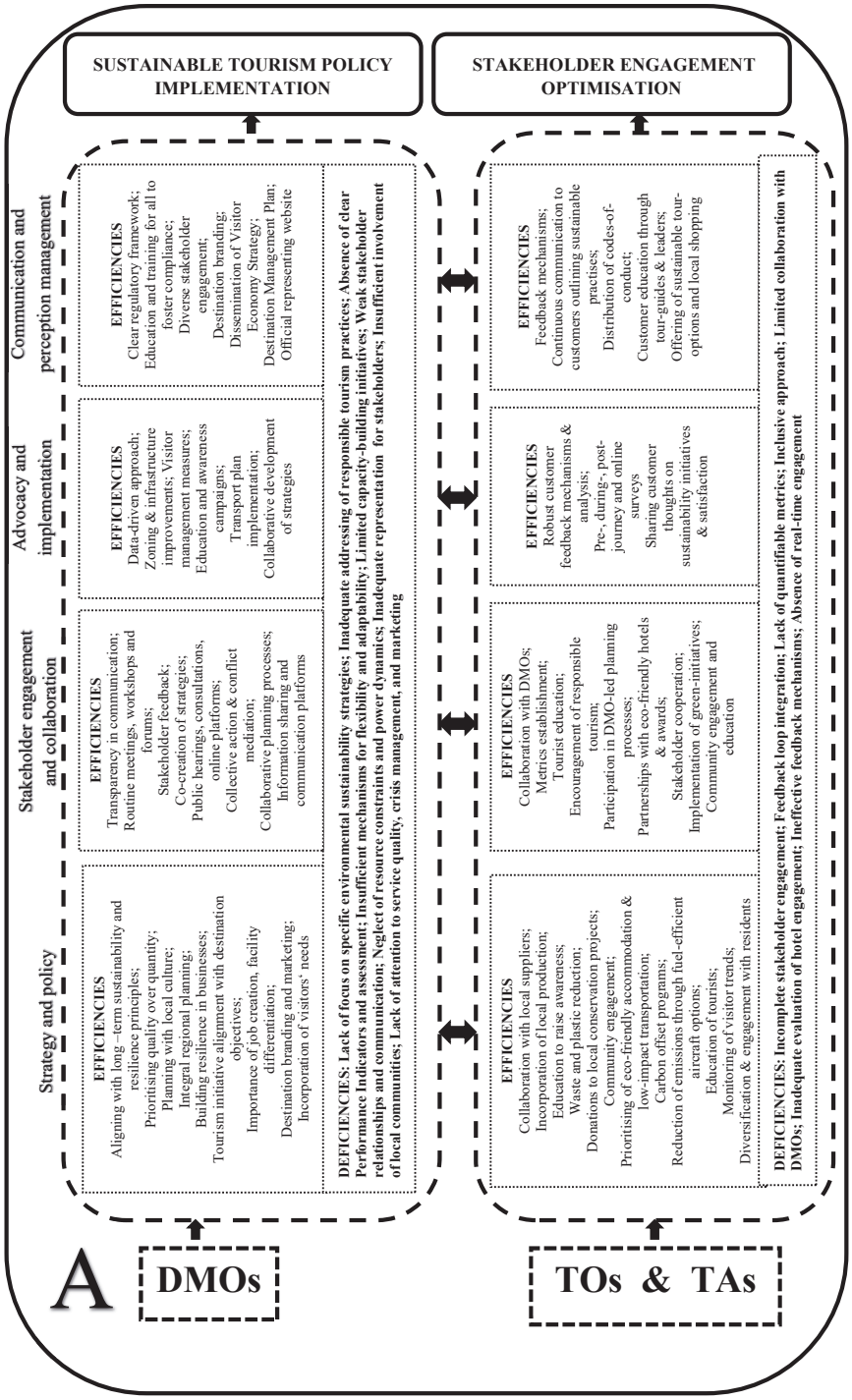

Figure 25 A. Stakeholder-integrated efficiency and identified deficiency framework

Compiled by the author following Destination Management Organisations' and Tour operators' / Travel agencies' interview outcomes.

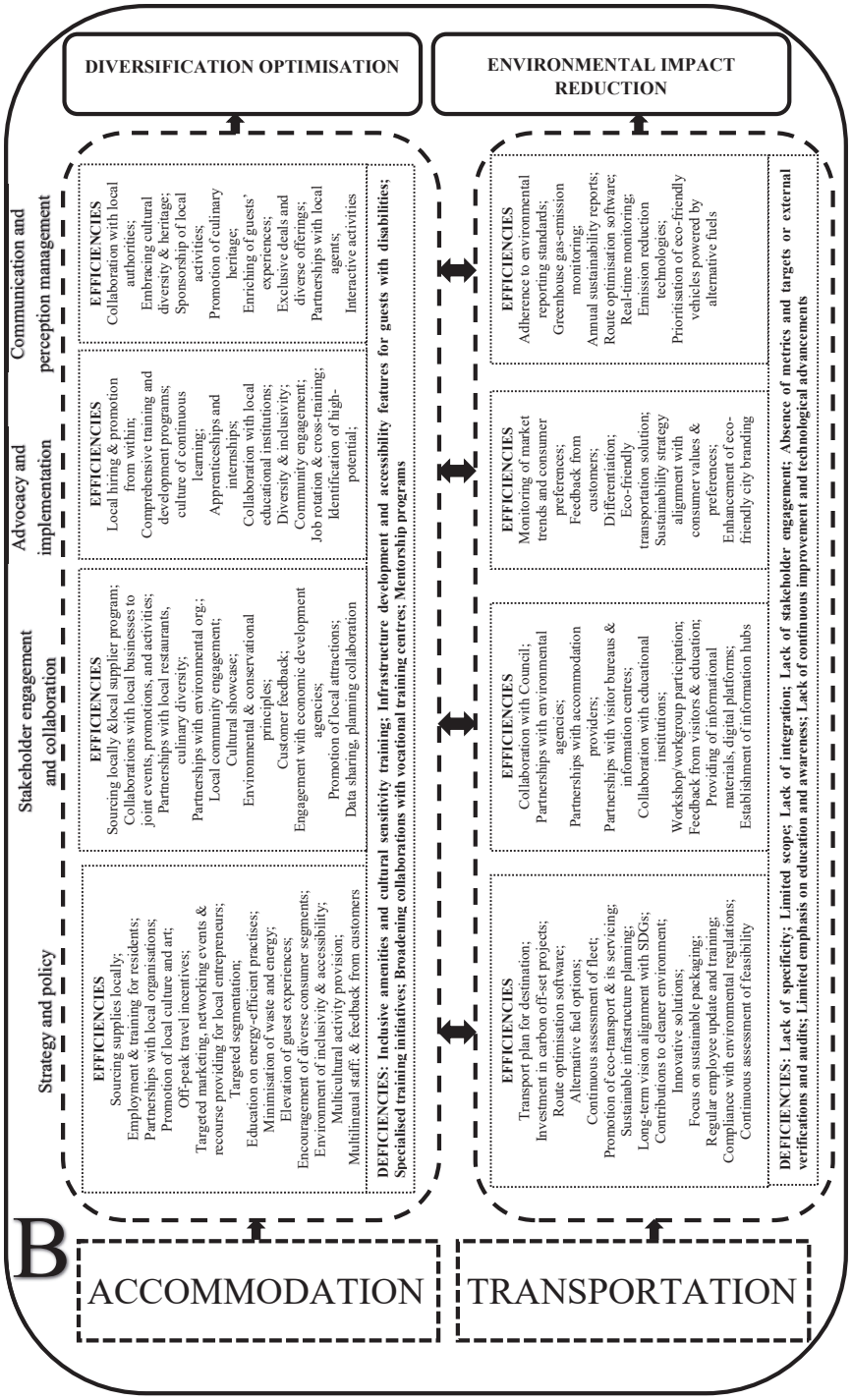

Figure 25 B. Stakeholder-integrated efficiency and identified deficiency framework

Compiled by the author following Accommodation and Transportation service providers' interview outcomes

these relationships effectively to maintain competitiveness within the tourism supply chain (González-Torres et al., 2021). Effective upstream and downstream relationship management fosters sustainability and resilience, which are crucial for destinations navigating uncertainties. Lack of governance in the supply chain correlates with impeded stakeholder engagement. Mulyani argues that governance structures must empower local stakeholders, enabling them to effectively navigate barriers related to investment and expertise (Mulyani, 2023). This aligns with the multi-stakeholder approach and is vital for enhancing stakeholder collaboration and ensuring that tourism benefits are equally distributed.

Effective governance frameworks effectively address deficiencies (Nawaz, 2020; Nguyen, 2020). A critical next step is the revelation of solid, actionable strategies (Fig. 26) that track progress through technological integration and metrics, foster accountability and community inclusivity, and support continuous improvement. Specific measures require measurable indicators and feedback mechanisms to translate intentions into practical actions. Additionally, implementing sustainability principles across the tourism supply chain management, from procurement policies to transportation infrastructure, would significantly enhance the consistency of the TSCM.

Addressing tourism supply chain management deficiencies involves multifaceted strategies (Fig.26), including destination capacity building, fostering collaboration, communication, and inclusivity, and leveraging technological innovations and measurements. As Ji et al. (2024) note, creating a sustainability-oriented culture is a transformative process that ultimately enhances destinations' resilience and visitors' satisfaction.

This study broadens its focus to explore visitors' views of sustainability and resilience initiatives inside places in reaction to these results and line with sustainability scales. Although stakeholder management is the foundation of TSCM, knowing visitors' points of view and expectations is just as vital to maximising TSCM initiatives. This is especially true given the significance of this stage. Including visitor input guarantees that TSCM initiatives fit the preferences of present and future tourists, hence closing the gap between the stakeholder management strategy and tourist expectations. In the end, this paper intends to offer a sensible strategy to increase the sustainability and resilience of tourist sites. This paper will highlight several specific areas for development through an analysis of visitor perceptions of sustainability and resilience and a review of TSCM stakeholder capacity based on customer input. This study aims to provide findings that enhance destinations' long-term sustainability and resilience and the satisfaction of travellers.

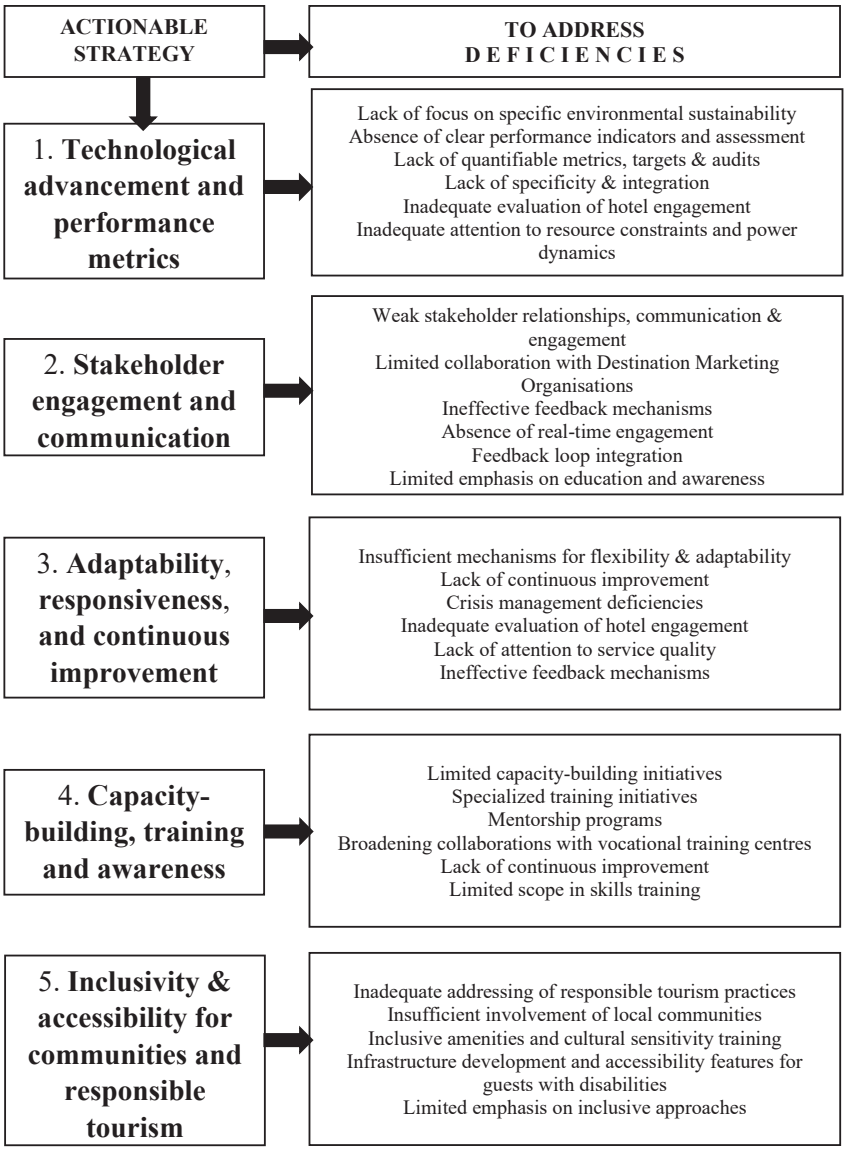

Figure 26. Strategies to improve deficiencies in tourism supply chain management

Compiled by the author

3.2. Results of the quantitative study "Visitor perception of Brighton's management for sustainable and resilient destination"

The study involved 412 tourists who visited Brighton. The participant pool was predominantly male (n = 211) and female (n = 176), while a smaller portion did not specify their gender (n = 25) (Table 27).

Table 27. Distribution of study participants across socio-demographic groups

Socio-demographic characteristics		n	Percentage
Gender	Female	176	42,7
	Male	211	51,2
	Non - binary	25	6,1
Age groups	< 25	32	7,8
	25 - 44	144	35
	45 - 64	207	50,2
	> 65	29	7
Education level	High school graduate	49	11,9
	Some college or associate's degree	95	23,1
	Bachelor's degree	146	35,4
	Master's degree	109	26,5
	Doctorate or professional degree	13	3,2
Employment status	Employed full-time	88	21,4
	Employed part-time	127	30,8
	Self-employed	170	41,3
	Unemployed	4	1
	Student	3	0,7
	Retired	20	4,9
Household income	< 30,000	101	24,5
	30,000 - 70,000	259	62,9
	> 70,000	52	12,6

Compiled by the author following SPSS

The analysis (Table 27) reveals that the majority of respondents were within the 45-64 (n = 207) and 25-44 (n = 144) age brackets, while younger (< 25, n = 32) and older (> 65, n = 29) participants were fewer. Educationally, the most prevalent qualifications were Bachelor's (n = 146) and Master's degrees (n = 109), with fewer holding

only a high school diploma (n = 49) or doctorate (n = 13). In terms of employment status, self-employed individuals (n = 170) constituted the largest group, followed by part-time (n = 127) and full-time (n = 88) employees. Additionally, most households reported incomes between £30,000 and £70,000 (n = 259).

Cross-TSC sector analysis. The statistical analysis began with applying the Kruskal-Wallis test, a non-parametric method well-suited for comparing more than two independent groups. This analysis provided strong evidence of statistically significant differences in how respondents rated various sectors within Brighton's tourism supply chain, with a p-value of less than 0.001. The results highlight different perceptions on sustainability and resilience across the sectors. A factorial analysis of variance (ANOVA) was used to validate the findings further. The ANOVA confirmed that the observed differences were not due to random fluctuations but represented genuine disparities in perceived performance and sustainability.

The ANOVA results corroborated the calculations, revealing that the DMO sector received the highest ratings from respondents (Figure 27), with the highest score of 3.8 ± 0.3. In comparison, the Transportation sector was rated slightly lower at 3.4 ± 0.4, and the TOs & TAs sector followed with a score of 3.2 ± 0.4. The Accommodation sector received the lowest evaluation, with an average score of 2.9 ± 0.6. These scores indicate the significant differences in how each sector perceives sustainability and resilience, as confirmed by the Kruskal-Wallis test ($p < 0.001$).

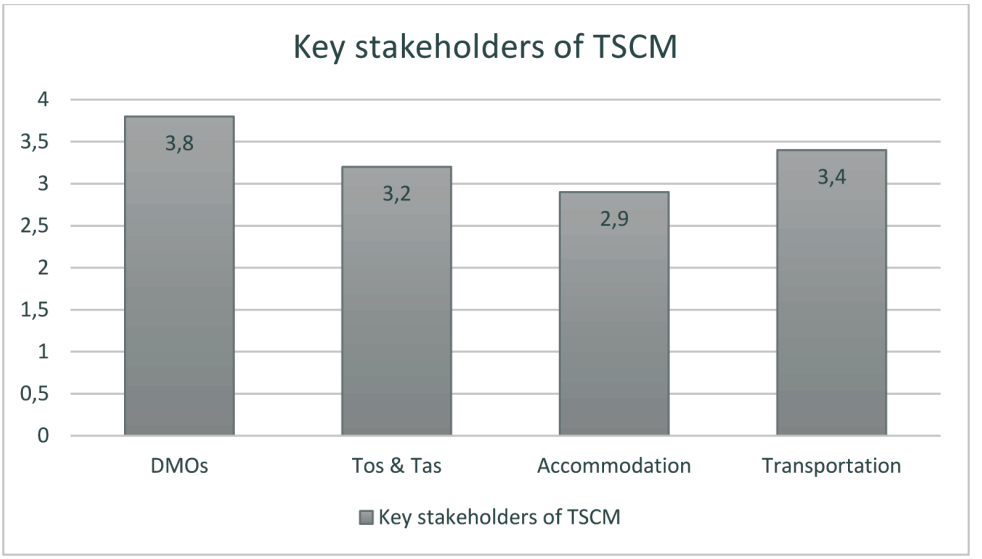

Figure 27. Key stakeholder evaluation in Brighton's tourism supply chain management (average ± standard deviation)

Compiled by the author following SPSS and ANOVA

The average ratings reveal a clear hierarchy in how respondents perceive different sectors within Brighton's TSCM (Figure 27). The findings demonstrate that the DMO sector is perceived as the most efficient component due to its coordination of marketing, strategic planning, and destination management efforts. The high rating of the DMO sector suggests that participants recognise its critical role in managing and promoting sustainable tourism practices. TOs & TAs and the transportation sector received moderate ratings, recognising their contributions but pointing to improvement areas, especially regarding service quality and sustainability integration through environmental practices. The lodging industry's much lower score indicates the need for focused improvements by highlighting possible flaws in economic benefits, social inclusivity, and environmental impact.

DMOs play a crucial role in tourism supply chain management by facilitating stakeholder collaboration and ensuring the sustainability and resilience of destinations. Throughout academic research, they exhibit unique efficiencies (Herasimovich et al., 2024; Gretzel, 2021; Marzo, 2016). However, collaboration among all participants in the tourism ecosystem can significantly influence their effectiveness. This analysis highlights the importance of tailored strategies across different tourism sectors. A targeted approach prioritising sector-specific improvements would lead to a more optimised tourism environment in Brighton, fostering a positive experience for visitors and residents alike. These findings should guide future policy-making and sectoral reforms, emphasising a strategy that integrates sustainability's environmental, economic, and social dimensions.

SF-MST (Statistical framework for measuring the sustainability of tourism) spatial scales (social, economic, environmental) analysis. The next step involved analysis of the Spatial SF-MST (Statistical Frame for Measuring Sustainability of Tourism) assessments, categorised into environmental, economic, and social dimensions across Brighton's TSCM sectors. The findings highlighted sector-specific perceptions in these sustainability dimensions:

- The DMO and Accommodation sectors were rated highest in the social dimension (4.2 ± 0.4 and 3.2 ± 0.7, respectively), indicating that respondents placed significant value on these sectors' social aspects, such as community engagement and social equity.
- TOs & TAs and Transportation sectors scored highest in the economic dimension (3.8 ± 0.5 and 4.1 ± 0.5, respectively), revealing a focus on economic sustainability factors like local economic contributions, job creation, and cost efficiency.
- The lowest scores were recorded in the environmental dimension for DMOs, Accommodation, and Transportation (3.4 ± 0.6, 2.6 ± 0.6, and 3.1 ± 0.5, respectively), pointing towards perceived weaknesses in addressing environmental sustainability. For TOs and TAs, the lowest rating was in the social dimension (2.8 ± 0.6), suggesting perceived shortcomings in social impact and community integration.

Statistical analysis confirmed that respondents' ratings for environmental, economic, and social factors were significantly different across all tourism sectors (Kruskal-Wallis; $p < 0.001$) (Table 28).

Table 28. Comparison of evaluation scores (M - mean, SD - standard deviation) assigned by study participants to the SF-MSTs of Brighton's tourism supply chain

Sectors	Spatial SF-MSTs	M	SD	Mean rank	p value
DMOs	Environmental	3,4	0,6	367,5	< 0,001
	Economic	3,9	0,4	662,4	
	Social	4,2	0,4	825,7	
TOs & TAs	Environmental	3,0	0,5	520,5	< 0,001
	Economic	3,8	0,5	929,2	
	Social	2,8	0,6	405,8	
Accommodation	Environmental	2,6	0,6	457,5	< 0,001
	Economic	3,1	0,8	670,2	
	Social	3,2	0,7	727,8	
Transportation	Environmental	3,1	0,5	433,6	< 0,001
	Economic	4,1	0,5	968,4	
	Social	3,2	0,4	453,4	

Compiled by the author following SPSS

As shown in Table 28, the comparative analysis of Spatial SF-MST ratings (Mean (M) and Standard Deviation (SD)) for Brighton's tourism sectors revealed notable disparities across environmental, economic, and social dimensions. Respondents assigned significantly distinct scores for each sector to these dimensions (Kruskal-Wallis; $p < 0.001$). DMOs: Social dimension received the highest mean score ($M = 4.2$, $SD = 0.4$), reflecting a strong emphasis on social sustainability. The economic dimension followed ($M = 3.9$, $SD = 0.4$), with the environmental dimension scoring the lowest ($M = 3.4$, $SD = 0.6$).

TOs & TAs: The highest ratings were in the economic dimension ($M = 3.8$, $SD = 0.5$), suggesting a focus on economic benefits. The environmental ($M = 3.0$, $SD = 0.5$) and social dimensions ($M = 2.8$, $SD = 0.6$) trailed, highlighting potential environmental and social responsibility deficits.

Accommodation: Social sustainability led with a mean score of 3.2 ($SD = 0.7$), followed by economic ($M = 3.1$, $SD = 0.8$) and environmental ($M = 2.6$, $SD = 0.6$), underscoring environmental shortcomings.

Transportation: Economic dimension dominated with a high mean score (M = 4.1, SD = 0.5), with environmental (M = 3.1, SD = 0.5) and social (M = 3.2, SD = 0.4) factors rated lower, suggesting an economic-centric sustainability perception.

These results indicate a differential focus on sustainability dimensions depending on the sector, with economic concerns being prioritised in transport and travel, while social sustainability leads in management and lodging.

Post hoc comparisons using the Bonferroni test identified statistically significant differences between the Spatial SF-MST dimensions for each tourism sector (Table 29). The mean differences provide insight into sector-specific sustainability strengths and weaknesses.

Table 29. Multiple spatial comparisons

Bonferroni test multiple spatial comparisons (post hoc)						
Dependent Variable	**(I) Grouping**	**(J) Grouping**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**95% Confidence Interval**
						Lower Bound
DMOs	**Environmental**	Economic	-,49126*	,03179	,000	-,5675
		Social	-,74782*	,03179	,000	-,8240
	Economic	Environmental	,49126*	,03179	,000	,4151
		Social	-,25655*	,03179	,000	-,3328
	Social	Environmental	,74782*	,03179	,000	,6716
		Economic	,25655*	,03179	,000	,1804
TOs_TAs	**Environmental**	Economic	-,80558*	,03538	,000	-,8904
		Social	,18835*	,03538	,000	,1035
	Economic	Environmental	,80558*	,03538	,000	,7208
		Social	,99393*	,03538	,000	,9091
	Social	Environmental	-,18835*	,03538	,000	-,2732
		Economic	-,99393*	,03538	,000	-1,0788
Accommodation	**Environmental**	Economic	-,43544*	,04923	,000	-,5534
		Social	-,55728*	,04923	,000	-,6753
	Economic	Environmental	,43544*	,04923	,000	,3174
		Social	-,12184*	,04923	,040	-,2399
	Social	Environmental	,55728*	,04923	,000	,4393
		Economic	,12184*	,04923	,040	,0038

Table 29. Continued

Bonferroni test multiple spatial comparisons (post hoc)						
Dependent Variable	**(I) Grouping**	**(J) Grouping**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**95% Confidence Interval**
						Lower Bound
Transportation	**Environmental**	Economic	-,99976*	,03197	,000	-1,0764
		Social	-,11019*	,03197	,002	-,1868
	Economic	Environmental	,99976*	,03197	,000	,9231
		Social	,88956*	,03197	,000	,8129
	Social	Environmental	,11019*	,03197	,002	,0336
		Economic	-,88956*	,03197	,000	-,9662

*. *The mean difference is significant at the 0.05 level.*

Compiled by the author following SPSS

The Post hoc analysis results underscore distinct sectorial priorities (Table 29). For DMOs, significant differences were observed between all dimensions, with social ratings significantly surpassing environmental and economic ratings. For TOs and TAs, economic sustainability ratings were notably higher than social and environmental scores, highlighting an economic emphasis at the expense of social contributions. In the Accommodation sector, social dimension ratings were significantly higher than environmental scores, underlining social strengths and environmental weaknesses. The transportation sector displayed the highest economic dimension scores, significantly greater than social and environmental scores, suggesting an economically dominated perception of sustainability. These post hoc findings support a sector-specific approach to improve weaker sustainability dimensions.

Influence of Sector on SF-MST dimensions. The analysis revealed significant sectoral differences in SF-MST scores (Kruskal-Wallis; $p < 0.001$), with distinct preferences for each dimension within sectors (Table 30).

Table 30. Dependence of evaluation scores (M - mean, SD - standard deviation) assigned by study participants to the SF-MSTs sectors

Spatial SF-MSTs	Sectors	M	SD	Mean rank	p value
Environmental	DMOs	3,4	0,6	1283,1	< 0,001
	TOs & TAs	3,0	0,5	630,6	
	Accommodation	2,6	0,6	532,6	
	Transportation	3,1	0,5	851,7	
Economic	DMOs	3,9	0,4	1117,7	< 0,001
	TOs & TAs	3,8	0,5	795,4	
	Accommodation	3,1	0,8	536,4	
	Transportation	4,1	0,5	848,4	
Social	DMOs	4,2	0,4	934,1	< 0,001
	TOs & TAs	2,8	0,6	870,0	
	Accommodation	3,2	0,7	450,0	
	Transportation	3,2	0,4	1043,9	

Compiled by the author following SPSS

The results of Table 30 revealed the following outcomes:

- Environmental SF-MSTs: DMOs scored highest (M = 3.4, SD = 0.6), indicating a relative strength in environmental management compared to other sectors. Accommodation scored lowest (M = 2.6, SD = 0.6), suggesting significant environmental challenges.
- Economic SF-MSTs: Transportation topped the ratings (M = 4.1, SD = 0.5), reflecting its central role in economic sustainability, while accommodation lagged (M = 3.1, SD = 0.8), indicating economic constraints.
- Social SF-MSTs: DMOs were highly rated (M = 4.2, SD = 0.4), demonstrating a strong commitment to social sustainability, whereas TOs & TAs received the lowest score (M = 2.8, SD = 0.6), pointing towards perceived inadequacies in social engagement.

This analysis highlights each sector's sustainability challenges, revealing that a one-size-fits-all approach to sustainability is insufficient. Every sector exhibits distinct advantages and disadvantages regarding the environment, economy, and society. For example, transport leads in economic contributions but falls short in environmental and social aspects, suggesting that a more integrated approach is required to achieve a balanced sustainability profile. Similarly, the accommodation's poor ecological ratings highlight the urgent need for more environmentally friendly procedures. In order to promote a more thorough and robust sustainable tourism framework in

Brighton, these findings highlight the need for sector-specific, customised strategies that address the unique shortcomings of each sector.

The Bonferroni post hoc test (Table 31) showed the notable differences in SF-MST scores among sectors for each dimension. These disparities confirm the need for differentiated approaches in sustainability strategy across Brighton's tourism sectors.

Table 31. Multiple sectorial comparisons

Bonferroni test multiple sectorial comparisons (post hoc)							
Dependent Variable	**(I) Grouping**	**(J) Grouping**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**95% Confidence Interval**	
						Lower Bound	**Upper Bound**
Sectors	**DMOs**	TOs & TAs	,64248*	,02989	,000	,5635	,7214
		Accommodation	,86869*	,02989	,000	,7897	,9476
		Transportation	,41505*	,02989	,000	,3361	,4940
	TOs & TAs	DMOs	-,64248*	,02989	,000	-,7214	-,5635
		Accommodation	,22621*	,02989	,000	,1473	,3052
		Transportation	-,22743*	,02989	,000	-,3064	-,1485
	Accommodation	DMOs	-,86869*	,02989	,000	-,9476	-,7897
		TOs & TAs	-,22621*	,02989	,000	-,3052	-,1473
		Transportation	-,45364*	,02989	,000	-,5326	-,3747
	Transportation	DMOs	-,41505*	,02989	,000	-,4940	-,3361
		TOs & TAs	,22743*	,02989	,000	,1485	,3064
		Accommodation	,45364*	,02989	,000	,3747	,5326
ENVIRONMENTAL	**DMOs**	TOs & TAs	,42500*	,03713	,000	,3269	,5231
		Accommodation	,78180*	,03713	,000	,6837	,8799
		Transportation	,35316*	,03713	,000	,2551	,4512
	TOs & TAs	DMOs	-,42500*	,03713	,000	-,5231	-,3269
		Accommodation	,35680*	,03713	,000	,2587	,4549
		Transportation	-,07184	,03713	,319	-,1699	,0262
	Accommodation	DMOs	-,78180*	,03713	,000	-,8799	-,6837
		TOs & TAs	-,35680*	,03713	,000	-,4549	-,2587
		Transportation	-,42864*	,03713	,000	-,5267	-,3306
	Transportation	DMOs	-,35316*	,03713	,000	-,4512	-,2551
		TOs & TAs	,07184	,03713	,319	-,0262	,1699
		Accommodation	,42864*	,03713	,000	,3306	,5267

Table 31. Continued

Bonferroni test multiple sectorial comparisons (post hoc)							
Dependent Variable	(I) Grouping	(J) Grouping	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
ECONOMIC	DMOs	TOs & TAs	,11068*	,03961	,032	,0061	,2153
		Accommodation	,83762*	,03961	,000	,7330	,9422
		Transportation	-,15534*	,03961	,001	-,2600	-,0507
	TOs & TAs	DMOs	-,11068*	,03961	,032	-,2153	-,0061
		Accommodation	,72694*	,03961	,000	,6223	,8316
		Transportation	-,26602*	,03961	,000	-,3706	-,1614
	Accommodation	DMOs	-,83762*	,03961	,000	-,9422	-,7330
		TOs & TAs	-,72694*	,03961	,000	-,8316	-,6223
		Transportation	-,99296*	,03961	,000	-1,0976	-,8883
	Transportation	DMOs	,15534*	,03961	,001	,0507	,2600
		TOs & TAs	,26602*	,03961	,000	,1614	,3706
		Accommodation	,99296*	,03961	,000	,8883	1,0976
SOCIAL	DMOs	TOs & TAs	1,36117*	,03651	,000	1,2647	1,4576
		Accommodation	,97233*	,03651	,000	,8759	1,0688
		Transportation	,99078*	,03651	,000	,8943	1,0872
	TOs & TAs	DMOs	-1,36117*	,03651	,000	-1,4576	-1,2647
		Accommodation	-,38883*	,03651	,000	-,4853	-,2924
		Transportation	-,37039*	,03651	,000	-,4668	-,2740
	Accommodation	DMOs	-,97233*	,03651	,000	-1,0688	-,8759
		TOs & TAs	,38883*	,03651	,000	,2924	,4853
		Transportation	,01845	,03651	1,000	-,0780	,1149
	Transportation	DMOs	-,99078*	,03651	,000	-1,0872	-,8943
		TOs & TAs	,37039*	,03651	,000	,2740	,4668
		Accommodation	-,01845	,03651	1,000	-,1149	,0780

**. The mean difference is significant at the 0.05 level.*

Compiled by the author following SPSS

The Post hoc findings confirm the following (Table 31): DMOs consistently outperformed other sectors in social sustainability, with significant positive differences compared to TOs & TAs and Accommodation. TOs and TAs showed a notable gap in social ratings compared to DMOs, indicating an area for improvement in social impact and community engagement. There is a pressing need for improved sustainability

and resilience practices in the accommodation sector, as evidenced by the sector's struggle in all scales, especially the economic and environmental ones. Transportation's economic priority was reinforced by the fact that it was primarily rated for its economic contributions, with notable positive differences from other sectors. These findings support the notion that in order to attain comprehensive sustainability, a sector-specific emphasis on underperforming dimensions is necessary.

Generalised results of the SF-MST framework. To evaluate destinations' sustainability and resilience effectively, it is essential to consider social, economic, and environmental dimensions across spatial scales within the TSCM (Butler, 2024; Xu et al., 2024; Cheng & Zhang, 2020). Table 32 presents these dimensions and how they interrelate, drawing on insights from similar research.

Table 32. Measuring destination sustainability and resilience through spatial scales in the tourism supply chain management through academic navigation

SPATIAL SCALE	AUTHOR	COMPARABLE INSIGHTS
SOCIAL	Lőrincz et al..., 2020	Emphasised the importance of customer involvement in sustainable tourism planning, which mitigates the spatial and temporal concentration of tourism, particularly in mass tourism destinations, thereby enhancing community resilience and social sustainability
	Borowy, 2021; Cheer & Lew, 2018; Tyrrell & Johnson, 2008	A sustainable destination should address the need for inclusiveness and stakeholder engagement, which fosters transparency and responsibility; a multi-stakeholder approach led by DMOs is necessary for effective planning and implementation
ECONOMIC	Beck & Ferasso, 2023; Bai & Run, 2022; Baldwin & Di Mauro, 2020	The economic side of sustainability encompasses generating income for local communities while ensuring that natural resources are managed responsibly
	Jaelani et al., 2020	Investigated how destination transport logistics contribute to sustainable tourism practices by aligning offerings with prospective tourist expectations
.ENVIRONMENTAL	Huishan & Singh, 2024; Jain et al., 2021	Sustainable practices promote efficient resource use and minimise the environmental footprint by leveraging technology for better decision-making
	Ivanov, 2023; Abdallah, 2021	Innovation enhances management practices that support both environmental protection and economic growth.

Compiled by the author

Measuring sustainability and resilience through spatial (social, economic, and environmental) scales necessitates the involvement of various stakeholders and robust cross-sectoral relationships that facilitate sharing resources and knowledge (Table 32), as otherwise management becomes fragmented. The following results align with the latter research outcomes and inform of the targeted management approach in the destination of Brighton:

- *DMOs strongly emphasise social sustainability, indicating that their tactics successfully involve the community and consider the social aspects of tourism. They could therefore serve as role models for socially responsible behaviour.*
- *The perceived economic significance of transport in Brighton's tourism supply chain is reflected in the high economic ratings in this sector. Nevertheless, this emphasis might overshadow social and environmental sustainability initiatives, indicating the need for a more well-rounded strategy.*
- *The accommodation sector continuously performed poorly in the environmental category, indicating severe difficulties in implementing environmentally friendly practices. This draws attention to a crucial area that needs policy improvement and intervention.*
- *Sectoral gaps in social sustainability: TOs & TAs show a distinct gap in social sustainability, pointing to the need for stronger community engagement and social initiatives*

SF-MST cross-sector research evaluates sectoral performance in promoting destination management across different contexts. Results underline the necessity for differentiated strategies to address sector-specific gaps, aiming to manage the tourism supply chain to improve Brighton's sustainability and resilience.

Socio-demographic analysis

Influence of gender. The statistical analysis revealed that gender did not significantly impact Brighton's assessment of various tourism supply chain sectors (Kruskal-Wallis; $p > 0.001$). All genders - female, male, and non-binary - assigned similar scores to Destination Management Organizations (DMOs), Tour Operators (TOs) & Travel Agents (TAs), Accommodation, and Transportation sectors. This uniformity indicates that perceptions of tourism services do not significantly diverge based on gender (Table 33).

Table 33. Gender dependence of the evaluation scores (M - mean, SD - standard deviation) assigned by research participants to different Brighton tourism supply chain sectors.

Sectors	Gender	M	SD	Mean rank	p value
DMOs	Female	3,8	0,3	204,6	0,93
	Male	3,8	0,3	207,2	
	Non-binary	3,8	0,3	213,7	
TOs & TAs	Female	3,2	0,4	214,9	0,20
	Male	3,1	0,4	196,7	
	Non-binary	3,2	0,4	229,6	
Accommodation	Female	2,9	0,6	205,9	0,62
	Male	2,9	0,6	204,4	
	Non-binary	3,1	0,6	228,8	
Transportation	Female	3,4	0,4	201,9	0,57
	Male	3,4	0,4	207,8	
	Non-binary	3,4	0,3	228,1	

Compiled by the author following SPSS

As shown in Table 33, the dependency of evaluation scores (Mean (M) and Standard Deviation (SD)) on gender was examined across different tourism supply chain sectors in Brighton. For all sectors, the p-values exceeded the 0.001 threshold, confirming no statistically significant differences among female, male, and non-binary groups (Kruskal-Wallis; $p > 0.001$). All genders rated DMOs with a mean of 3.8, reflecting minimal variability (SD = 0.3), and no significant gender-based differences were found ($p = 0.93$). TOs & TAs: Minor distinctions were noted, with non-binary participants giving slightly higher mean scores (3.2) compared to male (3.1) and female (3.2) respondents, but still not statistically significant ($p = 0.20$). In the Accommodations & Transportation sectors, evaluations across genders remained consistent, with minimal deviations in the mean scores. *This indicates a universal perception of service quality across genders, suggesting that marketing strategies and service quality efforts in the Brighton tourism sector can be uniformly applied across demographic categories. The mean scores were consistent, suggesting that gender-specific marketing or service adjustments are unnecessary within the evaluated sectors.*

Impact of age. Table 34 shows how different age groups 18-24, 25-44, 45-64, and 65+ evaluated Brighton's tourism sectors. The study further found that age groups did not have a statistically significant effect on the evaluations of DMOs (Kruskal-Wallis; $p = 0.07$), accommodation (Kruskal-Wallis; $p = 0.06$), or transportation sectors (Kruskal-Wallis; $p = 0.19$).

Table 34. Dependence of the evaluation scores (M - mean, SD - standard deviation) assigned by research participants to different sectors of the Brighton tourism supply chain by age group.

Sectors	Age group	M	SD	Mean rank	p value
DMOs	18-24	3,7	0,3	164,8	0,07
	25-44	3,8	0,3	215,8	
	45-64	3,8	0,3	210,9	
	≥ 65	3,7	0,3	174,8	
TOs & TAs	18-24	3,0	0,5	149,1	0,03
	25-44	3,2	0,4	204,6	
	45-64	3,2	0,4	214,6	
	≥ 65	3,2	0,4	221,8	
Accommodation	18-24	2,7	0,6	152,8	0,06
	25-44	3,0	0,6	210,1	
	45-64	3,0	0,6	213,0	
	≥ 65	2,9	0,6	201,5	
Transportation	18-24	3,3	0,4	169,4	0,19
	25-44	3,4	0,4	213,1	
	45-64	3,4	0,3	204,4	
	≥ 65	3,4	0,4	229,1	

Compiled by the author following SPSS

As shown in Table 34, differences across age groups in DMOs, Accommodations, and Transportation sectors were not statistically significant. However, a significant age-related difference was observed in the assessment of TOs and TAs (Kruskal-Wallis; $p = 0.03$), with younger respondents (18-24) rating this sector lower compared to older participants (Mean Rank = 149.1). This suggests that while the general perception of DMOs, accommodation, and transportation remains consistent (although younger respondents tended to be slightly more critical), there is a need to tailor tour-related services for younger demographics to address potential dissatisfaction. *The findings indicate a generational gap in expectations or experiences with tour operators and travel agencies, with younger participants potentially more interested in independent travel options or more likely to favour sustainable travel options, which calls for more modern and technologically advanced solutions.*

Influence of Education. Data analysis indicated that education levels did not significantly impact the evaluation of DMOs (Kruskal-Wallis; $p = 0.16$), accommodation (Kruskal-Wallis; $p = 0.17$), or transportation sectors (Kruskal-Wallis; $p = 0.32$).

However, education significantly influenced the ratings for TOs and TAs (Kruskal-Wallis; p = 0.02), with participants holding only a high school diploma rating this sector notably lower than those with higher education levels (Table 35).

Table 35. The dependence of the evaluation scores (M - mean, SD - standard deviation) assigned by research participants to different sectors of the Brighton tourism supply chain on the level of education obtained

Sectors	Education level	M	SD	Mean rank	p value
DMOs	High school graduate	3,7	0,3	172,6	0,16
	Some college or associate degree	3,8	0,3	206,4	
	Bachelor‘s degree	3,8	0,3	220,3	
	Master‘s degree	3,8	0,3	202,4	
	Doctorate or professional degree	3,8	0,5	222,8	
TOs & TAs	High school graduate	3,1	0,5	168,2	0,02
	Some college or associate‘s degree	3,1	0,4	196,2	
	Bachelor‘s degree	3,2	0,4	205,5	
	Master‘s degree	3,2	0,3	233,7	
	Doctorate or professional degree	3,2	0,6	215,6	
Accommodation	High school graduate	2,9	0,7	192,6	0,17
	Some college or associate‘s degree	2,9	0,6	196,4	
	Bachelor‘s degree	2,9	0,6	203,5	
	Master‘s degree	3,0	0,6	217,9	
	Doctorate or professional degree	3,2	0,8	272,0	
Transportation	High school graduate	3,4	0,5	223,5	0,32
	Some college or associate‘s degree	3,4	0,4	192,8	
	Bachelor’s degree	3,4	0,3	198,5	
	Master‘s degree	3,4	0,3	217,2	
	Doctorate or professional degree	3,4	0,6	236,7	

Compiled by the author following SPSS

Table 35 outlines the evaluations based on respondents’ education levels across tourism sectors, ranging from high school graduates to doctorate holders. Education only significantly impacted TOs and TAs evaluations, with respondents possessing advanced degrees (Master’s or Doctorate) giving higher mean ranks than those with lower education. This trend was not apparent for DMOs, accommodation, or transportation, indicating that educational attainment does not significantly influence general perceptions of these services. For TOs and TAs, higher education correlates with in-

creased expectations, stressing the importance of tailored services for more educated travellers. *Because more educated people are more conscious of sustainability, this finding suggests a relationship between expectations for travel services and educational attainment. Stakeholders may find it advantageous to modify their communication and service offerings to better satisfy the expectations of tourists with lower education levels, which could potentially improve their perceived value.*

Employment status. This table examines how different employment statuses - ranging from full-time employment to retirement - affect evaluations of Brighton's tourism sectors. For TOs and TAs, students gave the lowest evaluations, highlighting potential dissatisfaction with traditional travel services among younger, possibly budget-restricted demographics. No significant differences were observed for the remaining sectors, implying consistent evaluations across varied employment conditions (Table 36).

Table 36. The dependence of the evaluation scores (M - mean, SD - standard deviation) assigned by research participants to different Brighton tourism supply chain sectors based on employment.

Sectors	Employment status	M	SD	Mean rank	p value
DMOs	Employed full-time	3,8	0,3	208,0	0,64
	Employed part-time	3,8	0,3	203,2	
	Self-employed	3,8	0,3	214,0	
	Unemployed	3,8	0,2	175,9	
	Student	3,7	0,4	169,2	
	Retired	3,7	0,4	168,8	
TOs & TAs	Employed full-time	3,1	0,3	198,3	0,02
	Employed part-time	3,1	0,4	182,1	
	Self-employed	3,2	0,4	226,9	
	Unemployed	3,1	0,4	185,0	
	Student	2,9	0,4	123,5	
	Retired	3,2	0,4	240,9	
Accommodation	Employed full-time	3,0	0,6	215,3	0,10
	Employed part-time	2,8	0,6	183,3	
	Self-employed	3,0	0,6	220,2	
	Unemployed	3,2	0,6	252,4	
	Student	3,2	0,9	245,2	
	Retired	2,8	0,7	184,0	

Table 36. Continued

Sectors	Employment status	M	SD	Mean rank	p value
Transportation	Employed full-time	3,3	0,3	181,5	0,07
	Employed part-time	3,5	0,4	228,9	
	Self-employed	3,4	0,3	200,8	
	Unemployed	3,5	0,3	231,9	
	Student	3,1	0,7	151,8	
	Retired	3,4	0,5	226,0	

Compiled by the author following SPSS

As shown in Table 36, employment status did not significantly impact the evaluations for DMOs (Kruskal-Wallis; $p = 0.64$), Accommodation (Kruskal-Wallis; $p = 0.10$), and Transportation (Kruskal-Wallis; $p = 0.07$) sectors, suggesting a consistent service experience across varying employment situations. Those sectors are perceived similarly regardless of professional status. However, respondents' employment status significantly impacted their evaluations of the TOs and TAs sector (Kruskal-Wallis; $p = 0.02$). Notably, students rated this sector substantially lower than retirees and self-employed individuals. Such a difference suggests that students might value cost-efficiency or flexibility more than sustainable package tours. *There is a need for more flexible and financially viable travel options aimed at younger, economically disadvantaged groups, as students frequently make up a sizable portion of the budget-conscious traveller demographic.*

Household Income. Statistical analysis showed that household income did not significantly affect the evaluations of the DMO sector (Kruskal-Wallis; $p = 0.31$). However, higher income levels significantly improved evaluations for the TOs and TAs (Kruskal-Wallis; $p < 0.001$), accommodation (Kruskal-Wallis; $p < 0.001$), and transportation sectors (Kruskal-Wallis; $p = 0.047$). Table 37 presents the relationship between household income and evaluation scores for each tourism sector in Brighton.

As the results in Table 37 fall, while income did not significantly affect the perception of DMOs, it profoundly impacted TOs & TAs, accommodation, and transportation sectors. Higher-income respondents provided better ratings for TOS and TAs, implying that affluent individuals value traditional, often pricier, services more. Higher-income groups also preferred more sustainable services in the Accommodation & Transportation sectors, reflecting a higher standard of expectation. Respondents with higher incomes rated these sectors more favourably, implying a correlation between financial capacity and satisfaction with sustainable tourism services. This implies that wealthy people favour high-end services, highlighting the need to divide service offerings into income brackets to satisfy various demands. *According to statistical evidence, a stratified market is required. To maximise market penetration while maintaining sustainability, providers must create tiered offerings that appeal to various income groups.*

Table 37. The dependence of the assessment scores (M - mean, SD - standard deviation) assigned by the research participants to the different sectors of the Brighton tourism supply chain on the size of the household income

Sectors	Household income	M	SD	Mean rank	p value
DMOs	< 30000	3,8	0,3	191,0	0,31
	30000 - 70000	3,8	0,3	211,9	
	> 70000	3,8	0,3	209,6	
TOs & TAs	< 30000	3,1	0,3	171,9	< 0,001
	30000 - 70000	3,2	0,4	207,7	
	> 70000	3,4	0,4	268,9	
Accommodation	< 30000	2,8	0,5	168,4	< 0,001
	30000 - 70000	2,9	0,6	207,4	
	> 70000	3,3	0,6	277,6	
Transportation	< 30000	3,4	0,4	216,3	0,047
	30000 - 70000	3,4	0,3	196,6	
	> 70000	3,5	0,4	237,8	

Compiled by the author following SPSS

Correlation of various factors. Table 38 presents the correlations between demographic factors (age, education, and household income) and evaluation scores across Brighton's tourism sectors. Spearman's correlation analysis indicated no significant relationship between respondents' age, education, and household income with evaluations of the DMO and transportation sectors in Brighton (Spearman; $p > 0.05$). However, significant positive correlations were found between age, education, and household income with evaluations of the TOs & TAs sector (Spearman; $p < 0.05$), as well as between education, household income, and the accommodation sector (Table 38).

Table 38. Correlations between study participants' age groups, education, household income and the evaluation scores assigned to different sectors of the Brighton tourism supply chain

Sectors	Age groups		Education level		Household income	
	r	p	r	p	r	p
DMOs	0,01	0,98	0,06	0,24	0,06	0,21
TOs & TAs	0,11	**0,02**	0,16	**0,001**	0,23	**< 0,001**
Accommodation	0,07	0,19	0,10	**0,04**	0,25	**< 0,001**
Transportation	0,04	0,40	0,04	0,46	0,01	0,78

Compiled by the author following SPSS

As shown in Table 38, TOs and TAs evaluations showed positive correlations with age, education, and income, indicating that older, more educated, and wealthier respondents tend to rate this sector higher. Similar correlations were identified in the accommodation sector, linking higher education and income to better evaluations. These correlations highlight the need for more targeted approaches to meet the expectations of distinct demographic segments, especially for TOs & TAs and the Accommodations sectors.

The analysis of correlations between age, education, household income, and evaluations of Brighton's tourism sectors revealed the following:

- *DMOs & Transportation: No significant correlation with demographic factors, indicating stable perceptions across groups.*
- *TOs & TAs: Positive relationships with age, household income, and education imply that people who are wealthier, older, and have higher education present more positive opinions. This demonstrates how socioeconomic status affects people's perceptions of services.*
- *Accommodation: Higher education and financial resources positively correlate with better evaluations, suggesting that these groups value sustainability and quality.*

Generalised results of the socio-demographic analysis. The analysis provides a detailed look at how demographic factors shape visitors' perceptions of TSCM sectors and their efforts to adhere to sustainability and resilience principles in Brighton. Recent research emphasises that tourists' perceptions are crucial, as they drive marketing initiatives (Ferreira da Silva et al., 2024; Siregars et al., 2024). Sugiharti et al. suggest that various elements, including age and income, influence willingness to pay for conservation efforts, thus connecting economic factors to sustainability and resilience perceptions (Sugiharti et al., 2021). Fotiadis and Kozak claim that demographic differences among visitors to theme parks influence their perceptions of service quality and, consequently, their attitudes toward sustainability practices (Fotiadis & Kozak, 2017). In a comparative study on visitors in St. Lucia, Nicholas and Thapa demonstrated how socio-demographic characteristics mediated visitors' environmental attitudes (Nicholas & Thapa, 2010). Such findings underscore the necessity of integrating socio-demographic analysis into TSCM strategies to improve destination sustainability and resilience.

Accordingly, in Brighton, each sector reveals unique demographic influences, which can guide the development of more effective segmentation and positioning within the market. Below are the key generalised outcomes, incorporating specific findings:

- *Consistency in demographics within DMOs. DMOs are evaluated similarly across demographic criteria, indicating a consistent view of their function and efficacy. Although this stability suggests that DMOs have built a solid reputation, it might also point to lost chances for innovation to attract younger and more varied tourists.*

- *Divergent opinions about TOs and TAs. Younger and less educated respondents gave TOs and TAs lower ratings, emphasising the necessity of diversifying services to achieve sustainability. This points to the possibility of developing new products that appeal more to younger consumers and less educated groups, by providing more flexible and reasonably priced travel options.*
- *Expectations for accommodations based on income and education. Affluent and highly educated people are likely to have higher expectations for quality and sustainability, as evidenced by the positive correlations between income, education, and accommodation evaluations. This suggests that lodging establishments must invest in high-end and environmentally friendly features to satisfy these demands.*
- *Preferences for transport based on income. Respondents with higher incomes prefer premium transport options, indicating that transport services can be divided into segments to accommodate a range of financial backgrounds. Providing high-end, eco-friendly, and reasonably priced options may attract more customers.*
- *Gender influence is limited. The absence of gender-based disparities in assessments indicates that resources should be directed towards other demographic characteristics that significantly influence perceptions.*

Understanding visitor perceptions of sustainability through a socio-demographic lens reveals critical insights for tourism management. The interplay of factors such as education level, age, and income significantly shapes these perceptions, influences behaviours and attitudes toward sustainable practices and underscores the need for tailored strategies. Each sector requires a customised approach to address specific demographic weaknesses, fostering a more sustainable and resilient tourism strategy in Brighton. Effective segmentation based on demographic insights can guide service differentiation, improve market positioning, and enhance the endurance of the destination, ultimately fostering a more inclusive tourism environment.

3.3. Matrix of key stakeholders' and visitors' research interfaces and final model

Brighton's tourism supply chain management to improve sustainability and resilience requires a coordinated approach that aligns stakeholder goals with visitor expectations. The qualitative and quantitative study presents insights from key stakeholders - destination management organisations, our operators and travel agencies, accommodation and transportation service providers and visitors - on improving sustainability and resilience in Brighton. A combination of qualitative expert interviews and quantitative visitor survey results reveals areas for improvement. The following figure (Fig. 28) outlines a synthesised analysis and strategic recommendations addressing over-tourism and environmental degradation in Brighton.

The matrix (Fig. 28) integrates social, economic, and environmental spatial scales alongside findings from qualitative and quantitative surveys. This structure clarifies the interconnected impacts of each solution on sustainable tourism management in Brighton, offering a comprehensive view of how these factors contribute to the city's long-term sustainability goals. The Matrix also includes strategies to enhance Brighton's sustainability and resilience efforts by clarifying how each solution could be operationalised. Each strategy intends to facilitate clearer, actionable plans for stakeholders and foster a sustainable tourism model that meets visitor expectations and community needs. This matrix is a cohesive model that strengthens Brighton's appeal by addressing the interplay between social, economic, and environmental factors.

Conjointly, these strategies create a comprehensive framework supporting Brighton's transformation into a better, more sustainable, and resilient destination. By addressing specific social, economic, and environmental challenges and linking these dimensions to an operational action, this matrix promotes:

- **Increased transparency and awareness**. Improved communication of the impacts of tourism activities on the local economy, environment, and community helps visitors make informed, responsible choices, ultimately fostering a culture of sustainability.
- **Enhanced visitor engagement and satisfaction**. Brighton will improve visitor satisfaction by aligning tourism offerings with visitor preferences for authenticity, cultural immersion, and eco-conscious options while reducing environmental and social strain on popular sites.
- **Balanced economic development**. Seasonal incentives and transparent economic impact metrics encourage year-round tourism and local spending, supporting economic resilience without over-reliance on peak-season tourism.
- **Promotion of green practices across sectors**. Certifications and partnerships with eco-friendly providers make it easier for businesses to adopt and for visitors to recognise sustainable practices, aligning with local environmental goals and visitor expectations.
- **Unified approach to sustainability**. A multi-stakeholder model ensures that social, economic, and environmental initiatives are coordinated across all sectors, leading to a consistent and powerful impact on destination sustainability and resilience.

In promoting sustainable and resilient destinations, several models have emerged in academic research that incorporate tourism supply chain management strategies and collaboratively involve various stakeholders. Adopting blockchain technology within the tourism industry is a significant mechanism for improving transparency and awareness. Research shows that blockchain can facilitate transparent transactions, minimise fraud, and enhance sustainability performance by improving accountability

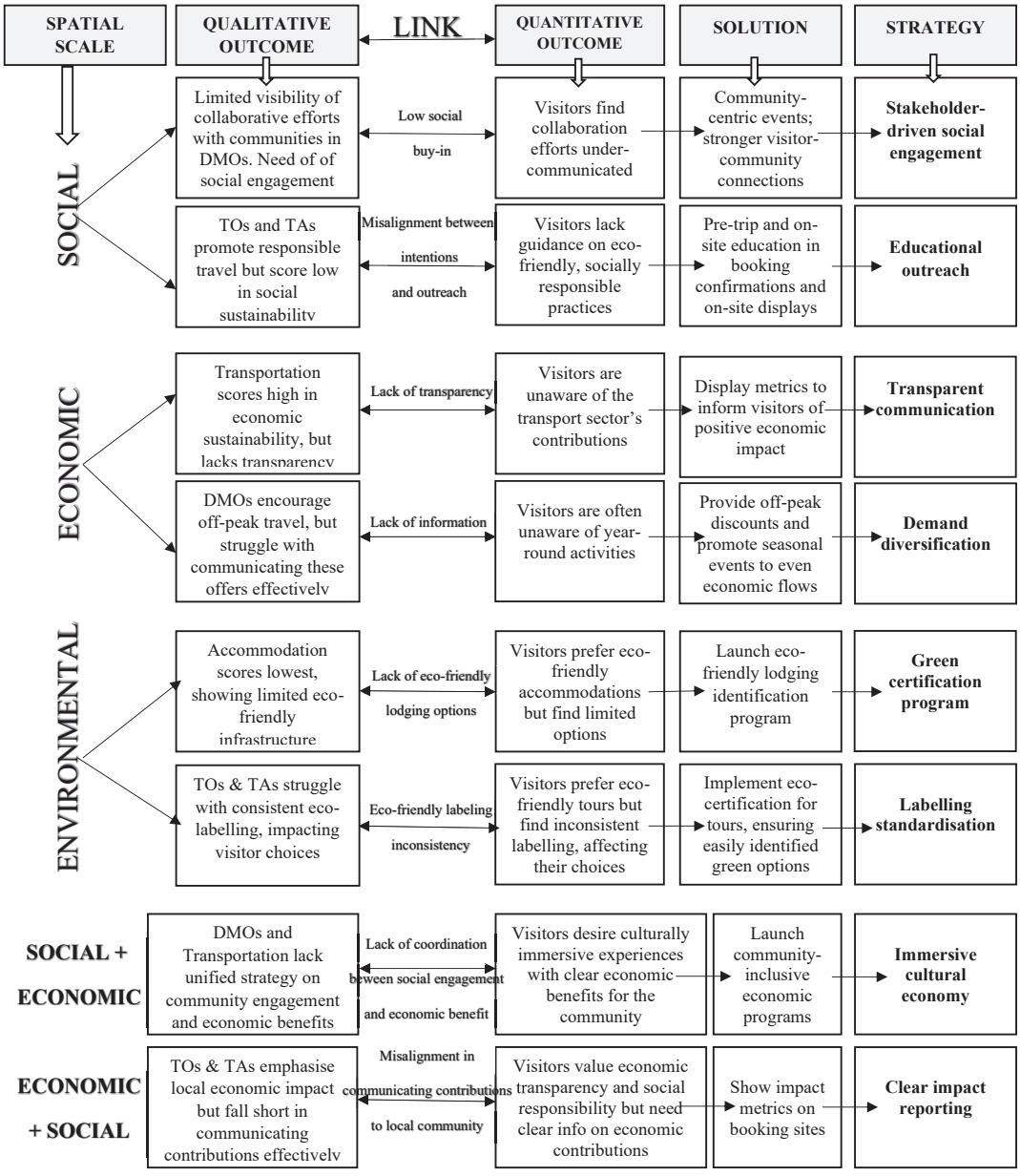

Figure 28. Matrix of qualitative and quantitative insights

Compiled by the author

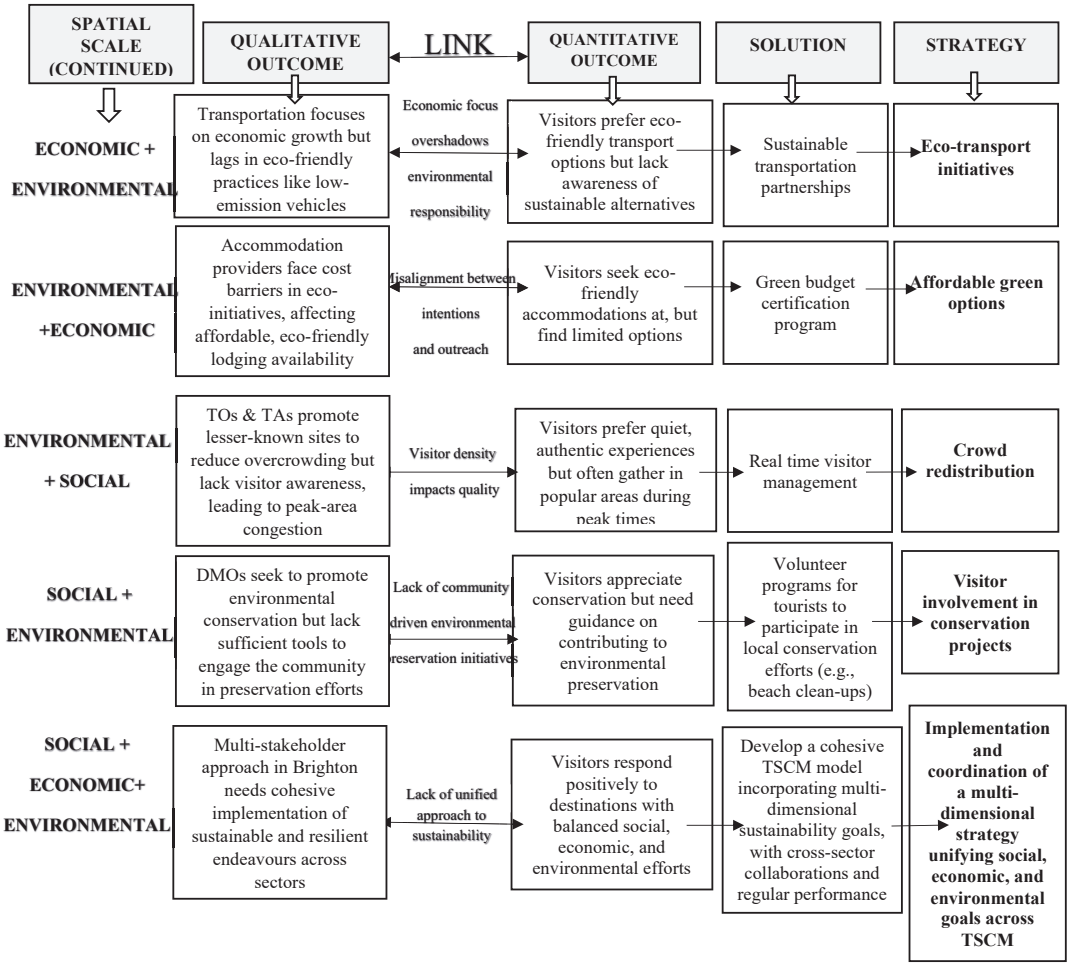

Figure 28. Matrix of qualitative and quantitative insights (continued)

across various operations in the TSCM (Chowdhuri et al., 2023; González-Mendes et al., 2024). This technology allows tourists to engage fully with their choices by providing direct access to verified information about providers and their practices, thus fostering trust and informed decision-making.

Effective communication strategies that leverage social media can reinforce visitor engagement and satisfaction. Studies indicate that social media is crucial in raising

awareness about sustainable practices, motivating tourists to engage in sustainable behaviours, and increasing their overall satisfaction through transparency and interaction (Siregars et al., 2024; Ghaderi et al., 2018). This approach empowers tourists to make conscientious choices about their activities, accommodating their desires for sustainable tourism experiences.

Balanced economic development is vital for the resilience of tourist destinations, and community involvement is a fundamental aspect of this balance. Engaging local stakeholders in tourism planning and management promotes economic growth while prioritising cultural preservation and environmental sustainability (Costa & Costa, 2024; Cheer & Lew, 2018; Bellini et al., 2017). Research has demonstrated that communities actively participating in tourism development are more likely to invest in sustainable practices and benefit from tourism revenues, fostering a resilient tourism economy (Duc & Thanh, 2023).

Promoting green practices across sectors is increasingly recognised as a necessary strategy to ensure long-term sustainability. Green finance mechanisms have been highlighted as tools to attract private investment into tourism initiatives to enhance sustainability (Barroga, 2024). Implementing eco-labels for tourism services can enhance credibility and motivate visitors and industry providers to adopt environmentally friendly practices (Duc & Thanh, 2023). Furthermore, aligning green practices with core tourism offerings satisfies eco-conscious travellers while contributing to the broader economic objectives of tourism destinations (Álvarez-García et al., 2017).

Lastly, a unified approach to sustainability entails integrating various stakeholders' efforts towards common sustainable tourism goals, which is crucial and ensures that tourism development is equitable and respects social, cultural, and environmental parameters (Novelli, 2024; Lofti & Larmour, 2021). Stakeholder commitment, as shown in various studies, plays a pivotal role in advancing sustainable tourism initiatives, providing pathways toward effective governance and enhanced regulatory frameworks (Chen et al., 2024; Baba et al., 2020).

The integrated strategies help Brighton strengthen its identity as a sustainable destination. This cohesive approach ensures that Brighton's tourism model meets current visitor demands for responsible travel while building a resilient framework that benefits the environment, community, and local economy over the long term (Fig. 29)

The arrows in this model (Fig. 29) illustrate the causal relationships and interactions within the tourism supply chain management. The large external arrows indicate the overall direction. Identified management gaps lead toward deficiency outcomes (the negative consequences), while successful TSCM leads toward efficiency strategies (the desired positive outcomes). The bold arrows indicate input and output and show that the effective application of specific social, economic, and environmental strategies drives the achievement of the corresponding numbered objectives listed in each area. Finally, the internal double-headed arrows emphasize the crucial interdependen-

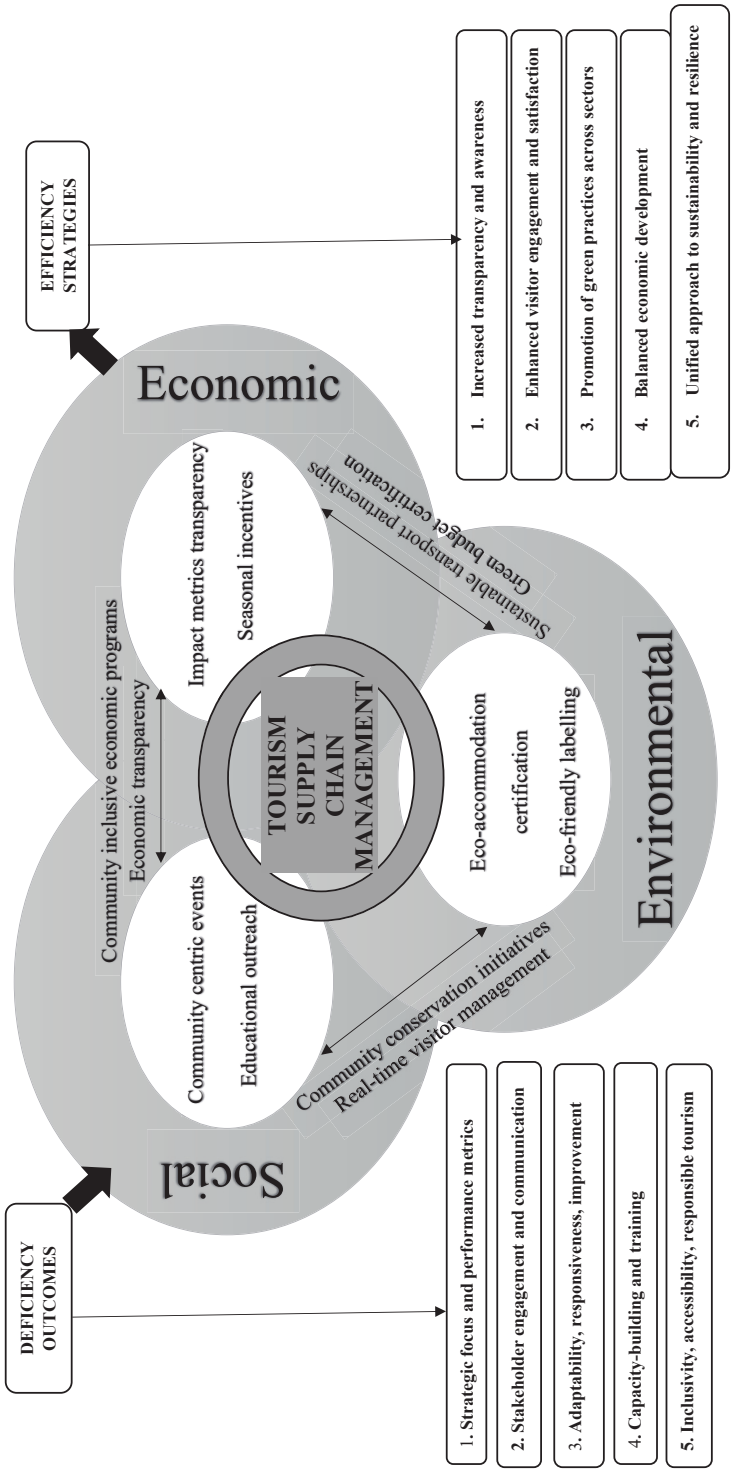

Figure 29. Integrated tourism supply chain management strategy model to improve destination sustainability and resilience

Compiled by the author

ce and integration required among the social, economic, and environmental pillars for holistic and effective sustainability management.

The integrated strategies to improve destination sustainability and resilience directly address tourism supply chain management challenges, offering solutions that balance tourism growth with environmental conservation, community engagement, and economic stability. The combination of transparency, effective communication, community-centred economics, the promotion of green practices, and a unified stakeholder approach generates a robust framework for tourism supply chain management to improve destination sustainability and resilience. Implementing these strategies would significantly enhance tourism destinations' long-term viability and attractiveness.

Increased transparency and awareness, implemented through digital technologies, allow for real-time data sharing among stakeholders. The adoption of innovative technologies not only provides businesses with tools to promote sustainable practices but also enhances consumer awareness and engagement. Innovative tourism initiatives effectively communicate sustainability measures to consumers, influencing their choices and increasing satisfaction. Commitment to transparency strengthens stakeholder trust and encourages collaborative efforts towards sustainability and resilience.

Enhanced visitor engagement and satisfaction are vital components of sustainable tourism. Achieved through participatory approaches in destination management, where tourists are encouraged to get involved in local activities and sustainable practices. By engaging visitors in experiential tourism and local cultural activities, destinations cultivate deeper emotional connections, which improve overall visitor satisfaction. Well-informed tourists tend to exhibit more sustainable behaviours, thereby reducing the environmental footprint associated with tourism (Espiner et al., 2017).

A multidimensional approach that considers local communities is imperative to achieving balanced economic development. By integrating community stakeholders into tourism planning and management processes, destinations ensure that financial benefits are equitably distributed and culturally sensitive. Such a participatory approach has enhanced community resilience and adaptive capacity, especially amid economic uncertainties and environmental stresses. As communities become more engaged, they are better positioned to harness local resources sustainably, fostering a tourism model that benefits residents and visitors alike (Porras-Bueno, 2024).

Promoting green practices across all sectors involved in TSCM is essential for ensuring the destination's sustainability and resilience. This necessitates applying eco-sensitive policies that encourage the adoption of sustainable operations, such as waste reduction and energy efficiency initiatives. Through collaboration with local governments and industry stakeholders, destinations can implement green supply chain practices that appeal to sustainability-conscious tourists and enhance the resilience of regional economies against disruptions.

Finally, a unified approach to sustainability requires collaboration among various stakeholders - government, businesses, and, most importantly, local communities. This integrative framework aims to harmonise efforts across sectors, ensuring sustainable tourism practices align with broader economic and ecological goals. The development of an *'Integrated tourism supply chain management strategy model to improve destination sustainability and resilience'* is one such approach that encapsulates different elements of sustainability, allowing for a robust response to global challenges faced by destinations, including climate change and economic volatility. The successful implementation of unified sustainability strategies results in enhanced resilience of destinations, enabling them to adapt to and recover from unforeseen challenges and achieve long-term sustainability.

The management of the tourism supply chain to improve the sustainability and resilience of a destination requires tailored strategies with an all-encompassing approach that includes transparency, visitor engagement, equitable economic practices, green initiatives, and collaboration between different sectors. Through the cultivation of these components, destinations can better navigate the complexities of sustainable tourism in an environment that is becoming increasingly dynamic on a global scale.

3.4. Discussion of research results and further research directions

The research findings underscore the critical importance of integrated, multi-dimensional strategies to manage tourism supply chains in addressing sustainability and resilience within Brighton. These findings align closely with existing literature emphasising adopting a holistic approach to sustainable tourism, considering the intricate interdependencies between social, economic, and environmental systems (Streimikienė et al., 2020). The mechanisms proposed in the study, including eco-certification programs, community-centric initiatives, and sophisticated visitor management systems, effectively mitigate the adverse effects of over-tourism. Such reactive and proactive programs aim to engage community members, enhance seasonal visitor distribution, and reduce environmental strain. Research by Yayla et al. supports these findings, indicating that community-based approaches can significantly contribute to sustainable tourism development by fostering local engagement and economic regeneration (Yayla et al., 2023).

Moreover, the findings highlight the growing trend among tourists to prioritise eco-friendly practices and local economic contributions. This aligns with the broader shift in consumer behaviour towards sustainable consumption, as noted by Asadpourian et al. (Asadpourian et al., 2020). However, the study also identifies a critical gap: the lack of transparent communication regarding sustainability initiatives, which has hindered visitors from fully understanding the impact of their choices. This observa-

tion underscores the need for clear metrics on local economic impacts and the integration of eco-labels for sustainable tourism activities, reflecting contemporary concerns for transparency and informed consumer participation (Xu et al., 2024; Guan et al., 2020; Streimikienė et al., 2020).

The study reveals that while tourist preferences are evolving toward sustainability, further efforts are required to bridge the information gap between sustainable and resilient tourism initiatives and visitor awareness. Longitudinal studies investigating the shifts in visitor satisfaction and behaviours over time could provide valuable insights into the effectiveness of transparency measures. Further research could explore whether increasing transparency regarding sustainability initiatives leads to enduring changes in tourist preferences and engagement with eco-friendly practices (Chowdhury et al., 2024). This approach resonates with the findings of Chowdhury et al. (2024), who emphasise the need to identify resilience strategies within the tourism supply chain that effectively address visitor perceptions and behaviours. Insights from their study, similarly, aid practitioners in developing more targeted interventions that align consumer behaviour with sustainability objectives in tourism settings.

Another critical avenue explored in the research is the potential of technology to enhance visitor management and support sustainable practices. The successful implementation of real-time visitor management systems alleviates pressure on over-visited sites, redistributing tourist flows and thus reducing ecological impact. The notion of utilising technology for crowd management in tourism aligns with the insights of Yu and Egger, who underscore the significance of digital innovations in reshaping travel industry consumer experiences (Yu & Egger, 2021). By employing AI-driven solutions and digital tools, destinations can provide personalised experiences that educate tourists about sustainable practices, thus fostering a more responsible visitor culture. Future research could investigate how these digital innovations seamlessly integrate into existing tourist frameworks to maximise their efficacy depending on seasonal fluctuations and varying attraction types. This perspective aligns with how innovative tourism initiatives are being embraced globally, as indicated by Sheng, who notes the necessity of collaborative efforts involving multiple stakeholders to ensure the seamless implementation of sustainable practices (Chen et al., 2024; Bozorgi-Amiri, 2021; Álvarez-García et al., 2017).

Understanding the socio-economic-ecological impact of the proposed integrated strategies on local communities is vital. The importance of valuing community perspectives cannot be overstated, as highlighted by Kadir and Chew (2024), who emphasise the significant role of collaborative efforts and responsible practices in tourism supply chain management. Engaging local communities enhances their welfare and promotes a regenerative approach to tourism that contributes positively to the environment, society, and culture. By prioritising resident welfare alongside tourism development, Brighton would develop comprehensive models that comprise sustainable

tourism and advocate for regenerative practices, ensuring benefits for visitors and locals. This direction aligns with the current trends advocating for tourism models that actively improve destination sustainability and resilience while safeguarding them for future generations (Saarinen & Gill, 2020).

The unified tourism supply chain stakeholder approach emphasises collective responsibility and collaborative practices among all stakeholders at the destination to improve sustainability and resilience. Kartimin et al. agree that the influences and risks associated with stakeholder activities significantly impact sustainability performance outcomes (Kartimin et al., 2023). Their systematic review suggests that actively engaging stakeholders improves the management of sustainability risks within tourism supply chains. Tourism organisations can better address pressing environmental, social, and economic issues by integrating stakeholders into decision-making and enhancing sustainability and resilience metrics. Moreover, engaging stakeholders allows for a consensus on the values and goals of sustainable initiatives. Putro et al. (2024) highlight that understanding and valuing diverse stakeholder interests is crucial for achieving a coordinated approach to sustainable tourism development. This integration enhances the validity of the sustainability discourse and fosters greater community acceptance and participation in sustainable practices.

In conclusion, integrating multi-dimensional strategies highlighted in the research aligns with the emerging literature advocating for improved approaches to sustainability and resilience in tourism destinations. Bridging the gap in communication, employing innovative technologies, and fostering community engagement are vital steps toward creating a sustainable tourism ecosystem in Brighton. Future research should continue to explore these avenues, providing an adaptive framework that keeps pace with evolving visitor expectations and the dynamic nature of tourism landscapes. Through ongoing investigation and innovation, Brighton would align with its vision to become a leader in sustainable tourism, demonstrating sustainability and resilience to the challenges and opportunities in the global tourism arena.

3.5. Recommendations aligning with tourism supply chain management strategies

To ***'Increase transparency and awareness'*****,** stakeholders should implement visitor education programmes on sustainable and resilient tourism in Brighton by designing pre-trip and on-site visitor education programmes to raise awareness of local environmental and cultural issues. For instance, digital pre-arrival briefings or virtual workshops on responsible tourism would educate visitors before they arrive. At the same time, on-site displays and signage at popular locations could reinforce sustainable behaviours. The Seychelles Sustainable Tourism Label (SSTL) program aims to

reduce waste by 20% and increase energy efficiency by 15% in certified accommodations by 2027. Through a dedicated sustainability page, visitors are encouraged to support these goals by choosing SSTL-certified businesses and minimising their environmental footprint while exploring the islands. This recommendation aligns with trends in regenerative tourism, aiming to create an environmentally conscious visitor base.

***DMOs**:* They lead the design and implementation of these programs, including digital content, on-site signage, and collaborations with local stakeholders to educate visitors on responsible tourism.

***TOs & TAs**:* incorporate educational elements into tour packages to encourage visitors to engage in sustainable behaviours before and during their stay.

***Accommodation**:* Display educational materials, such as in-room pamphlets or digital guides, on local sustainability practices and cultural etiquette.

***Transportation*:** integrate educational messaging, promoting eco-friendly travel choices and community respect on transport materials.

Implement a '*Regular impact monitoring and reporting'* system that monitors tourism's social, economic, and environmental impacts. Collecting data on resource usage, waste production, economic benefits, and community satisfaction allows for adaptive management and keeps stakeholders informed. The Balearic Islands have implemented the "Plastic-Free Balearics" initiative, aiming to become plastic-free by 2030. The islands' tourism boards regularly update their websites and social media. Transparent impact reporting can build trust with the community, guide improvements, and demonstrate Brighton's commitment to sustainable tourism practices.

DMOs: lead in collecting and reporting data on tourism's economic, social, and environmental impacts, fostering transparency and accountability.

Accommodation: Monitor metrics like energy consumption, waste management, and guest satisfaction to improve sustainable practices.

TOs & TAs: track and report sustainability impacts of their activities, ensuring continuous improvement and demonstrating commitment.

Transportation: Monitor emissions, resource usage, and customer satisfaction to optimise environmental performance and contribute to destination sustainability goals.

To ***'Enhance visitor engagement and satisfaction'***, data analytics for real-time visitor management should be implemented. Visitor tracking through mobile apps or sensors at popular sites would help managers redirect crowds to less-visited areas and provide updates on crowd levels. Barcelona (Spain) has implemented a "Smart Tourism" program to address over-tourism in popular areas by gathering information on visitor movement and density using mobile phone data, cameras, and wi-fi tracking. Based on these insights, Barcelona's tourism board redirect tourists by promoting alternative attractions through official websites, social media, and digital information points. Such a data-driven approach helps balance visitor numbers at high-traffic sites,

reducing the impact of over-tourism and enhancing visitor satisfaction by avoiding overcrowded areas.

DMOs: As coordinators of this system, DMOs inform stakeholders, adjust marketing tactics, and direct visitors to less crowded sites.

TOs & TAs: With access to real-time data, TOs could adjust schedules or promote alternative sites to avoid overcrowding.

Transportation: Public transit and eco-friendly options could adapt routes and schedules based on visitor flows to distribute crowd levels.

Invest in *'Digital transformation to enhance visitor experience',* offering personalised visitor recommendations, event updates, and eco-friendly travel options. For example, AI-driven recommendations and virtual tours would personalise itineraries for each visitor, enhancing their experience while guiding them toward sustainable choices. Pompeii Smart Guide integrates AI to reconstruct ruins and enhance storytelling. A digital transformation would make destination management more efficient and improve visitor satisfaction and operational resilience.

DMOs: Spearhead a centralised digital platform offering personalised itineraries, sustainable options, and real-time updates for a cohesive visitor experience.

TOs & TAs: Integrating digital tools such as virtual tours or personalised recommendations could enhance the appeal of tours and increase visitors' flexibility.

Accommodation: Use digital tools to streamline booking processes, offer customised experiences, and promote eco-friendly services.

Transportation: Leverage digital tools to provide real-time schedules, eco-friendly options, and updates on travel conditions.

To ***'Promote green practices across sectors'***, develop a tiered eco-certification system, e.g., Bronze, Silver, Gold, for accommodations, tours, and businesses. This would incentivise stakeholders to adopt more sustainable practices, with each level representing an increased commitment to sustainability (such as zero-waste practices, renewable energy use, or community contributions). The visibility of certification levels (like "Slovenia green" or "Qualmark awards") helps tourists quickly identify the most sustainable options, encourages businesses to aim for higher standards and aligns local implementation with international certification standards.

Accommodation*:* Eco-certification levels would motivate hotels and lodging providers to adopt zero-waste practices, renewable energy, and local sourcing, providing clear benchmarks for sustainability.

TOs & TAs*:* Certification would help tour operators offer sustainable packages that appeal to eco-conscious travellers and highlight the operator's commitment to sustainable tourism.

DMOs*:* to oversee the certification program, ensure standards are met, and promote certified businesses as preferred partners.

Transportation: Adopt certification by providing affordable, eco-friendly fleet options or committing to emission reduction targets.

'Introduce affordable sustainable transport incentives' by partnering with sustainable transportation providers to offer discounted or priority access to eco-friendly travel options such as public transit, bike shares, or electric shuttles. Discounts or loyalty points for choosing low-carbon travel can reduce traffic congestion, improve air quality, and meet the demand for greener transportation alternatives. Park & Ride is implemented in Brighton and runs continuously between major attractions and the city centre. However, reduced fares or free rides to incentivise eco-friendly travel, especially during peak hours, could be offered, like 'Santa Monica (USA) Free Ride' or 'Breeze Bike Share' apps. Create a 'Green routes of Brighton' map that identifies and rewards eco-friendly transportation methods, such as bike paths, walking trails, and electric shuttle routes. Offer discounts or loyalty points to visitors who use sustainable options. This can be tracked through an app, where visitors can check in at transit stops to accumulate points for rewards like free admission to attractions. Highlighting these options on tourism websites and booking platforms will encourage adoption.

Transportation: Core to this recommendation, transportation providers could offer discounted rates, loyalty programs, or priority access for eco-friendly travel options, encouraging low-carbon travel.

DMOs*:* partner with transportation providers to promote sustainable transit options on booking platforms and destination marketing.

TOs & TAs: Tour operators can incorporate these transportation incentives within their packages, making sustainable travel easier for visitors.

To **'*Balance economic development'*** strengthen off-peak and lesser-known destination marketing by developing and promoting off-peak season packages and experiences at lesser-known attractions to reduce strain on popular sites. Seasonal pricing, cultural events, and targeted campaigns can encourage visitors to explore new areas of Brighton, fostering a more balanced distribution of tourists. Costa Rica successfully rebranded its rainy season as the "Green Season," promoting eco-friendly activities like wildlife tours and nature conservation efforts. Brighton could launch "Eco-Brighton," offering guided nature walks in places like Stanmer Park or further to Seven Sisters' Cliff Park and Beachy Head. Highlighting unique, authentic local experiences in quieter seasons would attract visitors looking for meaningful, immersive experiences and support year-round economic stability.

DMOs*:* Ideal for managing and promoting off-peak season campaigns and showcasing less-visited areas, helping distribute visitor numbers more evenly throughout the year.

TOs & TAs**:** develop unique off-peak travel packages, introducing travellers to hidden gems around Brighton, offering immersive experiences in lesser-known areas.

Accommodation: Incentivise off-peak stays with discounted rates, special packages, and partnerships with local attractions.

Transportation: offer special rates for travel to lesser-visited areas, promoting distributed travel patterns.

'*Encourage local product sourcing and support for small businesses'* by establishing partnerships between hotels, restaurants, and local farmers or artisans to boost the local economy and promote Brighton's unique cultural identity, providing visitors with an authentic experience rooted in local traditions. The Gold Coast destination in Australia has a "Green Coast" app, which includes a digital map of bike paths, eco-shuttle routes, and electric ferry stops. The app allows users to check in at various green transport hubs, earn discounts at nearby attractions and local dining spots, and incentivise tourists to opt for low-impact transportation.

DMOs: promote partnerships between tourism providers and local artisans, restaurants, and producers as part of sustainable tourism campaigns.

Accommodation: source food, decor, and amenities locally, creating an authentic guest experience while supporting the local economy.

TOs & TAs: Itineraries should include visits to local businesses, such as artisan workshops or farmers' markets.

Transportation: Local partnerships could enhance community value, such as transport providers promoting local businesses along routes or at stations.

To '***Unify approach to sustainability and resilience'*** promote community involvement and benefit sharing by establishing precise mechanisms for distributing tourism benefits to residents and actively involving them in tourism planning. A structured profit-sharing model, where a portion of tourism revenue supports local development projects, would increase community support. Additionally, involving community members in cultural events, guiding, or conservation efforts can create employment opportunities, reinforce cultural heritage, and help align tourism growth with resident interests.

DMOs: establish frameworks for revenue-sharing and ensure community participation in tourism planning to foster local support.

TOs & TAs: By involving locals in tours, guides, or cultural events, TOs could strengthen community bonds and support sustainable, inclusive tourism.

Accommodation: create job opportunities, source local products, and host community events to share tourism benefits.

Transportation: Collaborate with local organisations to support community projects, further engaging residents in tourism benefits.

'*Establish partnerships for crisis and risk management' by* developing crisis management plans in collaboration with local government, emergency services, and tourism stakeholders to ensure a coordinated response to unexpected events like natural disasters, health emergencies, or economic fluctuations. Regularly reviewing and up-

dating these plans and training local tourism staff can enhance Brighton's resilience, ensuring visitor safety and rapid recovery after crises.

DMOs: lead by coordinating with local government, tourism providers, and emergency services to establish and update crisis management plans.

Accommodation: Train staff on emergency response and integrate with DMOs for crisis preparedness.

Transportation: Collaborate to ensure safe, coordinated evacuations or adjustments during crises.

TOs & TAs: Adapt itineraries quickly in response to crises and ensure visitor safety, reflecting the importance of comprehensive preparedness.

Conclusions

1. *The research substantiates the regularity that tourism supply chain management (TSCM) is the primary driver of destination development, by structurally integrating diverse stakeholders from both the public and private sectors. These stakeholders - such as tour operators, accommodation providers, transport services, local communities, and government agencies - contribute to the creation of the final tourism product and collectively shape the operational structure of the tourism destination. The inherent characteristics of tourism products, being intangible, perishable, and multicomponent, make their delivery highly reliant on effective supply chain collaboration.*

1.1. The study substantiates the regularity that sustainability and resilience are central goals of modern TSCM. This demonstrates that the capacity of destinations to operate under uncertainty is lawfuly dependent on effective stakeholder collaboration. Key TSCM strategies, such as demand forecasting, supplier selection, capacity management, and relationship building, manifest as necessary systematic mechanisms in establishing frameworks that promote both environmental, economic and social sustainability and operational resilience at destinations. Sustainability and resilience are structural necessities of TSCM, operationalised through systematic managerial practices.

1.2. The research highlights the necessity to understand tourism supply chains as dynamic, evolving systems, whose performance is directly shaped by their ability to respond to crises. This demonstrates that resilience is not reducible to post-crisis recovery,

but represents a proactive, lawful capacity for anticipation, adaptation and sustainable continuity. Thorough theoretical analysis shows that in contexts of disruption the operational performance of destinations depends structurally on stakeholder involvement, while performance flexibility emerges as the principal measure of systemic resilience.

1.3. The analysis substantiates the conformity that the destination is positioned as the core unit of analysis in tourism TSCM, conceptualised as a spatial and experiential system composed of interconnected services, products, and events. This demonstrates that Destination Management Organisations (DMOs) operate as pivotal integrators coordinating strategies of planning, marketing, resource use, and stakeholder engagement, therefore institutionalising systematic integration to secure sustainable development. The study confirms that effective stakeholder relationship management, rooted in cooperation, resource-sharing, and mutual benefit, is instrumental in achieving socially inclusive, ecologically aware, and economically sustainable destination development.

2. *The research identifies the interdependence between sustainability and resilience in TSCM. Sustainability is confirmed as the long-term goal, ensuring that tourism supports local economies, protects natural and cultural resources, and maintains social equity. Resilience, in contrast, is the immediate adaptive capacity of destinations to respond to disruptions while maintaining operational and community stability. It confirms that sustainability and resilience must be understood and investigated not as separate paradigms, but as complementary, co-constitutive dimensions of TSCM.*

2.1. Sustainable tourism requires governance environments that institutionalise inclusiveness and adaptive stakeholder capacity. It is found that resilience serves as a foundational element for achieving sustainability. While sustainability aims to maintain equilibrium across environmental, social, and economic domains, resilience equips destinations with the flexibility to recover from or adapt to shocks - making it a prerequisite for long-term sustainability. This shows that resilience operates as an enabling prerequisite condition upon which long-term sustainability is constructed and without it, sustainability goals remain structurally unattainable.

2.2. The research emphasises that creating supportive governance and operational environments enables ongoing stakeholder adaptation, ensuring that development efforts remain relevant and inclusive. The study confirms that a multi-stakeholder management approach is necessary to embed adaptive capacity into destination governance and guide stakeholders toward sustainable practices. This demonstrates that open communication, cross-sector learning, and collaborative decision-making are systematic conformities improving governance structures. By empowering stakeholders with the autonomy to self-regulate and innovate, the tourism supply chain becomes more responsive to both challenges and opportunities. The selection of the latter approach proves that adaptive, participatory governance is the operational driver of TSCM towards sustainable and resilient destinations.

3. The absence of a coherent and widely applicable framework in existing literature has been identified as a critical gap that undermines efforts to improve destination sustainability and resilience. This finding corresponds and ***confirms Statement 1.*** *Therefore, the study develops a theoretical framework for evaluating stakeholder-consumer dynamics within TSCM. By merging models, assessment tools, and strategic planning instruments under a unified approach, the theoretical integration advances both the scientific understanding and practical management of tourism supply chains.*

3.1. The theoretical framework incorporates a multi-stakeholder management approach, confirming the regularity that inclusivity and shared ownership strengthen the effectiveness of tourism development. This demonstrates that integrating diverse stakeholder viewpoints facilitates precise problem identification, improves trust, and aligns tourism goals with broader sustainability objectives. The study results show that combining sustainability and resilience indicators into quantifiable metrics constitutes a systematic way for monitoring progress and informing decision-making. It has been established that multi-stakeholder inclusivity and measurable indicators are structural prerequisites of accountable and goal orientated TSCM.

3.2. Application of the framework in Brighton substantiates the utility of SWOT and TOWS analysis as diagnostic instruments for identifying destination systemic vulnerabilities, such as an environmental stress, over-tourism, economic vulnerability, and policy fragmentation. These methods allow for scenario-based planning and help formulate actionable strategies tailored to the specific conditions of the destination. The application of SWOT and TOWS demonstrates that structured diagnostic tools enhance adaptive capacity by translating systematic issues into targeted strategic responses.

3.3. The European Tourism Indicator System (ETIS) is validated as an effective measurement tool for assessing stakeholder attitudes toward sustainability and resilience. By aligning ETIS criteria with Brighton's strategic priorities, the study illustrates how destinations can generate data-driven action plans that address local concerns and long-term sustainability targets. It has been depicted that ETIS provides a standardised yet adaptable measurement mechanism that links stakeholder perspectives with long term sustainability objectives.

4. *The study substantiates the regularity that mixed-method designs provide a scientifically robust means of validating the stakeholder-consumer relationship in TSCM. This demonstrates that the integration of qualitative insights and quantitative analysis captures the complex interdependencies across TSCM more effectively. The Pragmatic Positivist System Stakeholder (PPSS) structure is introduced and proven effective in analysing systematic stakeholder relations, showing that methodological pluralism is essential for modelling the complexity of TSCM.*

4.1. Focus groups investigate and select ETIS standards, promoting resilient and sustainable behaviours. Completion of the two stages reveals five ETIS indicators in line with the issues of selected destination. First four used in further qualitative

interrogation were: environmental impact assessment (D1, D), economic diversification (B1, B2), stakeholder collaboration (SI), and implementation of sustainable tourism policies and destination branding (A1 & SI). The fifth selected ETIS criteria was customer satisfaction and perception (A2), used in quantitative survey. Stakeholder involvement in indicator selection ensured that assessment frameworks remained context-sensitive and operationally meaningful.

4.2. The qualitative expert interview substantiate its critical input for diagnostic systems challenges in tourism governance. It covered four areas (following first four selected ETIS criteria) - environmental impact, economic diversification, stakeholder collaboration, and sustainable policy implementation. The coverage reflected core concerns for Brighton's tourism ecosystem. Expert interviews reinforced the findings by elaborating on challenges in strategic planning, implementation, and stakeholder alignment. It also revealed the structural challenges that impede alignment between sustainability objectives and operational practices.

4.3. The quantitative visitor survey phase declared the conformity that visitor perceptions constitute a vital dimension of sustainability assessment within TSCM. The employed Statistical Framework for Measuring the Sustainability of Tourism (SF-MST) captured visitor perceptions using a 5-point Likert scale. The study analysed responses from diverse demographic groups to explore how tourists perceive sustainability efforts across sectors. The resulting data provided critical insights into sectoral strengths, weaknesses, and areas for improvement, as well as showing that incorporation of consumer perceptions into sustainability measurements provides actionable, evidence-based insights for destination management and policy refinement.

5. The applied ETIS criteria exposed gaps in stakeholder engagement and system responsiveness within Brighton's tourism supply chain, showing that while DMOs promote communication and transparency, the absence of structured feedback loops prevents community voices from influencing tourism policy and operations effectively, therefore impeding destination sustainability and resilience. This finding supports and ***confirms Statement 2.*** *According to Yayla et al. (2023),* m*anagement mechanisms without local community feedback integration limit the legitimacy and inclusivity of TSCM. This indicates that participatory management remains partial and that legitimacy of stakeholder collaboration is undermined.*

5.1. The findings confirm that tour operators and travel agencies lack systemic outreach and measurable goals for community engagement, however their economic contributions are adequate. This demonstrates that while responsible tourism efforts exist, they remain fragmented and insufficiently aligned with destination needs. Sustainable tourism requires that economic activity be matched by deliberate, measurable, community-orientated strategies.

5.2. Accommodation providers demonstrate inconsistent environmental practices and minimal involvement in cultural and community initiatives. This demonstrates

that uncoordinated efforts fall short of sector-wide environmental responsibility, therefore more coordinated and measurable green initiatives are needed to improve sustainability and resilience at destinations.

5.3. The transportation sector, while engaged with local environmental organisations, illustrates the lack of real-time monitoring systems to assess and respond to its environmental impact. This indicates that partial engagement cannot replace systematic accountability. Enhancing technology adoption could bridge this gap and improve performance on key sustainability indicators. Technological integration is essential to translate environmental commitments into measurable outcomes.

5.4. The findings establish that correcting systemic deficiencies requires multiprolonged strategies, such as stakeholder training, increased inclusivity, cross-sector communication, the adoption of digital tools, and a commitment to ongoing system adaptation. This indicates that fragmented interventions are ineffective unless integrated into coordinated strategies. These strategies are essential to aligning Brighton's tourism supply chain with long-term sustainability and resilience goals and show that adaptive and digitally supported approach is required to achieve destination goals.

6. Visitor perception data validates stakeholder performance and reveals sector-specific sustainability deficits. In accordance and ***support of Hypothesis 1****, the Destination Management Organisations (DMOs) are viewed favourably, particularly in terms of social sustainability, which shows that DMOs are perceived as socially effective. The finding correspond the results of Atasoy & Eren (2023), who indicate that DMOs act as stabilising agents within TSCM, facilitating collaboration among stakeholders. However, the accommodation and transport sectors lag on environmental and social metrics, indicating that economic contributions alone are insufficient for stakeholder legitimacy, and that measurable eco-responsibility and community integration are necessary conditions for sustainable destination performance.*

6.1. From a systematic perspective, stakeholder legitimacy in tourism is contingent on balancing economic, environmental and social performance. The findings reveal that economic contributions are dominant, indicating profit being the main operational driver. Visitors acknowledged the economic importance of the transport sector but rated it lower in social and environmental sustainability. Similarly, the accommodation industry received poor scores on green performance, indicating weak adoption of eco-friendly practices and a lack of community integration. This demonstrates that destination resilience and sustainability cannot be achieved without translating economic roles into tangible environmental responsibility and social inclusion. In other words, visitor perceptions highlight a structural misalignment between economic output and sustainability performance, making eco-responsibility and community critical conditions for stakeholder legitimacy. The present findings underscore the demand-side evaluation: consumers recognise the economic benefits, but also expect corresponding social and ecological accountability.

6.2. Tour operators and travel agencies are perceived to have moderate economic benefits but limited social contributions. This demonstrates the opportunity to design initiatives for more community-driven tourism that directly benefits host populations. It also indicates that community-driven initiatives could fill a significant gap by linking tourism revenues with tangible local benefits.

6.3. By uncovering demographic disparities in visitor satisfaction, further findings **confirm Hypothesis 3**. Younger and less affluent visitors express lower satisfaction levels, citing affordability and flexibility of sustainable offerings as key concerns. Conversely, more educated and higher-income tourists rate sustainable tourism services more favourably, indicating a growing market for premium, sustainability-oriented offerings. This indicates that sustainable tourism is unevenly accessible and risks becoming a premium offering. This finding reflects Sharpley (2020), who warned of a sustainability divide, where wealthier segments disproportionately benefit from and consume eco-friendly tourism services, while affordability remains a barrier for others.

6.4. The need of differentiated strategies that respond to the expectations of various visitor segments are underscored in the following finding, which synchronously **confirms the 2nd Hypothesis.** Providing affordable, sustainable, and tech-integrated services is essential to enhancing overall visitor satisfaction and broadening the destination's appeal. This indicates that inclusivity must be systematically embedded in tourism strategies. Prior research by Borowy (2021) has stressed that social inclusivity is a core pillar of sustainable development and without all sustainability dimensions and service affordability, destinations impose the risk of marginalisation.

7. Sustainability and resilience cannot be achieved without structured model that integrates cross-sectoral data and translates findings into practice, therefore, the research presents a comprehensive TSCM strategy model and accompanying matrix that offer guidance for building sustainable and resilient destinations. The matrix addresses the interlinked social, economic, and environmental challenges identified in Brighton, providing sector-specific strategies for implementation. The model moves beyond fragmented, sector-specific sustainability by translating identified performance gaps into actionable measures and provides operationalisation within its domain.

7.1. The matrix translates qualitative and quantitative insights into actionable measures for stakeholders, supporting eco-certification schemes, community-driven initiatives, and responsible visitor management. It offers a roadmap for aligning sectoral actions with broader sustainability objectives. The evidential integration produces implementable sustainability pathways for stakeholder actions to become more effective. The matrix confirms the validity of participatory and evidence-driven models in TSCM. Furthermore, it provides stakeholders with data-backed insights. The matrix expands on prior findings by Hartman & Papp (2024), who emphasise the importance of evidence-based management of tourism supply chains, but did not fully articulate mechanisms for translation of such evidence into actionable strategies.

7.2. The integrated TSCM strategy model encapsulates the matrix and provides a multi-dimensional approach to managing tourism destinations to improve sustainability and resilience. It supports openness, cross-sector cooperation, visitor and community engagement, and equitable economic policies. This model demonstrates that inclusive management strategies increase systemic sustainability and resilience by tackling interdependencies between environmental, social and economic domains. The scientific conformity here is that scoss-sector cooperation and inclusivity are not optional additions, but structural prerequisites for sustainable and resilient destinations. The final model empirically validates theoretical propositions in stakeholder and systems theory, accordingly addressed by Mondonedo (2021) and Rapp & Corral-Granados (2024), who emphasise interconnection and collaboration as fundamental to managing complex adaptive systems. By integrating the strategies to TSCM, the study shows how to operationalise theory into practical tool to improve sustainability and resilience in an adaptive socio-ecological system, such as destination.

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Santrauka

Sąvokų žodynas

Atspari kelionės vieta: kelionės vietos valdymas prisitaikant prie iššūkių, tokių kaip ekonomikos nuosmukis, ekologinės nelaimės bei socialiniai sutrikimai, ir atsigaunant po jų, išlaikant patrauklumą ir funkcionalumą. Čia pabrėžiamas pasirengimas krizėms, tvarus išteklių valdymas ir bendruomenės dalyvavimas siekiant užtikrinti ilgalaikį stabilumą (Saarinen ir Gill, 2020).

Kelionės vieta (kelionės tikslas, vykimo vieta): fizinė erdvė su administracinėmis ir (arba) analitinėmis ribomis arba be jų, kur lankytojas gali praleisti naktį. Tai produktų ir paslaugų, veiklos ir patirties turizmo tiekimo grandinės valdymo klasteris ir pagrindinis turizmo analizės vienetas (JTPTO, 2008; Valstybinis turizmo departamentas, 2009).

Kelionės vietos valdymas: strategijos, orientuotos į suinteresuotųjų šalių bendradarbiavimą, rinkodarą, planavimą, plėtrą, žmogiškuosius išteklius ir aplinkos valdymą (Varelas ir Tsoupros, 2024). Tai įvairių suinteresuotųjų šalių integravimas, derinant turizmo tikslus su vietos bendruomenės poreikiais, taikant strategijas, kai turizmas derinamas su augimu su tvarumu (Herasimovich ir kt., 2024).

Kelionės vietos valdymo organizacija (KVVO): organizacinis vienetas, apimantis suinteresuotąsias šalis ir skatinantis partnerystę siekiant įgyvendinti bendrą turizmo viziją. KVVO valdymo struktūros skiriasi - tai gali būti viena viešoji institucija arba

viešasis ir privatus sektoriaus partnerystės modelis. Pagrindinis vaidmuo - inicijuoti, koordinuoti ir valdyti veiklas, tokias kaip turizmo politikos įgyvendinimas, strateginis planavimas, produktų kūrimas, reklama ir rinkodara. Ne kiekviena kelionės vieta turi KVVO, o kai kurios jų turi net kelias (UNWTO, 2008).

Suinteresuotosios šalys: įmonės, turinčios interesų, akcijų turizmo tiekimo grandinėje ar darančių jau poveikį, ypač planuojant, valdant ir vykdant jos veiklą. Suinteresuotųjų šalių įtrauktis ir bendradarbiavimas ypač svarbūs, siekiant veiksmingai valdyti turizmo tiekimo grandines, ypač skatinant tvarumą ir sprendžiant kelionių vietų atsparumo problemas (Mondoñedo, 2021).

Suinteresuotųjų šalių valdymo metodas: suinteresuotųjų šalių, įskaitant vietos bendruomenes, vyriausybes ir įmones, bendradarbiavimas, siekiant koordinuoti pastangas ir tvariai valdyti turizmą. Skatina atvirą bendravimą ir atsakomybę už sprendimų priėmimą (Joshi, 2022). Valdymas, siekiant optimizuoti išteklių naudojimą, skatinti tvarumą ir didinti atsparumą (Beck ir Ferasso, 2023).

Turizmo tiekimo grandinė: turizmo organizacijų tinklas, įtraukiantis skirtingus turizmo produktų / paslaugų komponentus, tokius kaip skrydžiai ir apgyvendinimas galutiniams turizmo produktams platinti ir vykdyti rinkodarą konkrečioje kelionės vietoje, ir apimantis platų suinteresuotųjų šalių ratą tiek privačiame, tiek viešajame sektoriuose (Sifolo, 2020).

Turizmo tiekimo grandinės valdymas (TTGV): vadybos metodų, taikomų siekiant efektyviai valdyti turizmo tiekimo grandinės operacijas konkrečioje kelionės vietoje, tenkinant turistų iš tikslinių rinkų poreikius ir įgyvendinant įvairių turizmo tiekimo grandinės suinteresuotųjų šalių verslo tikslus, rinkinys (Song, 2012).

Tvari kelionės vieta: valdoma derinant ekonomikos augimą, aplinkos apsaugą ir socialinę gerovę. Pirmenybė teikiama ilgalaikiam tvarumui, mažinamas neigiamas poveikis vietos ekosistemoms ir bendruomenėms, gerinama lankytojų patirtis. Apima atsakingą išteklių valdymą, kultūros paveldo išsaugojimą ir etiško turizmo praktikos propagavimą, siekiant užtikrinti patrauklumą ateities kartoms (Joshi, 2022).

Valdymo tobulinimas (turizmo kontekste): nuolatines politikos formuotojų, suinteresuotųjų šalių ir tyrėjų pastangos subalansuoti kelionės vietų valdymą, kartu kuriant patikimas kokybės užtikrinimo sistemas. Šis procesas apima bendradarbiavimą su mokslininkais, siekiant integruoti įrodymais pagrįstas įžvalgas ir strategijas, kurios lemia ilgalaikį kelionės vietos tvarumą ir atsparumą (Gomes ir Lopes, 2023).

Įvadas

Turizmas pasaulio ekonomikos plėtros procesuose vaidina gyvybiškai svarbų vaidmenį ir pastaruoju metu jis tapo vienu sparčiausiai augančių sektorių (Abdallah ir kt., 2021). Jo reikšmė neapsiriboja vien ekonominiais aspektais - turizmas būtinas,

siekiant socialinės pažangos ir nacionalinės gerovės (Soratana ir kt., 2021). Tačiau spartus turizmo augimas, ypač populiariose kelionių vietose, kelia iššūkių, tokių kaip išteklių eikvojimas, socialinė trintis ir aplinkosaugos problemos (Vargas, 2020). Nors daugelis turizmo tiekimo grandinės valdymo (TTGV) tyrimų orientuoti į veiklos efektyvumo gerinimą, vis dar trūksta išsamios valdymo strategijos, kuri apimtų tvarumo ir atsparumo aspektus. Ši spraga atskleidžia būtinybę analizuoti turizmo tiekimo grandinės valdymą pasirinktos kelionės vietos lygmeniu.

TTGV apima suinteresuotųjų šalių veiklos organizavimą, koordinavimą ir integravimą (Barua, 2020). Bendradarbiaudami, kad užtikrintų sklandžios kelionės patirtį turistams -tikslinei auditorijai - pagrindiniai TTGV dalyviai, tokie kaip kelionės vietos valdymo organizacijos (KVVO), kelionių organizatoriai (KO), kelionių agentūros (KA), apgyvendinimo ir transporto paslaugų teikėjai, atlieka esminį vaidmenį siekdami veiklos efektyvumo. Tačiau TTGV tikslas - ne tik efektyvumas, bet ir kelionės vietos tvarumo bei atsparumo didinimas (Joshi, 2022).

Tvaraus turizmo praktika mažina neigiamą poveikį aplinkai, visuomenei ir kultūrai (Bai ir Ran, 2022). Tvarumo principų integravimas į TTGV padeda įmonėms skatinti etišką turizmą: saugoti vietos ekosistemas, didinti konkurencingumą ir užtikrinti, kad turizmas išliktų naudingas tiek vietos bendruomenėms, tiek lankytojams. Ne mažiau svarbus TTGV komponentas yra atsparumas, ypač esant krizių, tokių kaip politinis nestabilumas, stichinės nelaimės ar pandemijos (Vargas, 2020). Kelionių vietų tvarumo ir atsparumo tyrimai atskleidžia, kad atsparumas vis dažniau integruojamas į tvarumo dimensijas (Saarinen ir Gill, 2020).

Spartėjant globalizacijai, į esamus turizmo sistemos valdymo modelius reikėtų integruoti tvarumo ir atsparumo elementus. Tad akademinė bendruomenė ieško naujų strateginės analizės metodų, nes tradiciniai nepakankamai atskleidžia dinamišką turizmo pobūdį. G. Jucevičiaus ir K. Grumadaitės (2024) teigimu, nors įprasti verslo analizės metodai teikia praeities ar dabarties įžvalgų, jie nepakankamai veiksmingi prognozuojant pokyčius sudėtingoje aplinkoje. Šia disertacija siekiama tą spragą užpildyti, tiriant tvarių ir atsparių kelionių vietų sąveiką, siekiant nustatyti, kaip TTG gali būti valdomos gerinant kelionių vietas pagal šias dvi paradigmas. Dėmesys suinteresuotųjų šalių santykių - horizontalių, vertikalių ir įstrižų - valdymui atskleidžia į ateitį orientuotą, tikslingą požiūrį į kelionės vietų valdymą.

Kelionių vietų tvarumo ir atsparumo gerinimas prasideda nuo suinteresuotųjų šalių ir vartotojų sąveikos analizės TTGV kontekste (Bui, 2022; Altexsoft, 2020; Cheer ir Lew, 2018). Tai skatina į vartotoją orientuotą strategiją, kelia pasitenkinimą, puoselėja suinteresuotųjų šalių bendradarbiavimą ir kuria tvarią bei atsparią turizmo ekosistemą. Tokios sąveikos tyrimas leidžia įvertinti tvarių praktikų taikymą ir mažinti neigiamą poveikį aplinkai bei vietos bendruomenėms (Nguyen, 2020). Be to, žinios, įgytos analizuojant suinteresuotųjų šalių ir vartotojų sąveiką, skatina kelionės vietų

konkurencingumą, didina jų paklausą ir užtikrina ilgalaikę nuolat kintančio turizmo sektoriaus sėkmę (Saarinen ir Gill, 2020).

Mokslinė problema: kuris turizmo tiekimo grandinės valdymo metodas veikia kelionės vietos tvarumą bei atsparumą ir kuo šis metodas naudingas kuriant ir tobulinant TTGV modelį?

Objektas: turizmo tiekimo grandinės valdymas.

Baigiamojo darbo tikslas - sukurti turizmo tiekimo grandinės valdymo modelį, kuris pagerintų kelionės vietos tvarumą ir atsparumą.

Norint įgyvendinti disertacijos tikslą, keliami šie *tyrimo uždaviniai*:

1. Išanalizuoti turizmo tiekimo grandinės valdymo teorinius pagrindus, charakteristikas ir tarpusavio ryšius.
2. Nustatyti turizmo tiekimo grandinės valdymo metodą, kuris veikia pagrindinius tvarumo ir atsparumo kelionės vietoje elementus.
3. Pateikti teorinį suinteresuotųjų šalių ir vartotojų santykių turizmo tiekimo grandinėje valdymo vertinimo modelį, remiantis esama akademine medžiaga.
4. Taikant kokybinę ir kiekybinę analizę, pagrįsti suinteresuotųjų šalių ir vartotojų santykių elementus.
5. Apklausiant suinteresuotąsias šalis, siekiant nustatyti valdymo trūkumus, taikyti pasirinktus ETIS kriterijus.
6. Ištirti turistų tvarumo ir atsparumo suvokimą, taikant SF-MST, įvertinus suinteresuotųjų šalių apklausos rezultatus ir nustačius valdymo spragas.
7. Pateikti TTGV modelį, kurį taikant pagerėtų kelionės vietos tvarumas ir atsparumas.

Ginamieji teiginiai:

T 1: Turizmo tiekimo grandinės valdymo sektoriaus trūkumus nustatančio modelio nebuvimas neužtikrina kelionės vietos tvarumo ir atsparumo gerinimo procesų, tuo tarpu įtraukus teorinis TTGV modelis apsaugotų kelionės vietas nuo galimų iššūkių, tokių kaip per didelis turizmo srautas ir aplinkos degradacija (taikoma literatūros analizė).

T 2: TTGV kontekste bendruomenės neįtraukimas gali neužtikrinti kelionės vietos tvarumo ir atsparumo, sumažėjus vietos gyventojų paramai ir veiklų suderinamumui su bendruomenės poreikiais (nagrinėjama kokybinio tyrimo pagrindu).

Hipotezės:

H1. Tikėtina, kad kelionės vietos valdymo organizacijos bus palankiai vertinamos, atsižvelgiant į jų vaidmenį vykdant strateginį planavimą, rinkodarą ir koordinuojant tiekimo grandinės veiklą, kas yra būtina siekiant užtikrinti kelionės vietos tvarumą ir atsparumą (ANOVA testas).

H2. Būtinos pasirinktai kelionės vietai pritaikytos turizmo tiekimo grandinės valdymo strategijos, kurias įgyvendinus šalinami nustatytų sektorių (kelionės vietos valdymo organizacijų, kelionių organizatorių ir kelionių agentūrų, apgyvendinimo ir transporto paslaugų teikėjų) trūkumai (ekonominiai, aplinkosaugos ir socialiniai), taikant tvarumą ir atsparumą gerinančias praktikas (SF-MST).

H3. Tikėtina, kad jaunesni ir mažiau išsilavinę keliautojai žemesniu balu įvertins tvarias turizmo paslaugas dėl riboto jų įperkamumo. Priešingai, prognozuojama, kad didesnes pajamas gaunantys ir aukštą išsilavinimą turintys keliautojai pirmenybę teiks aukščiausios kokybės ir tvaraus turizmo pasirinkimams (sociodemografinė analizė).

Teorinė prieiga. PPSS (Pragmatizmo, pozityvizmo sistemos ir suinteresuotųjų šalių) teorinė sistema, taikanti mišrius metodus, pateikia visapusišką požiūrį į sudėtingų TTGV santykių problemų suvokimą (Gobo, 2023; Beck ir Ferasso, 2023). Literatūros apžvalgoje nagrinėjama, kaip TTGV užtikrina kelionės vietos tvarumą ir atsparumą, taikant turinio ir lyginamąją analizę, sintezę ir apibendrinimą. Teorija nagrinėja TTGV vaidmenį, remiantis kelionės vietų tvarumo ir atsparumo svarbą pabrėžiančia sistema. Šioje dalyje pristatomos ir SSGG (stiprybių, silpnybių, galimybių ir grėsmių) bei GGSS (grėsmių, galimybių, silpnybių ir stiprybių) analizės, siekiant nustatyti pasirinktos kelionės vietos valdymo problemas. Taikomos teorinėje dalyje, SSGG ir GGSS analizės gerina strateginių įžvalgų ir turizmo tiekimo grandinės valdymo sprendimų priėmimą, sudarydamos struktūruotą pagrindinių strateginių veiksnių vertinimo sistemą (Madsen, 2016).

Empirinė prieiga. Empiriniame tyrime taikoma mišrių metodų strategija. Disertacija apima tris tyrimus:

Pirmas kokybinis tyrimas. Diskusijų (angl. *focus*) grupės, siekiant atrinkti tinkamus ETIS (Europos turizmo rodiklių sistemos) kriterijus pagal pasirinktą kelionės vietą.

Antras kokybinis tyrimas. Pagal pasirinktus kriterijus atliktas ekspertų interviu, taikant pusiau struktūruotą metodą, kuris leido užduoti konkrečius klausimus ir padėjo geriau suprasti turizmo tiekimo grandinės valdymo trūkumus.

Kiekybinis tyrimas - 412 turistų apklausta, siekiant įvertinti tvarios ir atsparios suinteresuotųjų šalių praktikos įgyvendinimo pasirinktoje kelionės vietoje suvokimą. Statistinė analizė, atlikta naudojant *Microsoft Excel 2016*, *SPSS Statistics 23.0* analizė leido suformuluoti išvadas.

Tyrimų rezultatai apibendrinti, siekiant TTGV vaidmens, gerinant kelionės vietos tvarumą ir atsparumą, visapusiško suvokimo. Tyrimu siekta suteikti vertingų įžvalgų politikos formuotojams, suinteresuotosioms šalims, turistams ir tyrėjams.

Mokslinė disertacijos reikšmė

1. Disertacijoje pirmą kartą Lietuvoje išanalizuota ir susisteminta mokslinė literatūra apie turizmo tiekimo grandinės valdymo (TTGV) teorinę konceptualizaciją bei kelionės vietų tvarumo ir atsparumo didinimą.
2. Ištirti pagrindinių penkių suinteresuotųjų šalių (kelionės vietos valdymo organizacijų, kelionės organizatorių bei agentūrų, apgyvendinimo ir transporto sektorių bei turistų) santykiai turizmo tiekimo grandinę valdant kelionės vietos lygmeniu, iki šiol jie nagrinėti daugiausia trišaliu aspektu.
3. Įtvirtintas tvarių ir atsparių kelionės vietų vystymąsi skatinantis TTGV būdas. Tokio integruoto požiūrio ankstesniuose tyrimuose nebuvo.
4. Išanalizavus mokslinę literatūrą, sukurtas teorinis karkasas, apimantis suinteresuotųjų šalių ir vartotojų santykių valdymą, suderintas su konceptualiąja disertacijos dalimi.
5. Nustatyti sektoriui būdingi trūkumai TTGV praktikoje, susiję su nepakankamu tvarumo tikslų įgyvendinimu, vartotojų poreikių tenkinimu, negebėjimu prisitaikyti, neatsparumu ir nepasirengimu krizinėms situacijoms.
6. Sukurtas modelis, kurį taikant šalinami nustatyti trūkumai, tobulinamas TTGV, didinamas kelionės vietų tvarumas ir atsparumas, kartu numatant jo pritaikomumą panašiose kelionės vietose.
7. Pagrįstos ir pritaikytos metodologinės naujovės - ETIS (Europos turizmo identifikavimo sistema) ir SF-MST (angl. *Statistical framework for measuring sustainability of tourismstatistinė* - turizmo tvarumą matuojanti sistema) - taikymas vertinant turizmo vietovės tvarumą ir atsparumą, TTGV tyrimuose tai naujas empirinių metodų derinys.

Praktinė disertacijos reikšmė:

1. Nustatytos neveiksmingos TTGV suinteresuotųjų šalių veiklos sritys, kurių praktikai ir politikos formuotojai iki šiol nebuvo pakankamai įvertinę.
2. Užpildyta esminė spraga, pasiūlius konkretų TTGV modelį, kurį taikant gerinamas kelionės vietų tvarumas ir atsparumas.
3. Empiriškai įrodytas teigiamas poveikis: veiksmingas suinteresuotųjų šalių ir vartotojų santykių valdymas didina kelionės vietos tvarumą ir atsparumą, padeda spręsti perteklinio turizmo ir aplinkos blogėjimo problemas.
4. Sukurta pagrįsta metodologija ir pritaikyti analitiniai metodai, kuriuos gali plačiai taikyti tiek kiti tyrėjai, tiek praktikuojantieji.
5. Pasiūlytos rezultatais pagrįstos rekomendacijos konkretiems TTGV dalyviams (kelionės vietos valdymo organizacijoms, kelionių organizatoriams bei agentūroms, apgyvendinimo ir transporto sektoriaus paslaugų tiekėjams), pritaikomos realiose kelionės vietose.

6. Didinamas kelionės vietos konkurencingumas: siūlomas modelis leidžia kelionės vietoms greičiau atsigauti po krizių, išlaikyti paslaugų tęstinumą ir kurti pridėtinę vertę tiek suinteresuotosioms šalims, tiek vietos bendruomenėms, tiek lankytojams.
7. Sukurta jungiamoji mokslo ir praktikos funkcija: pateikti rezultatai papildo esamas turizmo teorijas, be to, gali būti pritaikomi turizmo tiekimo grandinės valdymo praktikoje, siekiant gerinti kelionės vietų tvarumą ir atsparumą.

Atliekant tyrimą laikytasi šių etikos principų: sąžiningumo, savanoriško dalyvių sutikimo, kompetencijos, tyrėjo atsakomybės, privatumo, anonimiškumo, konfidencialumo.

Glausta disertacijos turinio apžvalga

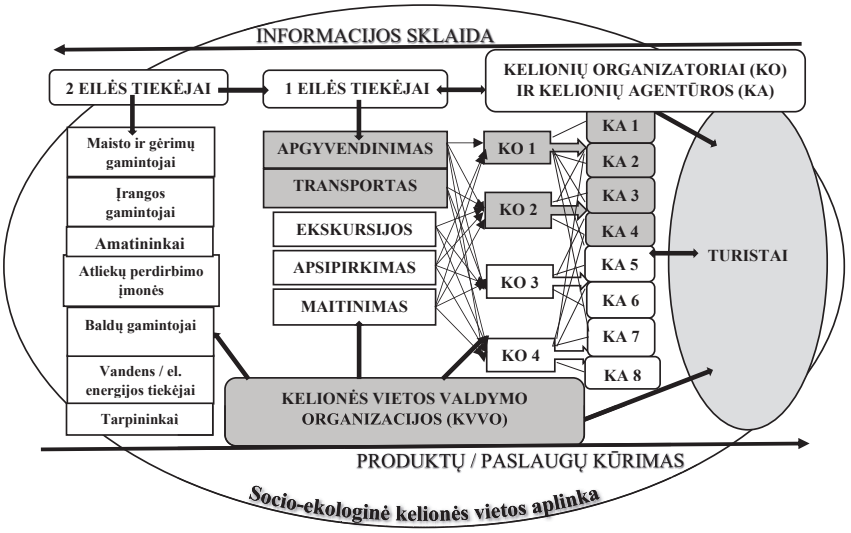
Teorinė dalis. Turizmo tiekimo grandinės valdymo (TTGV) koncepciją pirmą kartą pristatė Pasaulio turizmo organizacija (UNWTO) 1975 m., daugiausia dėmesio skirdama tiekimo tinklams ir rinkodaros veiklai (Song, 2012). Pasak H. Song (2012), TTGV pabrėžia sudėtingus įvairių turizmo ekosistemos suinteresuotųjų šalių tarpusavio ryšius, siekiant užtikrinti sklandų prekių, paslaugų ir informacijos srautą. Nors XX a. dešimtajame dešimtmetyje pradėti tyrimai analizavo pavienius turizmo tiekimo grandinės aspektus, daugiausia dėmesio skirta konkretiems grandinės dalyviams, pavyzdžiui, viešbučiams ar transporto įmonėms bei tam tikroms problemoms, tokioms kaip tiekimo ar atsargų valdymas. Vis dėlto turizmo tiekimo grandinės valdymas veikia kaip dinamiško tinklo dalis (Min, 2015).

Tyrėjai skiria tris pagrindines TTGV funkcijas: projektavimo, koordinavimo ir tinklo valdymo (Christopher, 2011). Pažymėtina, kad turizmo tiekimo grandinės valdymu mokslininkai labiau ėmė domėtis neseniai, plečiant „turizmo tiekimo grandinės valdymo“ koncepcijos įgyvendinimą (Zhang ir kt., 2019). Koncepcija apima suinteresuotųjų šalių tinklą ir procesus, kurie susiję su turizmo produktų bei paslaugų tiekimu vartotojams (Bire ir kt., 2021; Song, 2012). Tinklo dalyviai - turizmo paslaugų tiekėjai, kelionių organizatoriai, kelionių agentūros ir vartotojai - glaudžiai tarpusavyje susiję, tad jų bendradarbiavimas neišvengiamas (Ghaderi ir kt., 2018). Pasak S. Joshi (2022), vienas iš esminių TTGV aspektų - pasitikėjimu grįstas suinteresuotųjų šalių bendradarbiavimas, siekiant gerinti paslaugų pasiūlą ir priimti rinkos keliamus iššūkius. D. De Marchi ir kt. (2022) pabrėžia, kad įvairių paslaugų teikėjų sinergijos integravimas leidžia gerinti veiklos rezultatus ir turistų patirties kokybę. Turizmo tiekimo grandinę veikia ir išoriniai veiksniai, tokie kaip krizės ar įmonių socialinė atsakomybė, kurie formuoja suinteresuotųjų šalių sąveiką ir skatina tvarios praktikos taikymą (Bertella, 2022).

Šiame tyrime remiamasi P. P. Sifolo (2020) pateiktu apibrėžimu, pagal kurį turizmo tiekimo grandinė yra turizmo organizacijų tinklas, teikiantis įvairius turizmo produktų ar paslaugų komponentus, pvz., skrydžius, apgyvendinimą, kurie skirti galutinio turizmo produkto rinkodarai ir platinimui konkrečioje kelionės vietoje. Šis tinklas apima platų privataus ir viešojo sektorių dalyvių spektrą. Veiksmingas suinteresuotųjų šalių valdymas ypač svarbus siekiant pagerinti veiklos rezultatus ir užtikrinti kelionės vietos tvarumą bei atsparumą (Joshi, 2022). Veiksmingas TTGV lemia aukštos kokybės turizmo patirtį (Mandal ir Dubey, 2020). Skatinant vietos bendruomenių, kelionių organizatorių ir vyriausybinių institucijų bendradarbiavimą, TTGV reikšmingai prisideda prie tvaraus turizmo plėtros, pagrįstos ekonominiu gyvybingumu, socialiniu teisingumu ir aplinkos apsauga (Joshi, 2022).

Pasak H. Song (2012), TTGV - tai valdymo metodų visuma, siekiant užtikrinti turizmo tiekimo grandinės procesų veiksmingumą konkrečioje kelionės vietoje, tenkinant turistų - tikslinių vartotojų grupių poreikius ir įgyvendinti įvairių suinteresuotųjų šalių verslo tikslus. Pagrindinis TTGV aspektas, kuris yra ir šio tyrimo pagrindas, - tvarumo ir atsparumo integravimas kelionės vietose. Tai leidžia mažinti krizių keliamą riziką, didinti veiklos efektyvumą ir gerinti turistų patirtį (Santos ir kt., 2021). Ši integracija apima turizmo tiekimo grandinės suinteresuotųjų šalių vaidmenų ir tarpusavio sąveikų analizę, siekiant užtikrinti efektyvią veiklos koordinaciją (Joshi, 2022; Babu ir kt., 2018). Suinteresuotųjų šalių santykiai turi būti valdomi atsakingai, siekiant išlaikyti kelionės vietos konkurencingumą ir sušvelninti ekonominių bei aplinkosaugos trikdžių poveikį (Gonzalez-Torres ir kt., 2021).

X. Zhang ir kt. (2019) rekomenduoja TTGV nagrinėti kaip į kelionės vietas integruotą „dinaminę sistemą“ (p. 342). Tokios sistemos pasižymi nuolatine kaita, gebėjimu persikonfigūruoti krizių laikotarpiais ir sudėtingais tarpusavio ryšiais, kai būtina atnaujinti valdymo strategijas. Tinkamo tinklo konfigūracijos supratimas leidžia optimizuoti koordinavimą, skatina bendradarbiavimą ir padeda nustatyti tobulintinas TTGV sritis. Tai leistų veiksmingiau priimti sprendimus dėl įvairių veiklos aspektų, įskaitant paklausos prognozavimą, tiekimo grandinės projektavimą, atsargų valdymą ir produktų kūrimą (Song, 2012). Taip užtikrinamas racionalus ir efektyvus TTGV. H. Song (2012), S. Joshi (2022), J. Saarinen ir A. Gill (2022) pristato TTGV struktūrą. Atsižvelgiant į disertacijos tikslą, analizuotas TTGV kelionės vietos lygmeniu, siūlomas apibendrintas struktūros modelis, pateiktas 1 paveiksle.



1 paveikslas. Turizmo tiekimo grandinės valdymo kelionės vietoje modelis

Sudaryta autorės, remiantis Joshi, 2022; Fong ir kt., 2021; Saarinen ir Gill, 2020; Silvestre, 2016; Dragan ir kt., 2015; Song, 2012

Pastabos: *2 eilės tiekėjai → 1 eilės tiekėjams* rodo medžiagų tiekimo procesą (produktų srautas); *1 eilės tiekėjai → KO/KA* - turizmo paslaugų tiekimas (paslaugų srautas); *KO/KA → turistai* - paslaugų / turizmo paketų teikimas (paslaugų srautas); *KO ↔ KA* - koordinavimas, bendradarbiavimas ir bendrų paslaugų teikimas; *KVVO → 1 eilės tiekėjai / KO/KA / turistai* - valdymas, skatinimas ir reguliavimas; informacijos sklaida vyksta grįžtamojo ryšio principu: *tiekėjai → KO/KA ↔ turistai* - teikia savo pageidavimus bei nusiskundimus, taip reguliuodami paklausą ir tendencijas.

Turizmo tiekimo grandinės centre yra pagrindiniai paslaugų teikėjai, tokie kaip apgyvendinimo sektoriaus įmonės, transporto bendrovės, ekskursijų paslaugų į lankytinas vietas teikėjai bei kelionių organizatoriai su agentūromis (žr. 1 pav.). Kaip pirmosios eilės teikėjai, šie subjektai, teikdami įvairias paslaugas, tiesiogiai formuoja turistų patirtis. Tarpininkai (kelionių organizatoriai) bei platintojai (internetinės platformos, kelionių agentūros) susieja vartotojus su paslaugų teikėjais, taip gerindami paslaugų prieinamumą ir pasiekiamumą (Silvestre, 2016; Song, 2012).

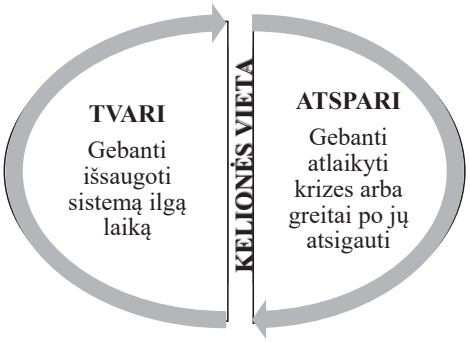
Antrosios eilės tiekėjai papildo turizmo struktūros pagrindą, aprūpindami būtinomis priemonėmis, tokiomis kaip maisto produktai, įranga, technologijos, kurios tiesiogiai veikia teikiamų paslaugų kokybę bei verslo reputaciją. Kelionės vietų valdymo organizacijos (KVVO), veikiančios tiek viešajame, tiek privačiame sektoriuose,

bendradarbiauja su turizmo verslais, siekdamos populiarinti kelionės vietas ir didinti jų konkurencingumą (Singh, 2014; Song ir kt., 2012). Vyriausybinės institucijos dažnai atlieka KVVO funkcijas, reguliuodamos infrastruktūros plėtrą, saugumą, licencijavimą, apmokestinimą bei tvarumo politiką (Song, 2012; Batinić, 2018; Baggio ir kt., 2010), tai esminiai turistų pasitikėjimą ir teisės aktų laikymąsi užtikrinantys aspektai. Socioekologinė kelionės vietos aplinka apima tarpusavyje susijusias socialines, ekologines, politines ir valdymo sistemas (Glyptou, 2021; Beichler ir kt., 2014), įskaitant gamtos išteklius, kultūros paveldą, vietos bendruomenes ir ekonomines sąlygas (Beaumont ir Dredge, 2010), kurios kartu lemia turizmo tvarumo ir atsparumo potencialą.

Kelionės vietos tvarumas ir atsparumas yra esminiai turizmo tiekimo grandinės valdymo (TTGV) veiksmingumo principai (Glyptou, 2021), tiesiogiai priklausantys nuo išteklių valdymo bei vietos gebėjimo prisitaikyti prie išorinių pokyčių. Prioritetizuojant etišką praktiką ir aplinkos apsaugą per veiksmingą suinteresuotųjų šalių valdymą, kelionės vietos tenkina turistų lūkesčius, kartu išsaugodamos vietos ekosistemas bei užtikrindamos bendruomenių gerovę. Tvarių kelionės vietų koncepcija yra dinamiška ir tampa vis svarbesnė pasaulinėje turizmo pramonėje (Saeed ir Kersten, 2019). Šiame tyrime remiamasi S. Joshi (2022) siūlomu apibrėžimu, kuriame tvari kelionės vieta suprantama kaip vieta, kur suderinti ekonominis augimas, aplinkos apsauga ir socialinė gerovė. Pirmenybė teikiama ilgalaikiam tvarumui, siekiant mažinti neigiamą poveikį vietos ekosistemoms ir bendruomenėms bei gerinti turistų patirtį.

Atsparios kelionės vietos geba atsigauti po ekonominių krizių, ekologinių katastrofų ar socialinių sutrikimų, išlaikydamos savo patrauklumą ir vertę. Siekiant ilgalaikio stabilumo, ypač svarbu tinkamai pasirengti krizėms, tvariai valdyti išteklius, bendradarbiauti TTGV suinteresuotosioms šalims ir įsitraukti vietos bendruomenėms. Per TTGV atsparios kelionės vietos investuoja į infrastruktūrą, diversifikuoja paslaugų pasiūlą ir kuria vietinius partnerystės tinklus, tai mažina rizikas bei leidžia pasiruošti netikėtoms krizėms (Saarinen ir Gill, 2020). Kartu integruoja ekologinius ir socialinius procesus, lavina prisitaikymo gebėjimus ir transformuojasi nuolat mokydamosi ir diegdamos naujoves, naikindamos dirbtinę ribą tarp natūralios ir žmogaus aplinkos (Saarinen, 2018).

Nors tvarumas daugiausia akcentuoja ilgalaikę ekonominių, aplinkosauginių ir socialinių aspektų darną, atsparumas labiau susijęs su gebėjimu greitai reaguoti ir atsigauti po sukrėtimų (Espiner ir kt., 2017). Abi šios paradigmos yra svarbios ir viena kitą papildo, kuriant atsakingas ir ~~k~~konkurencingas kelionės vietas. Nepaisant erdvės ir laiko mastelio skirtumų, šiame tyrime atsparumas laikomas integralia tvarumo sampratos dalimi. Nepaisant augančio dėmesio, mokslinėje literatūroje vis dar trūksta tyrimų, kurie analizuotų TTGV potencialą, užtikrinant kelionės vietų tvarumą ir atsparumą (Joshi, 2022). Atsižvelgiant į šį nustatytą tyrimų trūkumą, šiame darbe pasirinkta integruoti atsparumo koncepciją, grindžiamą dinaminio sisteminio požiūrio principais, kaip tai pavaizduota 2 paveiksle (Long ir Chen, 2021; Berkes ir Ross, 2013).



2 paveikslas. Tvarios ir atsparios kelionės vietos modelis per laiko prizmę

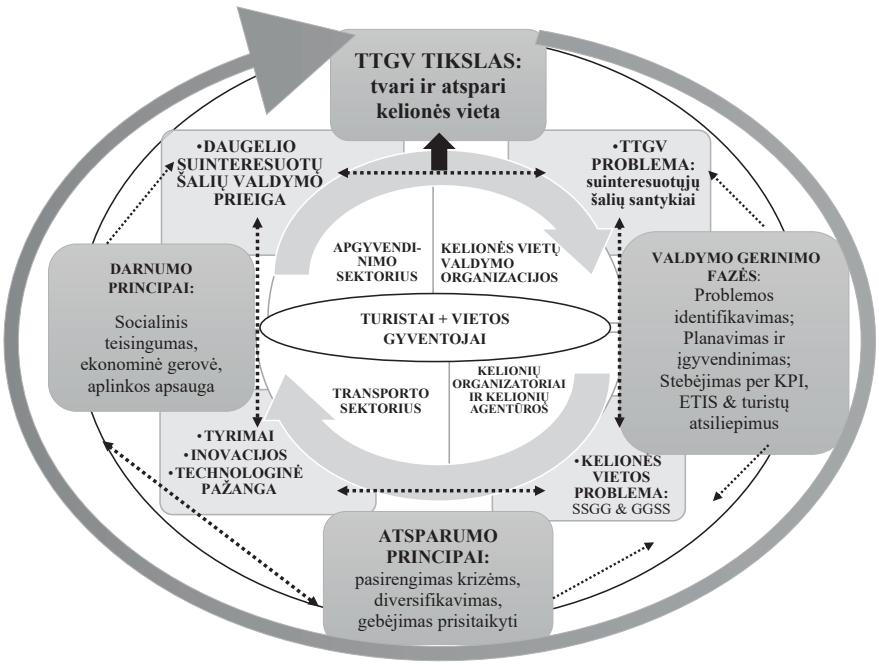
Sudaryta autorės, remiantis Joshi, 2022; Long ir Chen, 2021; Saarinen ir Gill, 2020

Turizmo tiekimo grandinės valdymas turi taip išvystyti kelionės vietą tvarumo ir atsparumo aspektais (žr. 2 pav.), kad būtų galima įveikti netikėtus aplinkos, ekonominius ar socialinius sukrėtimus (Hussain, 2021). Atsparios kelionių vietos turi būti gana lanksčios, gebėti greitai reaguoti į iššūkius bei sąlygų pokyčius, spręsti neapibrėžtumo keliamas problemas, išlaikydamos tvarumą, kartu mažindamos neigiamą poveikį aplinkai ir vietos bendruomenėms, skatindamos prisitaikomumą (McCool ir Bosak, 2016; Tyrrell ir Johnson, 2015).

Ankstesniuose tyrimuose analizuotos tvaraus turizmo valdymo metodikos (Dada ir kt, 2023; Glyptou, 2021; Altexsoft, 2020; Batinić, 2018; Amore ir Hall, 2016), kurių rezultatai rodo bendrą tikslų kryptį, tačiau pabrėžia sudėtingą poveikį kelionės vietoms. Siekiant tvarumo, TTGV būtinas atsparumas ir gebėjimas prisitaikyti, turizmo sektorių naudojant kaip transformacijos priemonę (Gupta ir Sahu, 2022).

Šioje disertacijoje palaikomas daugelio suinteresuotųjų šalių įtraukties modelis TTGV kontekste, kuris skatina pasitikėjimą, bendrą supratimą ir pritaikytus sprendimus, į sprendimų priėmimo procesus įtraukiant tiek vietos suinteresuotąsias šalis, tiek turistus (Joshi, 2022; Leslie, 2015). Tokia prieiga skatina lankstumą, inovacijas, mokymąsi bei didina prisitaikomumą ir atsparumą (Lew ir Cheer, 2018). Kartu akcentuojama vietos bendruomenių autonomija, atskaitomybė bei veiksminga komunikacija vertikaliuoju, horizontaliuoju ir įstrižuoju lygmenimis, siekiant spręsti kompleksines valdymo užduotis. Tvarumas ir atsparumas laikytini esminiais kelionės vietos ir TTG valdymo sistemos principais (Joshi, 2022). Daugelio suinteresuotųjų šalių įtraukimas padeda šiuos tikslus įgyvendinti, skatinant dalijimąsi ištekliais, rizikų mažinimą ir regionų socialinių bei ekologinių sistemų inovacijas (Biao, 2014), taip siekiant aplinkosaugos ir ekonominių interesų pusiausvyros.

Analitiniai įrankiai, tokie kaip SSGG (stiprybės, silpnybės, galimybės, grėsmės) ir GGSS (galimybės, grėsmės, stiprybės, silpnybės) analizės bei įvairūs turizmo plėtros rodikliai padeda šį tikslą įgyvendinti, identifikuodami pažeidžiamumo taškus ir formuodami analize pagrįstas vietos poreikiams pritaikytas strategijas (žr. 3 pav.).



3 paveikslas. Teorinis turizmo tiekimo grandinės valdymo, siekiant padidinti paskirties vietos tvarumą ir atsparumą, modelis

Sudaryta autorės, remiantis Chowdhury ir kt., 2024; Joshi, 2022; Zhaobo ir kt., 2019; Saeed ir Kersten, 2019; Hussain ir kt., 2015; Song, 2012; Carter ir Rogers, 2008; Seuring ir Muller, 2008

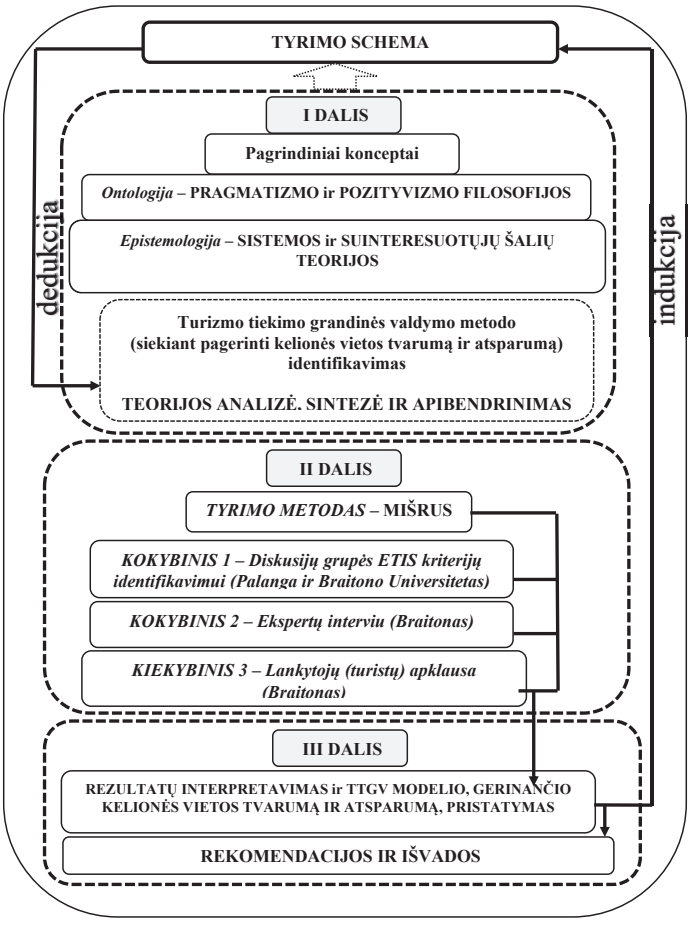
Pateiktame 3 paveiksle pavaizduotas teorinis turizmo tiekimo grandinės valdymo procesas, siekiant kelionės vietos tvarumo ir atsparumo. Modelio esmę sudaro turistų, bendruomenių ir pagrindinių suinteresuotųjų šalių (kelionių organizatorių ir agentūrų, apgyvendinimo, transporto ir kelionės vietos valdymo organizacijų) sąveika. Ši veikla grindžiama tvarumo ir atsparumo principais ir įtvirtina įvairių suinteresuotųjų šalių valdymo metodą. Vientisos rodyklės rodo kryptingą, nuolatinį valdymo ir tobulinimo proceso srautą; punktyrinės - santykius, sąveikas ir grįžtamojo ryšio ciklus. Jos parodo, kaip nustatytos problemos ir nuolatinio tobulinimo etapai integruojami į centrinį valdymo ciklą, esantį ovale ir apimantį visą sistemą, demonstruojant nuolatinį, kartotinį grįžtamojo ryšio ciklą, kuris būtinas siekiant prisitaikyti ir ilgalaikės sėkmės.

Pirmasis modelio etapas apima kelionės vietos iššūkių nustatymą, pasitelkiant tokias analizės priemones kaip SSGG (stiprybės, silpnybės, galimybės, grėsmės) ir GGSS (galimybės, grėsmės, stiprybės, silpnybės) (Carter ir Rogers, 2008). Ši analizė atskleidžia sisteminį neveiksmingumą (Song, 2012), kuris leidžia parengti individualizuotą kelionės vietos TTGV gerinimo planą (Zhaobo ir kt., 2019). Įgyvendinimo stadijoje numatomas aktyvus suinteresuotųjų šalių įtraukimas, technologinių sprendimų integravimas bei paslaugų teikimo adaptavimas. Nuolatinė stebėsena vykdoma taikant veiklos rodiklius, apklausas ir grįžtamojo ryšio analizę (Joshi, 2022), taip įvertinama pažanga ir užtikrinamas veiksmingas TTGV bei kelionės vietos tvarumo ir atsparumo stiprinimas.

SSGG ir GGSS analizės atskleidžia konkrečius pasirinktos kelionės vietos valdymo iššūkius, vidines stiprybes derinant su išorinėmis galimybėmis (Asadpourian ir kt., 2020). Jos leidžia pagrįsti suinteresuotųjų šalių įtraukimą bei tikslingą valdymo tobulinimą. Vis dėlto šioms analizės priemonėms trūksta kiekybinio matmens, tai riboja jų efektyvumą nustatant prioritetinius veiksmus (Espiner ir kt., 2017). Ši problema gali būti sprendžiama integruojant išmatuojamus turizmo rodiklius, kurie apima aplinkosauginius, socialinius, ekonominius ir kultūrinius aspektus. Taip didinamas valdymo nuoseklumas, kelionės vietos tvarumas ir atsparumas, įgalinamas sprendimų priėmimas realiuoju laiku (Robinson ir Carson, 2016; Venkatachalam ir kt., 2020).

ETIS pripažįstama tinkamiausia vertinant suinteresuotųjų šalių tvarumo ir atsparumo suvokimą dėl jos visapusiško metodologinio požiūrio bei taikymo tinkamumo įvairioms kelionės vietoms (Cimbaljević ir kt., 2023; De Marchi ir kt., 2022; EC, 2016; Cannas ir Theuma, 2013). ETIS rodikliai apima keturis pagrindinius aspektus - aplinkosauginį, ekonominį, socialinį bei valdymo - ir suteikia struktūruotą kelionės vietos tvarumo bei atsparumo vertinimo pagrindą. Šių standartizuotų rodiklių taikymas leidžia atlikti nuoseklią analizę, palyginti skirtingas kelionės vietas ir identifikuoti gerąją praktiką (Gasparini ir Gasparini, 2021). Šiame tyrime ETIS pasirinkta kaip tinkamiausia TTGV suinteresuotųjų šalių tvarumo ir atsparumo stiprinimo supratimo vertinimo rodiklių sistema Braitono (Jungtinė Karalystė) ir Palangos (Lietuva) atvejais.

Metodologinė dalis. Remiantis P. Piboonrungroj ir S. M. Disney (2009), kuriant tyrimo struktūrą būtina apibrėžti tyrimo pobūdį lemiančias filosofines prielaidas. Tyrėjai į tyrimo dizainą integruoja savo pasaulėžiūrą, paradigmas ar vertybines nuostatas, kurios formuoja tiek tyrimo eigą, tiek jo rezultatų interpretavimą. J. Tribe ir kt. (2015) pabrėžia, kad aiški tyrėjo paradigminė pozicija atskleidžia ontologines ir epistemologines nuostatas, kurios sudaro metateorinį metodų ir tyrimo sampratos sąveikos pagrindą. Kruopšti šios sąveikos analizė būtina, siekiant suprasti ir pagrįsti tyrimo dizaino pasirinkimus (žr. 4 pav.).



4 paveikslas. Loginė tyrimo schema

Sudaryta autorės, remiantis Gore ir kt., 2024; Tribe ir kt., 2015

Kaip pavaizduota 4 paveiksle, šio tyrimo metodologinį pagrindą sudaro šios teorinės ir filosofinės kryptys: pragmatizmo ir pozityvizmo filosofijos, sistemų bei suinteresuotųjų šalių teorijos, teorinės medžiagos analizė ir mišrių metodų empirinė prieiga. Pragmatizmas ir pozityvizmas, kartu su sistemų ir suinteresuotųjų šalių teorijomis leidžia struktūruotai analizuoti sudėtingą turizmo tiekimo grandinės valdymo dinamiką bei kelionės vietų valdymo procesus (Gobo, 2023; Beck ir Ferasso, 2023). Ši tyrimo paradigma leidžia integruoti ekspertų įžvalgas ir vartotojų lūkesčius, gilinantis į tai, kaip suinteresuotųjų šalių sąveika veikia tvarumą ir atsparumą (Groenewald ir kt., 2024). Siekiant ištirti, kaip tvarumo ir atsparumo principai įgyvendinami Braitono

atveju, atlikta kelionės vietos ir dokumentų analizė, pagrindusi tyrimo teiginius ir patvirtinusi išvadas.

Diskusijų grupės. Diskusijų grupių tyrimo tikslas - atrinkti ir susisteminti pasirinktai kelionės vietai tinkamus ETIS kriterijus. Pirmasis etapas vyko 2024 m. sausio 30 d. Palangoje, ekspertams surengta dviejų valandų trukmės diskusija akis į akį. Antrasis etapas įvyko 2024 m. vasario 15 d. Braitone, kur vyko vienos valandos diskusija dėl kriterijų aktualumo ir jų taikymo Braitono kelionės vietos valdymo kontekste. Remiantis šia diskusija, iš anksčiau atrinktų septynių ETIS kriterijų nustatytos penkios prioritetinės sritys: tvarumo kriterijai, susiję su poveikio aplinkai rodikliais, priskirti transporto sektoriui; atsparumo rodikliai, susiję su ekonomine diversifikacija, priskirti apgyvendinimo sektoriui; veiklos efektyvumo rodikliai (bendradarbiavimas tiekimo grandinėje), taikytini KO ir KA; politikos efektyvumo kategorija, apimanti tvaraus turizmo politikos įgyvendinimą ir kelionės vietos prekių ženklo formavimą, priskirta KVVO. Pirmieji keturi kriterijų rinkiniai tapo kokybinio ekspertų interviu tyrimo pagrindu. Penktasis - turizmo patirties rodiklis - įtrauktas į kiekybinio tyrimo etapą.

Ekspertų interviu. Ekspertų interviu tikslas - pasitelkiant atrinktus ETIS kriterijus, surinkti suinteresuotųjų šalių ekspertų įžvalgas dėl jų indėlio į tvarumo ir atsparumo didinimą Braitone bei nustatyti esamas spragas. Interviu vykdytas 2024 m. vasario-kovo mėnesiais. Susitikimai vyko gyvai, pokalbių trukmė - iki 30 minučių. Ekspertai atrinkti per platformą „VisitBrighton“. Iš viso dalyvauti sutiko 28 suinteresuotųjų šalių atstovai.

Turistų apklausa. Turistų apklausos tikslas - įvertinti jų suvokimą apie suinteresuotųjų šalių indėlį gerinant kelionės vietos tvarumą ir atsparumą. Apklausos vykdytos 2024 m. gegužės - rugpjūčio mėnesiais, klausimyną sudarė dvi dalys: (1) sociodemografinė informacija ir (2) požiūris į tvaraus turizmo plėtrą, taikant UNWTO statistinę turizmo tvarumo matavimo sistemą SF-MST (UNWTO, 2024; Dwyer, 2024). SF-MST apibrėžia tris pagrindines suinteresuotųjų šalių grupes:

1. duomenų kūrėjai (KVVO) - kaupia palyginamus ir patikimus statistinius duomenis;
2. duomenų administratoriai (KO ir KA) - duomenų sintezei naudoja standartizuotas klasifikacijas ir struktūras;
3. sprendimų priėmėjai (transporto ir apgyvendinimo sektoriai) - taiko SF-MST, kaip bendrą politikų įgyvendinimo vertinimo sistemą.

SF-MST leidžia integruoti turizmo statistiką į tokias politikos sritis kaip klimato kaita, žiedinė ekonomika, pasirengimas nelaimėms, užimtumas ar kultūrinis paveldas (Tarigan ir kt., 2024; Tejada ir kt., 2021).

Rezultatai. Vykdant ***ekspertų interviu*** nustatyti esminiai Braitono TTGV sistemos trūkumai. Atsižvelgiant į nustatytas spragas, pasiūlytos strategijos (žr. 5 pav.), kaip siekti tvarumo ir atsparumo taikant technologinę integraciją, diegiant grįžtamojo ryšio

mechanizmus ir skatinant bendruomenės įtrauktį. Siekiant veiksmingai taikyti priemones, būtini matuojami rodikliai, kurie siekius paverstų praktiniais veiksmais. Visa turizmo tiekimo grandinės sistema, įskaitant viešuosius pirkimus ir infrastruktūrą, turi būti suderinta su tvarumo principais, kad būtų pasiektas nuoseklus TTGV efektyvumas.

5 paveikslas. Turizmo tiekimo grandinės valdymą gerinančios strategijos

Sudaryta autorės po ekspertų interviu

Turizmo tiekimo grandinės valdymo trūkumų šalinimas apima keletą strategijų (5 pav.), įskaitant kelionės vietos pajėgumų didinimą, bendradarbiavimo, komunikacijos ir įtraukumo skatinimą, technologinių naujovių diegimą bei matavimų taikymą.

Kaip pažymi Ji ir kt. (2024), į tvarumą orientuotos kultūros kūrimas yra transformacinis procesas, kuris galiausiai didina kelionių vietų atsparumą ir užtikrina lankytojų pasitenkinimą.

Lankytojų (turistų) apklausoje dalyvavo 412 turistų, kurie lankėsi Braitone. Dalyvių grupėje daugiausia buvo vyrų (n = 211), moterų buvo mažiau (n = 176), dar mažesnė dalis savo lyties nenurodė (n = 25). Analizė atskleidė, kad dauguma respondentų priklausė 45-64 (n = 207) ir 25-44 (n = 144) amžiaus grupėms, tuo tarpu jaunesnių (<25, n = 32) ir vyresnių (>65, n = 29) dalyvių buvo mažiau. Išsilavinimo aspektu dažniausia buvo bakalauro (n = 146) ir magistro (n = 109) kvalifikacija, mažiau buvo turinčiųjų tik vidurinės mokyklos diplomą (n = 49) arba daktaro laipsnį (n = 13). Užimtumo aspektu didžiausią grupę sudarė savarankiškai dirbantys asmenys (n = 170), po jų - dalinai (n = 127) ir visu etatu (n = 88) dirbantys asmenys. Vidutinės pajamos sudarė 30-70 tūkst. GBP (n = 259).

Vidutinės reikšmės atskleidžia aiškią hierarchiją, kaip respondentai vertina skirtingus Braitono turizmo tiekimo grandinės valdymo sektorius. Kelionės vietos valdymo organizacijų (KVVO) sektorius įvardijamas kaip efektyviausias komponentas, ypač dėl jo vaidmens koordinuojant rinkodaros, strateginio planavimo bei kelionės vietos valdymo veiklas. Aukštas šio sektoriaus įvertinimas atskleidžia respondentų pripažinimą, kad KVVO atlieka esminį vaidmenį skatinant tvaraus turizmo praktiką. Tuo tarpu kelionių organizatorių ir kelionių agentūrų (KO ir KA) bei transporto sektoriai gavo šiek tiek žemesnius įvertinimus - jų indėlis pripažįstamas, bet nurodomos tobulintinos sritys, ypač susijusios su paslaugų kokybe ir tvarumo integravimu į aplinkosaugos veiklas. Gerokai žemesnis apgyvendinimo sektoriaus įvertinimas signalizuoja būtinybę imtis tikslingų veiksmų, sprendžiant ekonominės naudos, socialinės įtraukties ir poveikio aplinkai problemas.

Tvarumo ir atsparumo matavimas erdvinėmis skalėmis (SF-MST) skatina suinteresuotųjų šalių bendradarbiavimą ir tarpsektorinį koordinavimą, vengiant fragmentuoto valdymo. *SF-MST tarpsektorinės analizės* rezultatai atskleidė šias pagrindines įžvalgas:

- KVVO sektorius prioritetą teikia socialiniam tvarumui, bendruomenės įtraukimui ir atsakingo elgesio pavyzdžių formavimui.
- Transporto sektorius pasižymi stipriais ekonominiais rodikliais, tačiau silpni socialiniai ir aplinkosaugos rezultatai atskleidžia pusiausvyros trūkumą.
- Apgyvendinimo sektorius aplinkosaugos srityje gerokai atsilieka, taigi būtina kuo skubiau peržiūrėti šio sektoriaus politiką.
- KO ir KA demonstruoja socialinio tvarumo lygis gana žemas, todėl būtina į šį sektorių įtraukti bendruomenę.

Tarpsektorinė analizė (SF-MST) padėjo identifikuoti kiekvienam sektoriui būdingas spragas ir atskleidė tikslingų, sektoriui pritaikytų strategijų poreikį, siekiant Braitono turizmo tvarumo ir atsparumo.

Sociodemografinės apklausos rezultatai pasiskirstė sekančiai:

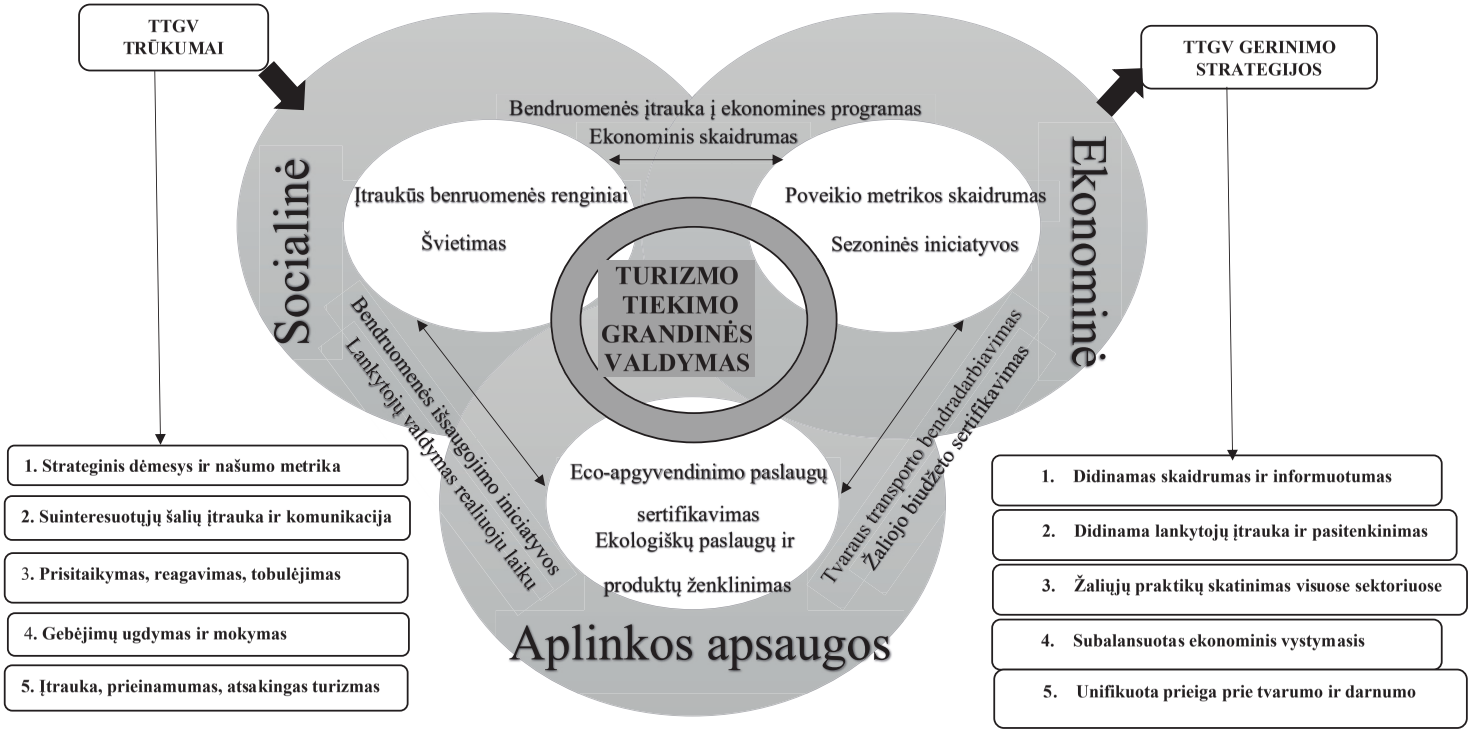
- KVVO sektorius sulaukė nuoseklių vertinimų įvairiose demografinėse grupėse, tai liudija įvaizdžio stabilumą, galimą naujovių trūkumą, siekiant pritraukti jaunesnę ir įvairesnę auditoriją.
- KO ir KA žemesnius vertinimus skyrė jaunesni ir mažiau išsilavinę respondentai, tai rodo poreikį siūlyti lankstesnius ir prieinamesnius kelionių sprendimus.
- Apgyvendinimo sektoriaus lūkesčiai didėja augant respondentų pajamoms ir gerėjant jų išsilavinimui, kas rodo didesnį aukštos kokybės, ekologiškų paslaugų poreikį.
- Transporto sektorius vertinimas priklausė nuo pajamų dydžio, tai atskleidžia būtinybę taikyti pakopines paslaugų pasiūlos strategijas.
- Lyties veiksnio poveikis minimalus, todėl pagrindinį dėmesį reikėtų skirti didesnę įtaką darančioms demografinėms charakteristikoms.

Tokių sociodemografinių kintamųjų, kaip amžius, išsilavinimo lygis ir pajamos, tarpusavio sąveika formuoja lankytojų suvokimą apie kelionės vietą, jų elgseną ir požiūrį į tvarumo bei atsparumo principus. Šie rezultatai rodo būtinybę įgyvendinti kiekvienam sektoriui pritaikytas strategijas, siekiant šalinti nustatytus demografinius trūkumus ir vystyti tvaresnę bei atsparesnę Braitono turizmo sistemą. Efektyvus segmentavimas, grįstas šiomis demografinėmis įžvalgomis, padeda diferencijuoti paslaugų pasiūlą, sustiprinti rinkos pozicijas ir padidinti kelionės vietos atsparumą, taip prisidedant prie įtraukesnės turizmo aplinkos kūrimo.

Matrica ir modelis. Socialinių, ekonominių ir aplinkosauginių apklausos duomenų pagrindu sudaryta matrica pateikia strategines tvaraus turizmo valdymo Braitone gaires. Jos įgalina suinteresuotąsias šalis įgyvendinti sprendimus, kurie atitinka lankytojų lūkesčius ir bendruomenės poreikius. Matrica remia tvarumo ir atsparumo transformacijos procesą Braitone, skatindama:

- turizmo poveikio skaidrumą, lankytojų informavimą ir atsakingo elgesio skatinimą;
- lankytojų pasitenkinimą autentiškais, aplinkai draugiškais pasiūlymais;
- tvarų ekonomikos augimą visus metus;
- žaliąsias praktikas taikant sertifikavimo sistemas ir ekologinę partnerystę;
- vieningas pastangas tvarumo aspektu, pagrįstas visapusišku suinteresuotųjų šalių bendradarbiavimu.

Integruotų strategijų modelis leidžia Braitonui stiprinti savo, kaip tvarios kelionės vietos, tapatybę. Toks visa apimantis požiūris užtikrina, kad kelionės vietos vystymasis ne tik atitiktų šiuolaikinių lankytojų atsakingo keliavimo lūkesčius, bet ir sukurtų atsparią sistemą, kuri ilgalaikėje perspektyvoje teigiamai veiktų aplinką, vietos bendruomenę ir ekonomiką (žr. 6 pav.).



6 paveikslas. Integruotų turizmo tiekimo grandinės valdymo strategijų modelis, siekiant pagerinti kelionės vietos tvarumą ir atsparumą

Sudaryta autorės

Šiame modelyje (žr. 6 pav.) rodyklės iliustruoja priežastinius ryšius ir sąveiką turizmo tiekimo grandinės valdymo (TTGV) sistemoje. Ilgesnės išorinės rodyklės nurodo bendrą kryptį: TTGV trūkumai nurodo nustatytas valdymo spragas (neigiamas pasekmes), o sėkmingas TTGV - efektyvumo strategijas (pageidaujami rezultatai). Pastorintos rodyklės rodo įvestį bei išvestį ir tai, kad efektyvus socialinių, ekonominių ir aplinkosaugos strategijų taikymas lemia kiekvienos srities išvardytų tikslų siekį. Galiausiai vidinės dvipusės rodyklės pabrėžia esminę socialinių, ekonominių ir aplinkosaugos aspektų, kurie būtini gerinant tvarumą ir atsparumą kelionės vietose, tarpusavio priklausomybę. Integruotų strategijų modelis sprendžia pagrindinius turizmo tiekimo grandinės valdymo iššūkius, turizmo plėtrą suderindamas su aplinkosauginiu, socialiniu ir ekonominiu tvarumu. Ši sistema remiasi skaidrumo didinimu, suinteresuotųjų šalių bendradarbiavimu, ekologiškų praktikų diegimu bei vietos bendruomenės įtrauktimi, siekiant ilgalaikio kelionės vietos atsparumo ir konkurencingumo.

Skaidrumas, pagrįstas skaitmeninių įrankių taikymu, didina suinteresuotųjų šalių tarpusavio pasitikėjimą, leidžia realiuoju laiku dalytis duomenimis ir skatina tvarų vartotojų elgesį. Lankytojų įtraukimas per dalyvaujamąsias, kultūrines patirtis didina jų pasitenkinimą ir formuoja teigiamą požiūrį į aplinkai palankų turizmą. Tvarus ekonominis vystymasis skatina įtraukųjį planavimą, kuris užtikrintų teisingą naudos paskirstymą vietos gyventojams ir didintų vietos socialinį atsparumą. Ekologiškos praktikos taikymas visuose sektoriuose, pagrįstas atitinkamomis politikos priemonėmis ir partnerystėmis, mažina neigiamą poveikį aplinkai ir stiprina vietos ekonomiką. Unifikuotas požiūris į tvarumą, kuriam būdingas glaudus tarpsektorinis bendradarbiavimas, leidžia koordinuotai reaguoti į globalius iššūkius, tokius kaip klimato kaita. Šis integruotų strategijų modelis pasižymi visapusišku požiūriu į kelionės vietos vystymą, užtikrindamas jų tvarumą ateities kartoms, kartu išlaikant konkurencingumą ir gyvybingumą kintančiame pasaulinio turizmo kontekste.

Rekomendacijos:

- *Skaidrumo ir informuotumo didinimas*. Rekomenduojama įgyvendinti lankytojų švietimo iniciatyvas, taip kaupiant žinias apie Braitono turizmo tvarumą ir atsparumą. Tai galėtų būti įgyvendinama kuriant skaitmeninius informacinius pranešimus prieš kelionę arba organizuojant virtualius atsakingo turizmo seminarus. Atvykus į vietą, tvarumą galėtų stiprinti informaciniai ženklai ir ekranai lankomiausiose teritorijose.
- *Lankytojų įtraukimo ir jų pasitenkinimo didinimas.* Siūloma diegti realaus laiko duomenų analizę, taip užtikrinant lankytojų srautų valdymą. Naudojant mobiliąsias programėles ar jutiklius lankytinose vietose, būtų galima aktyviai

stebėti turistų judėjimą, skirstyti srautus į mažiau apkrautas zonas bei teikti informaciją dėl užimtumo.

- *Ekologiškų praktikų diegimas*. Rekomenduojama diegti pakopinę apgyvendinimo, ekskursijų ir kitų turizmo paslaugų ekologinio sertifikavimo sistemą (pvz., bronzos, sidabro, aukso lygių). Tai paskatintų paslaugų teikėjus nuosekliai diegti tvaresnę praktiką - nuo atliekų tvarkymo iki atsinaujinančios energijos naudojimo ar bendruomenės įtraukimo.
- *Tvari ekonominė plėtra.* Siekiant mažinti sezoniškumą ir teritorinę koncentraciją, siūloma stiprinti mažiau lankomų vietovių ir ne piko laikotarpio turizmo rinkodarą. Ne sezono laikotarpiu galima kurti specialius pasiūlymus ir patirtis, pasitelkiant kultūrinius renginius, tikslines kainodaros strategijas ir temines kampanijas, kurios skatintų lankytojus tyrinėti naujus Braitono regionus.
- *Vieningas požiūris į tvarumą ir atsparumą*. Skatinamas aktyvus bendruomenės įsitraukimas į turizmo planavimą ir naudos pasidalijimo mechanizmų diegimas. Pavyzdžiui, dalis turizmo pajamų galėtų būti skiriama vietos plėtros projektams, taip didinant gyventojų paramą turizmui. Bendruomenės įtraukimas į kultūros renginių organizavimą bei paveldo išsaugojimo iniciatyvas leistų kurti darbo vietas, stiprinti tapatybę ir derinti turizmo plėtrą su vietos gyventojų interesais.

IŠVADOS

1. Tyrimas patvirtina dėsningumą, kad turizmo tiekimo grandinės valdymas (TTGV) yra pagrindinis kelionės vietos vystymosi veiksnys, struktūriškai integruojantis įvairius suinteresuotuosius subjektus iš viešojo ir privataus sektorių. Šie subjektai - kelionių organizatoriai ir agentūros, apgyvendinimo paslaugų teikėjai, transporto paslaugos, vietos bendruomenės ir valdžios institucijos - prisideda prie galutinio turizmo produkto kūrimo ir kolektyviai formuoja kelionės vietos veikimo struktūrą. Būdingos turizmo produktų savybės - jų nematerialumas, trumpalaikiškumas ir daugiakomponentiškumas - lemia, kad jų teikimas ypač priklauso nuo efektyvaus bendradarbiavimo tiekimo grandinėje.

1.1. Tyrimas pagrindžia, kad tvarumas ir atsparumas yra esminiai šiuolaikinio TTGV tikslai. Tai rodo, kad kelionės vietų gebėjimas veikti netikrumo sąlygomis proporcingai priklauso nuo veiksmingo suinteresuotųjų subjektų bendradarbiavimo. Pagrindiniai TTGV iššūkiai, tokie kaip paklausos prognozavimas, tiekėjų atranka, pajėgumų valdymas ir santykių puoselėjimas, yra būtini sisteminiai procesai, skatinantys aplinkosauginį, ekonominį ir socialinį tvarumą bei veiklos atsparumą kelionės vietose. Tvarumas ir atsparumas yra struktūriniai TTGV aspektai, įgyvendinami sistemingai taikant vadybinę praktiką.

1.2. Tyrimas atskleidžia būtinybę turizmo tiekimo grandines suvokti kaip dinamiškas, besivystančias sistemas, kurių veiksmingumą tiesiogiai lemia gebėjimas reaguoti į krizes. Tai rodo, kad atsparumas negali būti redukuojamas tik į veiklos atkūrimą po krizės; būtinas proaktyvus, analize grįstas gebėjimas numatyti, prisitaikyti ir užtikrinti tęstinumą. Atlikta teorinė analizė parodė, kad krizių kontekste kelionės vietų veiklos rezultatyvumas struktūriškai priklauso nuo suinteresuotųjų šalių bendradarbiavimo, o veiklos lankstumas tampa pagrindiniu sisteminio atsparumo matu.

1.3. Analizės rezultatai leidžia teigti, kad TTGV veikia kelionės vietos aplinkoje, kuri laikytina sistemos funkcionavimo vienetu. Tai parodo, kad kelionės vietoje formuojasi pagrindiniai turizmo tiekimo grandinės ryšiai ir vertės kūrimo procesai. Kelionės vieta konceptualizuojama kaip erdvinė ir patirtinė sistema, sudaryta iš tarpusavyje susietų paslaugų, produktų ir įvykių. Nustatyta, kad kelionės vietų valdymo organizacijos (KVVO) veikia kaip esminiai reguliuotojai, koordinuojantys planavimo, rinkodaros, išteklių naudojimo ir suinteresuotųjų šalių įtraukties strategijas, taip institucionalizuodami sisteminę integraciją ir siekdami darnaus vystymosi. Tyrimas patvirtina, kad bendradarbiavimu, išteklių dalijimusi ir abipuse nauda grindžiamas veiksmingas suinteresuotųjų šalių santykių valdymas yra esminė sąlyga, siekiant socialiai įtraukaus, ekologiškai atsakingo ir ekonomiškai darnaus kelionės vietos vystymosi.

2. Remiantis tyrimo rezultatais nustatyta tvarumo ir atsparumo tarpusavio priklausomybė TTGV. Tvarumas traktuojamas kaip ilgalaikis tikslas, užtikrinant, kad turizmas rems vietos ekonomiką, saugos gamtos ir kultūros išteklius bei išlaikys socialinį teisingumą. Atsparumas - priešingai, suprantamas kaip neatidėliotinas kelionės vietų gebėjimas prisitaikyti prie trikdžių, kartu išlaikant veiklos ir bendruomenės stabilumą. Tai patvirtina, kad darnumas ir atsparumas turi būti suvokiami ir tiriami ne kaip atskiros paradigmos, o kaip viena kitą papildančios TTGV veiklos dimensijos.

2.1. Tvarus turizmas numato valdymo aplinką, kuri institucionalizuoja suinteresuotųjų šalių gebėjimą prisitaikyti. Nustatyta, kad atsparumas veikia kaip pamatinis elementas siekiant tvarumo. Nors tvarumas orientuotas į aplinkos, socialinių ir ekonominių sričių pusiausvyros išlaikymą, atsparumas suteikia kelionės vietoms lankstumo atsigaunant po krizių ar prie jų prisitaikant; taip jis tampa būtina ilgalaikio darnumo sąlyga. Tai rodo, kad atsparumas yra ilgalaikio tvarumo konstravimo pagrindas, be jo tvarumo tikslai praktiškai lieka nepasiekiami.

2.2. Tyrimas pabrėžia, kad palankios valdymo ir veiklos aplinkos kūrimas leidžia suinteresuotosioms šalims prisitaikyti, užtikrinant, kad plėtros pastangos išliktų aktualios ir įtraukios. Tyrimu nustatyta, kad daugelio suinteresuotųjų šalių valdymo metodą (angl. *multi-stakeholder management approach*) taikyti būtina, siekiant kreipti suinteresuotąsias šalis tvaraus ir atsparaus valdymo link. Tai rodo, kad atvira komunikacija, tarpsritinis mokymasis ir bendradarbiavimu grįstas sprendimų priėmimas yra sisteminiai valdymo tobulinimo dėsningumai. Suteikus suinteresuotosioms šalims savireguliavimosi ir naujovių diegimo galimybę, turizmo tiekimo grandinė gali efek-

tyviau reaguoti tiek į iššūkius, tiek į galimybes. Šio metodo pasirinkimas rodo, kad adaptyvus, įtraukiu dalyvavimu grįstas valdymas yra veikimo variklis, užtikrinantis TTGV, gerinantį tvarumą ir atsparumą kelionės vietose.

3. Atlikus literatūros analizę nustatyta, kad nesant nuoseklių, įtraukių ir plačiai pritaikomų modelių, pastangos gerinti kelionės vietų tvarumą ir atsparumą yra mažai veiksmingos. Šis rezultatas koreliuoja su **ginamuoju teiginiu Nr. 1 ir jį patvirtina**. Todėl tyrime sukuriamas teorinis suinteresuotųjų šalių ir vartotojų dinamikos TTGV aspektu vertinimo pagrindas. Nustačius daugelio suinteresuotųjų šalių valdymo metodo veiksmingumą bei susiejus akademinėje literatūroje egzistuojančias TTGV schemas ir strateginio planavimo instrumentus į bendrą visumą, pateiktas teorinis modelis kelionės vietos tvarumo ir atsparumo link. Ši teorinė integracija praturtina tiek mokslinį turizmo tiekimo grandinių supratimą, tiek praktinį jų valdymą.

3.1. Pagrįstas daugelio suinteresuotųjų šalių valdymo metodas patvirtina dėsningumą, kad įtrauktis ir bendra atsakomybė didina turizmo plėtros veiksmingumą. Taigi, įvairių suinteresuotųjų šalių valdymo metodo integracija leidžia tiksliau identifikuoti problemas, didina pasitikėjimą ir suderina turizmo tikslus su visa apimančiais tvarumo siekiais. Tyrimo rezultatai rodo, kad išmatuojami tvarumo ir atsparumo rodikliai leidžia sistemingai stebėti pažangą ir pagrįsti sprendimų priėmimą. Nustatyta, kad daugelio suinteresuotųjų šalių įtrauktis ir išmatuojami rodikliai yra struktūrinės TTGV atskaitomybės ir į tikslus orientuoto valdymo prielaidos.

3.2. SSGG ir GGSS analizių taikymas Braitonui patvirtina sistemingą naudingumą, kaip diagnostinių instrumentų, leidžiančių nustatyti kelionės vietos pažeidžiamumo sritis, tokias kaip aplinkos apkrova, perteklinis turizmas, ekonominis pažeidžiamumas ir politikos fragmentacija. Šios analizės sudaro scenarijais paremtas planavimo prielaidas ir padeda formuluoti veiksmingas, konkrečioms kelionės vietoms pritaikytas strategijas. SSGG ir GGSS taikymas parodo, kad struktūruoti diagnostiniai metodai didina adaptyvų pajėgumą, sistemines problemas paversdami tikslingomis strateginėmis reakcijomis.

3.3. Europos turizmo rodiklių sistema (ETIS) patvirtinama kaip veiksmingas suinteresuotųjų šalių požiūrio į tvarumą ir atsparumą vertinimo matas. Suderinus ETIS kriterijus su Braitono strateginiais prioritetais, tyrimas atskleidė, kaip ši ir kitos kelionės vietos galėtų pasirengti duomenimis grįstus veiksmų planus, kurie atliepia vietinius iššūkius ir ilgalaikius tvarumo tikslus. Įrodyta, kad ETIS suteikia standartizuotą, tačiau pritaikomą matavimo sistemą, kuri susieja suinteresuotųjų šalių perspektyvas su ilgalaikiais tvarumo siekiais.

4. Tyrimas pagrindžia dėsningumą, kad mišrių metodų taikymas yra moksliškai patikimas būdas validuoti suinteresuotųjų šalių ir vartotojų santykį TTGV aspektu. Taigi kokybinių įžvalgų ir kiekybinės analizės integracija veiksmingiau atskleidžia sudėtingas tarpusavio priklausomybes TTGV kontekste. Pasitelkta pragmatinio pozityvizmo suinteresuotųjų šalių sistemos (PPSS) struktūra buvo veiksminga analizuo-

jant sisteminius suinteresuotųjų šalių santykius, parodant, kad metodologinis pliuralizmas yra būtinas modeliuojant TTGV kompleksiškumą.

4.1. Diskusijų grupės analizavo ir atrinko atsparų ir tvarų valdymą skatinančius ETIS kriterijus pasirinktose kelionės vietose. Įveikus du etapus išskirti penki ETIS rodikliai, atitinkantys pasirinktų kelionės vietų problemas. Pirmieji keturi, naudoti tolesniam kokybiniam tyrimui, buvo: poveikio aplinkai vertinimas (D1, D); ekonominė diversifikacija (B1, B2), suinteresuotųjų šalių bendradarbiavimas (SI); tvaraus turizmo politikos įgyvendinimas ir kelionės vietos prekių ženklo kūrimas (A1, SI). Penktasis atrinktas ETIS kriterijus - klientų pasitenkinimas ir paslaugų tvarumo bei atsparumo suvokimas (A2) kiekybinėje apklausoje. Suinteresuotųjų šalių atstovų Diskusijų grupė užtikrino vertinimo sistemos jautrumo kontekstui ir praktinio reikšmingumo išlaikymą.

4.2. Kokybinis ekspertų interviu patvirtino turizmo valdymo sisteminių iššūkių diagnostikos reikšmingumą. Jis apėmė keturias sritis (atitinkančias pirmuosius keturis pasirinktus ETIS kriterijus): poveikį aplinkai, ekonominę diversifikaciją, suinteresuotųjų šalių bendradarbiavimą ir tvarios politikos įgyvendinimą. Analizė atskleidė pagrindinius Braitono turizmo ekosistemos iššūkius. Ekspertų interviu rezultatai papildė strateginio planavimo, tvarumo ir atsparumo įgyvendinimo ir suinteresuotųjų šalių interesų suderinimo iššūkius bei įžvalgas. Be to, atskleidė valdymo spragas, trukdančias suderinti tvarumo tikslus su veiklos praktika.

4.3. Kiekybinė lankytojų apklausa patvirtino dėsningumą, kad lankytojų suvokimas yra esminė TTGV tvarumo vertinimo dimensija. Taikytas naujausias turizmo tvarumo matavimo statistinis pagrindas (SF-MST), lankytojų nuomones vertinant pagal penkių balų Likerto skalę. Atliekant tyrimą analizuotos įvairių demografinių grupių atsakymų variacijos, siekiant suprasti, kaip turistai vertina tvarumo pastangas įvairiuose sektoriuose. Gauti duomenys leido įžvelgti sektorių stiprybes, silpnybes ir tobulintinas sritis, be to, atskleidė, kad vartotojų suvokimo įtraukimas į tvarumo matavimus užtikrina veiksmingas ir pagrįstas kelionės vietų valdymo ir politikos tobulinimo įžvalgas.

5. Taikant ETIS kriterijus išryškėjo suinteresuotųjų šalių įtraukimo ir gebėjimo efektyviai reaguoti į pokyčius Braitono turizmo tiekimo grandinėje spragos. Taigi, nors KVVO skatina komunikaciją ir skaidrumą, grįžtamojo ryšio metodų nebuvimas neleidžia bendruomenėms veiksmingai vykdyti turizmo politikos, taip stabdant kelionės vietos tvarumo ir atsparumo gerinimo procesus. Šis rezultatas pagrindė ir **patvirtino antrą ginamąjį teiginį.** Pasak O. Yayla ir kt. (2023), turizmo tiekimo grandinės valdymo procesai nesant integruoto grįžtamojo ryšio su vietos bendruomenėmis, riboja TTGV teisėtumą ir įtrauktį. Tad dalyvavimu pagrįstas valdymas išlieka neįtraukus, o suinteresuotųjų šalių bendradarbiavimas silpninamas.

5.1. Tyrimo rezultatai patvirtina, kad kelionių organizatoriams ir agentūroms trūksta socialinių bendruomenės įtraukimo priemonių ir išmatuojamų tikslų įdiegimo,

nors jų ekonominis indėlis yra pakankamas. Taigi tvaraus turizmo iniciatyvų yra, tik jos fragmentuotos ir nepakankamai atitinka kelionės vietos poreikius. Tvarus turizmas numato, kad ekonominė veikla būtų papildyta tikslingomis, išmatuojamomis, į bendruomenę orientuotomis strategijomis.

5.2. Apgyvendinimo sektorius nenuosekliai taiko aplinkosaugos praktikas, minimaliai dalyvaudamas socialinėse bendruomenės iniciatyvose. Tai rodo, kad nekoordinuotos pastangos neatitinka viso sektoriaus aplinkosauginės atsakomybės, todėl tvarumui ir atsparumui gerinti būtinos labiau koordinuotos ir pagrįstos žaliosios iniciatyvos.

5.3. Nors transporto sektorius bendradarbiauja su vietos aplinkosaugos organizacijomis, trūksta stebėsenos realiuoju laiku sistemų, kurios vertintų ir valdytų turistų daromą poveikį aplinkai. Be abejo, dalinis įsitraukimas negali pakeisti sisteminės atskaitomybės. Pažangių technologijų diegimas galėtų užpildyti šią spragą ir pagerinti veiklos rezultatus pagal pagrindinius tvarumo rodiklius. Įdiegus atitinkamas technologijas aplinkosauginiai įsipareigojimai taptų išmatuojamais rezultatais.

5.4. Tyrimo rezultatai patvirtina, kad šalinti sisteminius trūkumus įmanoma įgyvendinus įtraukias strategijas, tokias kaip suinteresuotųjų šalių mokymai, didesnė įtrauktis, tarpsektorinis bendradarbiavimas ir komunikacija, skaitmeninių priemonių diegimas ir nuolatinio sistemos prisitaikomumo užtikrinimas. Taigi fragmentuotos intervencijos, jų neintegravus į koordinuotas strategijas, yra neveiksmingos. Tai yra būtina, siekiant suderinti Braitono turizmo tiekimo grandinę su ilgalaikiais tvarumo ir atsparumo tikslais. Nesuformavus adaptyvaus, skaitmeninėmis priemonėmis paremto valdymo kelionės vietos tikslų įgyvendinti praktiškai neįmanoma.

6. Lankytojų požiūrio į suinteresuotųjų šalių indėlio į tvarumą ir atsparumą suvokimo duomenys patvirtina pastarųjų veiklą ir atskleidžia sektoriams būdingus tvarumo trūkumus. **Patvirtinant pirmąją hipotezę**, kelionės vietų valdymo organizacijos (KVVO) vertinamos palankiai, ypač socialinio tvarumo aspektu, tai rodo, kad KVVO yra suvokiamos kaip socialiai veiksmingos. Šis rezultatas atitinka F. Atasoy ir D. Eren (2023) tyrimo išvadas, kad KVVO stabilizuoja TTGV ir koordinuoja suinteresuotųjų šalių bendradarbiavimą. Tačiau apgyvendinimo ir transporto sektoriai pagal aplinkosauginius ir socialinius rodiklius atsilieka, nes vien ekonominis indėlis suinteresuotųjų šalių įtraukumo neužtikrina; tvarų kelionės vietos vystymasi gali užtikrinti išmatuojamos ekologiškumo ir bendruomenės integracijos sąlygos.

6.1. Sisteminės analizės požiūriu, suinteresuotųjų subjektų įtraukumas turizmo sektoriuje priklauso nuo ekonominės, aplinkosauginės ir socialinės veiklos balanso. Tyrimo rezultatai atskleidžia, kad dominuoja ekonominis indėlis, taigi pelnas yra pagrindinis veiklos variklis. Lankytojai pripažino transporto sektoriaus ekonominę svarbą, bet žemesniu balu įvertino jo socialinį ir aplinkosauginį tvarumą. Prastai vertintas ir apgyvendinimo sektorius dėl ekologinių veiksmų, kas rodo menką aplinkai draugiškų praktikų taikymą ir bendruomenės integracijos stoką. Taigi kelionės vietos atsparumo ir tvarumo pasiekti neįmanoma ekonominio vaidmens nepapildžius apčiuopiama aplinkosaugine

atsakomybe ir socialine įtrauktimi. Kitaip tariant, lankytojų suvokimas pabrėžia struktūrinį ekonominės naudos ir tvarumo rodiklių nesuderinamumą, todėl ekologiškumas ir bendruomenės dimensija yra būtinos TTGV sąlygos. Šie tyrimo rezultatai atskleidžia paklausą diktuojančių turistų vertinimo aspektą: vartotojai pripažįsta ekonominę naudą, bet tikisi ir atitinkamos socialinės bei ekologinės atsakomybės.

6.2. Kelionių organizatoriai ir agentūros vertinamos kaip vidutiniškai ekonomiškai naudingos, bet jų socialinis indėlis ribotas. Tai rodo galimybę kurti į bendruomenę orientuotas iniciatyvas, kurios būtų naudingos vietos gyventojams. Be to, bendruomenės iniciatyvos galėtų užpildyti reikšmingą spragą, turizmo pajamas susiedamos su apčiuopiamais vietiniais privalumais.

6.3. Atskleidus demografinius lankytojų pasitenkinimo skirtumus, papildomi rezultatai **patvirtino trečiąją hipotezę**. Jaunesni ir mažiau pasiturintys lankytojai žemesniu balu įvertino pasitenkinimo lygį, pagrinde dėl prieinamų (finansiškai) tvarių pasiūlymų trūkumo. Tuo tarpu labiau išsilavinę ir aukštesnes pajamas gaunantys turistai palankiau vertino tvaraus turizmo paslaugas, kas rodo augantį aukščiausios kokybės ir į tvarumą orientuotų paslaugų poreikį. Šie rezultatai rodo, kad tvarus turizmas ne visiems prieinamas ir gali tapti prabangos pasiūla. Tai atitinka R. Sharpley (2020) įžvalgas, jis perspėjo apie „darnumo atskirtį“, kai turtingesni segmentai neproporcingai dažniau naudojasi ekologiško turizmo paslaugomis, tuo tarpu prieinamumas išlieka kliūtimi likusiems.

6.4. Įvairių lankytojų segmentų lūkesčiams atliepti būtinos skirtingos strategijos, tai **patvirtina antrąją hipotezę**, kad prieinamų, tvarių ir technologijomis papildytų paslaugų teikimas gali užtikrinti lankytojų pasitenkinimą ir didinti kelionės vietos patrauklumą. Taigi į turizmo strategijas būtina sistemingai integruoti įtraukties aspektą. Remiantis I. Borowy (2021), socialinė įtrauktis yra pamatinis tvaraus vystymosi ramstis, trūkstant tvarumo dimensijų ir paslaugų prieinamumo, kelionės vietos gali tapti marginaliomis.

7. Tvarumo ir atsparumo tikslų be struktūruoto modelio, integruojančio tarpsektorinius duomenis ir tyrimo išvadas paverčiančio praktinėmis priemonėmis, pasiekti neįmanoma. Todėl tyrimas pateikia išsamų TTGV strateginį modelį ir matricą, teikiančią tvarių ir atsparių kelionės vietų kūrimo gairių. Matrica leidžia spręsti kelionės vietose nustatytas socialines, ekonomines ir aplinkosaugines problemas, teikdama sektoriui atitinkamų sprendimų įgyvendinimo strategijas. Modelis yra veiksmingesnis nei fragmentuotas sektorių tvarumas; nustatytas veiklos spragas jis paverčia veiksmingomis priemonėmis ir užtikrina jų įgyvendinimo operatyvumą.

7.1. Taikant matricą, kokybinių (diskusijų ir ekspertų interviu) ir kiekybinio (lankytojų apklausos) tyrimo įžvalgos suinteresuotosioms šalims gali tapti veiksmingomis priemonėmis, remiant ekologiškas sertifikavimo sistemas, bendruomenės iniciatyvas ir atsakingą lankytojų valdymą. Matrica siūlo veiklos planą, kuriame konkrečių sektorių veiksmai derindami su platesniais tvarumo tikslais. Atliktų tyrimų rezultatų

integracija sukuria įgyvendinamus tvarumo tikslus, kuriems pasiekti suinteresuotųjų šalių veiksmai būtų produktyvūs. Tai reiškia, matrica suteikia suinteresuotosioms šalims duomenimis pagrįstų įžvalgų ir papildo S. Hartman ir B. Papp (2024) tyrimo rezultatus, kurie pabrėžė duomenimis grįsto turizmo tiekimo grandinių valdymo svarbą, tačiau nepaaiškino, kaip tie duomenys galėtų tapti veiksmingomis strategijomis.

7.2. Integruotas TTGV strateginis modelis apima identifikuotas tarpsektorinio valdymo spragas, matricą ir formuoja strategijomis grįstą įraukųjį požiūrį į turizmo kelionės vietų valdymą, siekiant tvarumo ir atsparumo. Taikant modelį remiamas atvirumas, tarpsektorinis bendradarbiavimas, lankytojų ir bendruomenės įtrauktis bei sąžininga ekonominė politika. Šis modelis demonstruoja, kad įtraukios valdymo strategijos didina sisteminį tvarumą ir atsparumą, apjungiant tarpusavyje susijusias aplinkos, socialines ir ekonomines priklausomybes. Tarpsektorinis bendradarbiavimas ir įtrauktis yra struktūrinės tvarių ir atsparių kelionės vietų sąlygos. Galutinis modelis empiriškai patvirtina teorines suinteresuotųjų šalių ir sistemų teorijų prielaidas, kurias nagrinėję M. E. S. Mondonedo (2021), A. C. Rapp ir A. Corral-Granados (2024) pabrėžė tarpusavio ryšį ir bendradarbiavimą, kaip esminį sudėtingų adaptuojamų sistemų valdymo principą. *Integruotų turizmo tiekimo grandinės valdymo strategijų modelis, siekiant pagerinti kelionės vietos tvarumą ir atsparumą*, moksliškai pagrindžia, kaip teorija galėtų tapti praktine priemone, siekiant pagerinti adaptacinės socioekologinės sistemos, tokios kaip turistinė kelionės vieta, tvarumą ir atsparumą.

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AUTHOR'S AUTOBIOGRAPHY

Rima Karsokiene
PhD student at Klaipeda University

+37067821233
karsokiene.rima@gmail.com
linkedin.com/in/rima-k-79739720a
Kretingos g 57-6, Palanga, Lithuania

I am developing expertise in service system management through my professional experience and doctoral studies. My PhD research focuses on tourism supply chain management with an emphasis on sustainability and resilience at the destination level. It aims to generate insights for strategic decision-making in the sector.

I am proactive, communicative, and attentive, with strong collaboration skills and experience working in diverse, dynamic teams. I am committed to continuous learning and professional growth.

E X P E R I E N C E

2025. 12	Assistant Director Palanga Tourism Information Center
2021 - Now	Social science PhD student, junior researcher Klaipeda University
2020 - Now	Private medical insurance patient coordinator (bank staff) Circle Group
2019 - 2023	Director JSC "Vilnis"
2009 10 - 2019 09	Coordinator of sustainable transport initiatives and visitor accommodation The Hillingdon Hospitals NHS Foundation Trust, UK
2004 02 - 2009 11	Purchasing department manager JSC "VP Market"
2001 02 - 2003 12	Front Office Reception Officer / Dispatcher Holiday Inn Sunspree Resort, Panama City Beach, FL, USA
1998 01 - 2001 01	Tourism manager JSC "Vilnis"

1998 01 - 1998 12	Tourism manager "Filippos Travel" Athens, Greece

EDUCATION

2021 - 2025	Social sciences, Management department Klaipeda University; PhD candidate
2019 - 2021	Business management (Tourism) Klaipeda University; Master's degree
1997	Recreational activity management Klaipeda University; Bachelor's degree
1995	Tourism Management Bornholm's Business and Technical College, Diploma

SKILLS

Advanced research design and implementation – Expert
Scholarly communication and collaboration – Expert
Client and stakeholder communication – Expert
Teamwork and project coordination – Expert
Workload and time management – Proficient
Intercultural competence and working in diverse environments – Proficient

LANGUAGES

Lithuanian - Native
English - Advanced
Russian - Intermediate
Greek - Beginner

Addendums

1. Qualitative study "Key tourism supply chain stakeholder management to improve destination sustainability and resilience" questionnaire

	ETIS CRITERIA SELECTED			
SECTION	**DMOs (Implementation of sustainable tourism policies and destination branding)**	**TOs & TAs (Supply chain collaboration to improve resilience)**	**Accommodation (Economic diversification to improve resilience)**	**Transportation (Environmental impact assessment to improve sustainability)**
Strategy and policy	What is the company's vision towards promoting sustainable and resilient tourism practices in Brighton? Can you provide examples of specific governance mechanisms or regulations implemented by DMO to ensure the enduring management of tourism in Brighton?	Can you provide examples of specific initiatives or practices your tour operation has implemented to promote destination resilience and sustainability, specifically in Brighton? What measures does your tour operation take to incorporate sustainability principles into customer travel packages and experiences in Brighton? What steps do you take to minimise the carbon footprint and environmental impact of your tours and activities in Brighton? How do you address the challenges of overtourism in Brighton and ensure that the destination remains resilient despite increasing visitor numbers?	How does your hotel contribute to economic diversification within the Brighton area beyond traditional tourism revenue streams? What measures does your hotel take to ensure that its operations contribute to Brighton's long-term economic endurance? How does your hotel adapt its services to attract and cater to the needs and preferences of different consumer segments visiting Brighton?	How does your transportation company mitigate its environmental footprint, particularly in Brighton? Can you provide examples of specific measures your transportation company has implemented to reduce its carbon emissions and overall environmental impact in Brighton? How do you prioritise using ecofriendly technologies or alternative fuels in your transportation fleet within the Brighton region?

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Stakeholder engagement and collaboration	How does your DMO engage with stakeholders in the decision-making process for tourism governance in Brighton? What role does your DMO play in facilitating coordination and collaboration among various stakeholders in Brighton's tourism management?	How do you collaborate with DMOs in Brighton to align your operations with destination sustainability goals? What strategies does your tour operation employ to engage with hotels in Brighton to promote sustainable practices?	Can you provide examples of initiatives or partnerships your hotel has undertaken to support local businesses and industries in Brighton? How does your hotel collaborate with local tour operators or travel agents in Brighton to develop and promote sustainable tourism experiences that enhance the destination's resilience? How does your hotel engage with local authorities and economic development agencies in Brighton to support initiatives aimed at economic diversification?	What partnerships or collaborations have you formed with Brighton's local environmental organisations or authorities to promote sustainable transportation solutions? What steps does your transportation company take to engage with Brighton visitors in promoting sustainable transportation options?
Advocacy and implementation	How does your DMO address emerging issues and challenges in tourism governance, such as over-tourism or environmental degradation, in Brighton?	How do you integrate feedback from customers and stakeholders in Brighton to continuously improve the sustainability and resilience of your tour operations?	Does your hotel contribute to creating employment opportunities and skill development within the Brighton community?	How does consumer demand for eco-friendly transportation shape your company's sustainability strategy in Brighton?

	ETIS CRITERIA SELECTED			
SECTION	**DMOs (Implementation of sustainable tourism policies and destination branding)**	**TOs & TAs (Supply chain collaboration to improve resilience)**	**Accommodation (Economic diversification to improve resilience)**	**Transportation (Environmental impact assessment to improve sustainability)**
Communication and perception management	How do you enforce compliance with regulations and policies related to sustainable tourism practices among businesses and operators in Brighton (branding)? What strategies does your DMO employ to communicate governance decisions and policy changes to residents and visitors in Brighton? How does consumer perception of Brighton's governance and policy framework influence their travel decisions and behaviours in the destination?	How do you educate customers about responsible travel practices and encourage them to support sustainable initiatives during their trips to Brighton?	What role does your hotel play in promoting cultural and heritage experiences in Brighton, thus enhancing its appeal to a broader range of tourists?	How do you measure the environmental performance of your transportation operations, specifically within the Brighton area? How do you integrate environmental factors into your route planning and scheduling to reduce the ecological footprint of your transportation services for customers in Brighton?

2. Visitor survey

Visitor Perception of Brighton's Management for Enduring Destination SURVEY

Please scan the QR code provided

3. ETIS indicator selection form

SECTION A: DESTINATION MANAGEMENT

A.1 Sustainable tourism public policy

A.1.1 Tourism enterprises/establishments in the destination using a voluntary certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility

A.2 Customer satisfaction

A.2.1 Tourists and same-day visitors that are satisfied with their overall experience in the destination

A.2.2 Repeat/return visitors (within 5 years)

SECTION B: ECONOMIC VALUE

B.1 Tourism flow (volume and value) at destination & setting the target market

B.1.1 Number of tourist nights per month

B.1.2 Number of same-day visitors per month

B.1.3 Relative contribution of tourism to the destination's economy (% GDP)

B.1.4 Daily spending per overnight tourist

B.1.5 Daily spending per same-day visitors

B.2 Tourism enterprise(s) performance

B.2.1 Average length of stay of tourists (nights)

B.2.2 Occupancy rate in commercial accommodation per month and average per year

B.3 Quantity and quality of employment

B.3.1 Direct tourism employment as a percentage of total employment in the destination

B.3.2 Percentage of jobs in tourism that are seasonal

B.4 Tourism supply chain

B.4.1 Percentage of locally produced food, drinks, goods and services sourced by the destination's tourism enterprises

SECTION C: SOCIAL AND CULTURAL IMPACT

C.1 Community/social impact

C.1.1 Number of tourists/visitors per 100 residents

C.1.2 Percentage of residents who are satisfied with tourism in the destination (per month/season)

C.1.3 Number of beds available in commercial accommodation establishments per 100 residents

C.1.4 Number of second homes per 100 homes

C.2 Health and safety

C.2.1 Percentage of tourists who register a complaint with the police

C.3 Gender equality

C.3.1 Percentage of men and women employed in the tourism sector

C.3.2 Percentage of tourism enterprises where a woman holds the general manager position

C.4 Inclusion/accessibility

C.4.1 Percentage of rooms in commercial accommodation establishments accessible for people with disabilities

C.4.2 Percentage of commercial accommodation establishments participating in recognised accessibility information schemes

C.4.3 Percentage of public transport that is accessible to people with disabilities and specific access requirements

C.4.4 Percentage of tourist attractions that are accessible to people with disabilities and/or participating in recognised accessibility information schemes

C.5 Protecting and enhancing cultural heritage, local identity and assets

C.5.1 Percentage of residents that are satisfied with the impacts of tourism on the destination's identity

C.5.2 Percentage of the destination's events that are focused on traditional/ local culture and heritage

SECTION D: ENVIRONMENTAL IMPACT

D.1 Reducing transport impact

D.1.1 Percentage of tourists and same-day visitors using different modes of transport to arrive at the destination

D.1.2 Percentage of tourists and same-day visitors using local/soft mobility/ public transport services to get around the destination

D.1.3 Average travel (km) by tourists and same-day visitors from home to the destination

D.1.4 Average carbon footprint of tourists and same-day visitors travelling from home to the destination

D.2 Climate change

D.2.1 Percentage of tourism enterprises involved in climate change mitigation schemes - such as CO2 offset, low energy systems, etc. - and 'adaptation' responses and actions

D.2.2 Percentage of tourism accommodation and attraction infrastructure located in 'vulnerable zones'

D.3 Solid waste management

D.3.1 Waste production per tourist night compared to general population waste production per person (kg)

D.3.2 Percentage of tourism enterprises separating different types of waste

D.3.3 Percentage of total waste recycled per tourist compared to total waste recycled per resident per year

D.4 Sewage treatment

D.4.1 Percentage of sewage from the destination treated to at least secondary level prior to discharge

D.5 Water management

D.5.1 Water consumption per tourist night compared to general population water consumption per resident night

D.5.2 Percentage of tourism enterprises taking actions to reduce water consumption

D.5.3 Percentage of tourism enterprises using recycled water

D.6 Energy usage

D.6.1 Energy consumption per tourist night compared to general population energy consumption per resident night

D.6.2 Percentage of tourism enterprises that take actions to reduce energy consumption

D.6.3 Percentage of annual amount of energy consumed from renewable sources (Mwh) compared to overall energy consumption at destination level per year

D.7 Landscape and biodiversity protection

D.7.1 Percentage of local enterprises in the tourism sector actively supporting protection, conservation and management of local biodiversity and landscapes

SUPPLEMENTARY INDICATORS

The following indicative list of supplementary indicators has to be considered a starting point and an example of specific indicators that have already been tested and can be tailored for a specific destination or other needs. Therefore, the current list can be further enriched once destinations have implemented additional indicators.

TSC stakeholder collaboration

Destination's branding

Passengers and ports

Number of incoming and outgoing passengers per port per month

Number of berths and moorings for recreational boating

Water quality

Level of pollution in seawater per 100 ml (faecal coliforms, campylobacter)

Beaches

Percentage of beaches awarded the Blue Flag Area and volume of sand nourishment.

Total km of free beaches relative to total km of beaches

Percentage of beaches accessible to all

Number of days per year the beach/shore is closed due to contamination

Accessible tourism

Sustainable tourism policy

Percentage of the destination with an accessible tourism strategy/action plan, with agreed monitoring, development control and evaluation arrangement

Equality/accessibility

Percentage of commercial accommodation with rooms accessible to people with disabilities and/or participating in recognised accessibility information schemes

Does the destination have an identified accessibility management office or person available to the public?

Percentage of businesses that have a budget for accessibility improvements

Reducing transport impact

Percentage of each category of transport in the destination that is accessible, i.e. public transport and private hire coaches, minibuses, taxis or minicabs

CORE INDICATORS
SUPPLEMENTARY INDICATORS
ADDITIONAL INDICATORS (ADDED)
Eco-certifications
Crisis preparedness: emergency response plans, communication strategies
Infrastructure maintenance and upkeep
Use of technology for destination management
Development of innovative tourism products and experiences
Regular audits and assessments of sustainability and resilience practices

Please mark the indicators relevant to destination management using core and supplementary indicators. Please add supplementary indicators that enhance destination management and are not included in the ETIS system.

THANK YOU

Klaipėdos universiteto leidykla

Rima Karsokiene
MANAGING TOURISM SUPPLY CHAIN TO IMPROVE DESTINATION SUSTAINABILITY AND RESILIENCE
Daktaro disertacija

TURIZMO TIEKIMO GRANDINĖS VALDYMAS, GERINANTIS KELIONĖS VIETOS TVARUMĄ IR ATSPARUMĄ
Doctoral dissertation

Klaipėda, 2025

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Klaipėdos universiteto leidykla, Herkaus Manto g. 84, 92294 Klaipėda
Tel. (8 46) 398 891, el. paštas: leidykla@ku.lt, interneto adresas: http://www.ku.lt/leidykla/
Spausdino UAB „Vitae Litera“, Savanorių pr. 137, 44146 Kaunas