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#### SDG-Kategorie<sup>1</sup>:

- SDG 1: **Armut** in all ihren Formen und überall beenden
- SDG 2: Den **Hunger** beenden, **Ernährungssicherheit** und eine bessere **Ernährung** erreichen und eine nachhaltige **Landwirtschaft** fördern
- SDG 3: Ein **gesundes Leben** für alle Menschen jeden Alters gewährleisten und ihr Wohlergehen fördern
- SDG 4: Inklusive, gleichberechtigte und hochwertige **Bildung** gewährleisten und Möglichkeiten **lebenslangen Lernens** für alle fördern
- SDG 5: **Geschlechtergerechtigkeit** erreichen und alle Frauen und Mädchen zur Selbstbestimmung befähigen
- SDG 6: Verfügbarkeit und nachhaltige Bewirtschaftung von **Wasser und Sanitärversorgung für alle** gewährleisten
- SDG 7: Zugang zu bezahlbarer, verlässlicher, nachhaltiger und moderner **Energie** für alle sichern
- SDG 8: Dauerhaftes, breitenwirksames und nachhaltiges **Wirtschaftswachstum**, produktive **Vollbeschäftigung** und **menschenwürdige Arbeit** für alle fördern
- SDG 9: Eine widerstandsfähige **Infrastruktur** aufbauen, breitenwirksame und nachhaltige **Industrialisierung** fördern und **Innovationen** unterstützen
- SDG 10: **Ungleichheit** in und zwischen Ländern **verringern**
- SDG 11: **Städte und Siedlungen** inklusiv, sicher, widerstandsfähig und nachhaltig gestalten
- SDG 12: Nachhaltige **Konsum- und Produktionsmuster** sicherstellen
- SDG 13: Umgehend Maßnahmen zur **Bekämpfung des Klimawandels** und seiner Auswirkungen ergreifen
- SDG 14: **Ozeane, Meere und Meeresressourcen** im Sinne nachhaltiger Entwicklung erhalten und nachhaltig nutzen
- SDG 15: **Landökosysteme** schützen, wiederherstellen und ihre nachhaltige Nutzung fördern, **Wälder** nachhaltig bewirtschaften, **Wüstenbildung bekämpfen**, **Bodendegradation beenden und umkehren** und dem Verlust der **biologischen Vielfalt** ein Ende setzen
- SDG 16: **Friedliche und inklusive Gesellschaften** für eine nachhaltige Entwicklung fördern, allen Menschen **Zugang zur Justiz** ermöglichen und leistungsfähige, rechenschaftspflichtige und inklusive **Institutionen** auf allen Ebenen aufbauen
- SDG 17: **Umsetzungsmittel stärken** und die Globale Partnerschaft für nachhaltige Entwicklung mit neuem Leben erfüllen

Haupt-SDG der Arbeit: SDG 9

3-5 **Keywords**<sup>2</sup>: tourism innovation, sustainable destination development, community inclusion, role models

<sup>1</sup> Welchen der 17 SDGs kann diese Arbeit zugeordnet werden? Es sind alle Ziele anzugeben, zu denen die Forschungsarbeit einen wesentlichen Bezug herstellt sowie jenes Haupt-SDG, das von der Arbeit am meisten betroffen ist.

<sup>2</sup> Zentrale Begriffe zur inhaltlichen Erfassung der wesentlichen behandelten Aspekte.

# Towards Understanding Innovation in Tourism & Hospitality

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by

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Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business and Socioeconomic Sciences in the School of Tourism and Service Management in the Post-Graduate School of MODUL University Vienna.

24. May 2024



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## **AFFIDAVIT**

I hereby affirm that this Dissertation Thesis represents my own written work and that I have used no sources and aids other than those indicated. All passages quoted from publications or paraphrased from these sources are properly cited and attributed.

The thesis was not submitted in the same or in a substantially similar version, not even partially, to another examination board and was not published elsewhere.

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Signature

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## ABSTRACT

This dissertation aims at providing a more holistic understanding of what contributes to innovations in tourism and hospitality. The overarching research question investigated in this dissertation concerns *“What factors impact innovation in tourism and hospitality at a destination and organization level?”*. The preamble introduces the concept of innovation in tourism and hospitality, highlights the significance of investigating the topic at different levels and underscores the importance of the current study. Using four studies, the overarching research question is approached from different investigation perspectives – at the destination level (Study 1 & Study 2) and the organization level (Study 3 & Study 4). At the destination level, this is done by investigating how network orchestration and shared dynamic capabilities can impact collaborative innovations for sustainability (study 1) and evaluating what factors drive or hinder social innovations in community-model destinations (study 2). At the organization level, the impact of microfoundations on the development of dynamic capabilities and innovation outcomes in hospitality businesses is investigated (study 3) and challenges in measuring innovation in hospitality are addressed by proposing an adapted measurement instrument (study 4). For each study, the limitations and constraints of the empirical investigation are presented along with their theoretical contributions and managerial implications. The interdisciplinary nature of this dissertation contributes to bridging theoretical frameworks with practical industry realities, offering insights and guidelines for sustainable tourism practices and strategic management of innovation in the hospitality sector.

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## OVERVIEW OF PUBLICATIONS INCLUDED IN THIS DISSERTATION

Four publications are included in this dissertation. Parts of Study 1 of this dissertation have been used in a manuscript entitled “Charting Sustainable Paths: Shared Dynamic Capabilities and Collaborative Innovations for Sustainability in Tourism” and submitted to the the Journal of Destination Marketing & Management. The manuscript is under review at the time of the submission of the dissertation. This publication was coauthored by Astrid Dickinger and Michele Bettin.

<b>Task</b>	<b>Author’s Contribution</b>
Conceptualization	Anna, Astrid
Methodology	Anna
Data Collection	Anna
Data Preparation	Anna
Data Analysis	Anna
Writing – Original Draft	Anna
Writing – Review & Editing	Anna, Astrid, Michele

Parts of Study 2 of this dissertation have been used in a manuscript entitled “Unlocking Sustainable Tourism: Exploring the Drivers and Barriers of Social Innovation in Community Model Destinations” and submitted to the Journal of Destination Marketing & Management. The manuscript is under review at the time of the submission of the dissertation. This publication was coauthored by Birgit Pikkemaat and Astrid Dickinger.

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<b>Task</b>	<b>Author's Contribution</b>
Conceptualization	Anna, Astrid, Birgit
Methodology	Anna
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Data Analysis	Anna
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Parts of Study 3 of this dissertation have been used in a manuscript entitled “Innovation in Crisis. The Role of Leadership and Dynamic Capabilities for a more Innovative Hospitality Industry” and submitted to the International Journal Hospitality Management. The manuscript is under review at the time of the submission of the dissertation. This publication was coauthored by Astrid Dickinger.

<b>Task</b>	<b>Author's Contribution</b>
Conceptualization	Anna, Astrid
Methodology	Anna
Data Collection	Anna
Data Preparation	Anna
Data Analysis	Anna
Writing – Original Draft	Anna
Writing – Review & Editing	Anna, Astrid

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Parts of Study 4 of this dissertation have been used in a manuscript entitled “You Can't Manage What You Don't Measure. Towards a more appropriate Measurement of Innovation in Hospitality” and submitted to the International Journal of Hospitality Management. The manuscript passed the desk review and proceeded into the review process. The manuscript was ultimately rejected by the journal following the peer review. The manuscript was thereafter revised based on the greatly appreciated and valid reviewers’ comments. The revised manuscript was submitted to the International Journal of Contemporary Hospitality Management. This publication is a single authored manuscript.

<b>Task</b>	<b>Author’s Contribution</b>
Conceptualization	Anna
Methodology	Anna
Data Collection	Anna
Data Preparation	Anna
Data Analysis	Anna
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Writing – Review & Editing	Anna

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## LIST OF ABBREVIATIONS

AI	Artificial Intelligence
AR	Augmented Reality
CIS	Community Innovation Survey
CSR	Corporate Social Responsibility
DC	Dynamic Capabilities
DMO	Destination Management Organization
EU	European Union
IoT	Internet of Things
HTMT Criterion	Heterotrait-Monotrait Criterion
KEM	Climate and Energy Model Region
NGO	Non-Governmental Organization
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PLS-SEM	Partial Least Squares – Structural Equation Modeling
PMS	Property Management System
R&D	Research and Development
SI	Social Innovation
SME	Small and Medium-sized Enterprise
VR	Virtual Reality

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## PREAMBLE

The tourism and hospitality industry has experienced unprecedented shifts in recent years, due to technological advancements, shifts in socio-cultural norms, and global crises (Gössling, Scott, & Hall, 2021), providing a dynamic setting conducive to embracing change and fostering innovation. Understanding the nuances of innovation in tourism and hospitality is not only essential for industry stakeholders seeking to remain competitive but also for policymakers and academic scholars aiming to adequately address pressing sustainability challenges, as well as economic developments and contribute to conceptual discussions (Pikkemaat, Peters, & Bichler, 2019). This dissertation sets out to delve into the multifaceted realm of innovation within the tourism and hospitality sector. It aims to unravel the underlying mechanisms, discern enabling and hindering factors, while also identifying the implications for the industry's future development. By examining innovation through a holistic lens, taking both a destination and organizational perspective, this research offers a more comprehensive understanding of how innovation manifests and proliferates within the tourism field (Shin & Perdue, 2022).

Fundamentally, innovation in the tourism and hospitality industry involves developing and implementing new concepts, procedures, goods, and business models with the goal of improving the entire traveler experience, increasing operational effectiveness, or promoting economic growth and competitiveness (Pikkemaat et al., 2019). From the integration of cutting-edge technologies such as artificial intelligence and virtual reality to the emergence of experiential tourism and eco-friendly accommodations, innovation permeates every facet of the industry, reshaping traditional paradigms and redefining industry boundaries. The dynamics of innovation in the tourism and hospitality industries are closely linked to both global developments and broader socioeconomic trends. Tourists are increasingly looking for immersive and authentic experiences that align with their personal beliefs, which has led to a transition in offers from product-centric to experience-centric (Sipe, 2021). Simultaneously, the rise of digital platforms and the sharing economy have democratized access to tourist experiences, enabling to engage as both producers and consumers of tourism offers (Sigala, 2022).

Furthermore, in light of regional and worldwide crises, the COVID-19 pandemic first and foremost has highlighted the significance of adaptability and resilience for the industry (Gössling et al., 2021). Though the pandemic has also brought attention to industry vulnerabilities, the crisis has sped up the implementation of innovative solutions like contactless check-ins and virtual offerings. In addition, due to the advancements in climate change, academics have come to acknowledge the necessity of developing tourism in a way that balances economic growth with environmental protection and social equality (Higgins-Desbiolles, Carnicelli, Krolikowski, Wijesinghe, & Boluk, 2019; Sharpley, 2020).

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Faced with these developments, understanding innovation in tourism and hospitality is paramount for academic research. By elucidating the underlying mechanisms shaping innovation processes, this research aims to equip industry stakeholders, policymakers, and academics with valuable insights to understand what fosters a culture of innovation, drives sustainable development, and enhances the resilience of tourism destinations and hospitality firms.

## **Positioning in Existing Literature**

### **Innovations in Tourism & Hospitality**

Tourism, as a complex industry, is continuously evolving due to various factors such as technological advancements, evolving consumer preferences, and global (mega-)trends. Innovations have a critical role in determining the future course of the tourism and hospitality industry, as well as guaranteeing their long-term viability. Provided by its multifaceted nature, innovation research in the service sector generally, and in tourism specifically, remains scattered across disciplines and notably constrained (Hjalager, 2010; Molina-Castillo, Meroño-Cerdán, Lopez-Nicolas, & Fernandez-Espinar, 2023; Pikkemaat et al., 2019; Witell, Snyder, Gustafsson, Fombelle, & Kristensson, 2016). These empirical difficulties arising in tourism innovation research can be attributed, in part, to conceptual challenges stemming from the unique characteristics of service-oriented, tourism-related, and hospitality firms, as well as the limits in the collection and availability of relevant data (So, Kim, He, & Li, 2023).

The hospitality sector as a whole has been quick to embrace technological advancements from other industries. For example, information and communication technology can be used to better target new customers, improve customer relationship management systems' ability to retain existing customers, and improve marketing's ability to reach out to customers (Camisón & Monfort-Mir, 2012; Casanovas, Miralles, Gómez, & García, 2010). Nevertheless, studies on innovation in services (Gallouj & Savona, 2010; Hertog, Gallouj, & Segers, 2011) demonstrate that service companies are more than just willing consumers of innovation from other industries. Numerous scholars contend that service innovation differs significantly from manufacturing innovation and necessitates a distinct set of skills for both creation and output measurement (Camisón & Monfort-Mir, 2012; Mu, Bossink, & Vinig, 2022).

Extant literature has argued that innovative organizations are better able to adapt to market challenges and environmental shifts (Martínez-Román, Tamayo, Gamero, & Romero, 2015; Mattsson & Orfila-Sintes, 2014). However, many firms have found it difficult to develop innovation specific to the hospitality industry (García-Villaverde, Elche, Martínez-Pérez, & Ruiz-Ortega, 2017). There haven't been many truly revolutionary, ground-breaking innovations in the hospitality industry, like booking.com's reservation and travel planning simplification or AirBnB's innovative concept for lodging (Rodríguez, Williams, & Hall, 2014). The tourism and hospitality industry is often referred to as 'lacking innovativeness', as evidenced by the prevalence of incremental innovations such as repurposing existing offerings or introducing services into new markets (Peters & Pikkemaat, 2006). This view seems

unfair to the sector, provided that businesses are indeed able to innovative and even small-scale innovations have the potential to boost business performance metrics (Souto, 2015).

Many hospitality businesses have certain structural characteristics that may impede their ability to be innovative. Due to the prevailing organizational structures of family-owned and/or small businesses, the organizations operating in this industry typically lack internal technological and research and development (R&D) capabilities (Camisón & Monfort-Mir, 2012). Research has demonstrated that cooperation, collaborative, and open innovation practices can help hospitality businesses in producing innovative outputs (Biconne, Colombelli, & Marullo, 2023; Narduzzo & Volo, 2018; Novelli, 2023; Pikkemaat & Weiermair, 2007). Accordingly, extant literature has highlighted the significance of place-based attributes in fostering innovation within the tourism and hospitality industry as well as boosting productivity and competitiveness (Camisón, Forés, & Boronat-Navarro, 2017; Romão & Nijkamp, 2019).

### **Defining Innovation in Tourism & Hospitality**

The existing literature, in addition to detailing different types of innovations, also uses a wide variety of innovation definitions. Generally, service innovation exists where *“new services have been introduced into the market, or existing services have been significantly improved or important changes have been made to their basic characteristics, intangible components or desired purposes”* (Santamaría, Nieto, & Miles, 2012, p. 148). The concept of innovation as an outcome (also referred to as innovative performance) has already been suggested by Schumpeter’s (1934) innovation theory (as cited by Camisón & Monfort-Mir, 2012). Thereby, given that innovation can be understood as a performance, it is a visible, measurable result as an outcome of an innovative process.

The Organization for Economic Co-operation and Development (OECD), in an attempt to bring together different definitions, outlines four main types of innovation in its Oslo Manual, namely *product innovation, process innovation, marketing innovation* and *business model innovation* (OECD, 2005). In a review of innovation research, Hjalager (2010) identifies the following types of innovation for the tourism industry specifically: (1) *Product/Service innovation* (innovations in touristic goods or services, that are new to the business, the market, the industry, or the world); (2) *Process innovation* (innovation intended to increase efficiency, productivity, capacity, speed, or lowering costs and/or challenges in service provision); (3) *Managerial innovation* (innovations in personnel management practices, internal collaboration initiatives, staff empowerment, career development or compensation); (4) *Management innovation* (innovations in conceptualization and operationalization of new marketing concepts and communication initiatives); (5) *Institutional innovation or business model innovations* (new organizational structures or legal frameworks).

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## Innovation in Tourism and Hospitality at the Organization level

Scholars have argued that innovative organizations are more successful in responding to environmental changes and market threats, by utilizing existing capabilities and creating new ones more effectively, which ultimately generates a competitive advantage and leads to superior firm performance (Martínez-Román et al., 2015; Mattsson & Orfila-Sintes, 2014; Oly Ndubisi & Agarwal, 2014). As a result, innovative businesses can benefit from higher demand for their products and services as well as higher barriers to entry for rivals entering the market (Oly Ndubisi & Agarwal, 2014). According to Han et al. (1998) an organization's ability to innovate practically assures its survival in addition to fostering business growth.

Tourism scholars have argued for the importance of identifying the pertinent organizational factors that generate and spread innovation (Camisón & Monfort-Mir, 2012; Gallouj & Weinstein, 1997; Hipp & Grupp, 2005; Hjalager, 2010; Pikkemaat et al., 2019). Furthermore, studies have highlighted the significance of particular organizational configurations, like the franchise system or enterprise structures in which the relevant company is incorporated in the context of innovation (Pikkemaat et al., 2019). Innovation processes are typically less formalized than in larger organizational structures because SMEs, micro-, and family-owned businesses make up the majority of tourism-related businesses in Europe. This presents additional challenges for systematic investigations (Pikkemaat, 2008).

Researchers have been able to examine the conditions and abilities that support innovation performance in the tourism and hospitality industry by using a resource-based perspective (Hjalager, 2010). The effects of various location-based and organizational characteristics on incremental and radical innovation, as well as on different types of innovations, have been the subject of research in the field of tourism innovation (Martínez-Ros & Orfila-Sintes, 2009; Serrano-Bedia, López-Fernández, & García-Piqueres, 2018; Sundbo & Gallouj, 2015). Having said that, recent decades have seen an increase in interest in the internal structural characteristics of the innovative process as well as the knowledge capacity and organizational capabilities needed for the diffusion of innovations (Orfila-Sintes & Mattsson, 2009). Due to changing business environments, organizations need to develop and advance capabilities that enable agile responses to market changes by reconfiguring, integrating, and improving internal and external resources (Khan, Farooq, & Rasheed, 2019; Teece, 2007).

Businesses can enhance their current capabilities or create new ones with the help of so-called dynamic capacities (DC) (Teece, 2018). Organizations that demonstrate more advanced dynamic capabilities are better able to adjust to changes in the business environment. Additionally, by creating cutting-edge products, businesses with advanced DC can influence environmental changes. Put together, DC can be described as a *“firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.”* (Teece, Pisano, & Shuen, 1997, p. 516). Empirical investigations in the realm of innovation research, as well as in the hospitality context, have provided evidence for using the DC conceptualization to explain innovation performance (Alonso et al., 2022;

Camisón et al., 2017; Nieves & Haller, 2014; Pereira-Moliner, Molina-Azorín, Tarí, López-Gamero, & Pertursa-Ortega, 2021).

Finding the underlying processes, resources, and capabilities held by organizations to explain the development of dynamic capabilities has been a major focus of the literature on dynamic capabilities (Teece, 2018). As a result, the so-called microfoundations have been identified (Teece, 2007). Individual behaviors, character attributes, and practices are highlighted in the literature on microfoundations as having an impact on the development and advancement of DC (Foss & Pedersen, 2016).

Individuals, their motivations, intentions and behaviors have shown to be a major influence on innovation in tourism and hospitality. The motivations, inventiveness, and spirit of entrepreneurship of individuals affect an organization's capacity to produce and apply novel ideas (Kabangire & Korir, 2023; Liu, 2017). Extant literature has demonstrated how individual behaviors, character traits, and practices affect an organization's adaptability and economic performance (Foss & Pedersen, 2016). The significance of leadership approaches and executive manager personality traits in explaining business performance and innovation outcomes has been suggested (Alblooshi, Shamsuzzaman, & Haridy, 2021; Mai, Do, & Phan, 2022; Wang, Hou, & Li, 2022). Further, especially management inclinations and activities will determine how and to what extent the business will engage with other organizations and stakeholders in the tourism destinations, which will in turn also influence organizational adaptability.

#### **Innovation in Tourism and Hospitality at the Destination Level**

Destination-level analysis examines innovations within a broader context at the tourism destination level, encompassing collaborative activities, network dynamics, social connections and formal structures as essential elements to propel innovation (Bagiran Ozseker, 2019). Building on the idea that varying degrees of organizational adaptability stem from the interaction of internal and external factors, research has increasingly focused on networks (Camisón et al., 2017; Milwood & Roehl, 2018; van der Zee & Vanneste, 2015). According to Asheim and Gertler (2009) the knowledge production process reveals distinct spatially dependent differences across various geographies, as well as differences that arise from various types of business set-ups.

As a result, researchers have suggested that regional factors are essential to the innovation process and have a major impact on knowledge transfer in tourism destinations (Asheim & Gertler, 2009; Luongo, Sepe, & Del Gaudio, 2023). To promote innovation, cooperation and collaboration between different destination stakeholders is essential (Luongo et al., 2023). Stakeholders can jointly develop distinctive and captivating tourist experiences by combining their resources, skills, and knowledge, which will increase the destination's appeal and competitiveness (Picaud-Bello, Stevens, Cloutier, & Renard, 2022). According to the body of research on spatial learning and knowledge creation, face-to-face interaction—which is accelerated by collaborative clusters in close proximity—is crucial for the transmission of tacit knowledge (Bathelt & Turi, 2013; Nilsson & Mattes, 2015; Torre, 2008).



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The concept of learning-by-interaction is crucial in tourist service settings because interactions between service providers and customers frequently result in the production and transmission of knowledge (Gertler, 1995). Destinations are viewed as dynamic systems that are typified by a web of interactions between a variety of actors, including tourists, local communities, businesses, government officials, and non-governmental organizations (Pearce, 2014; Reinhold, Beritelli, & Laesser, 2023). The idea that tourism destinations are like ecosystems or networks has gained traction in academic literature (Philipp, Thees, Olbrich, & Pechlaner, 2022; van der Zee & Vanneste, 2015). This conceptualization provides a framework for understanding the intricate relationships that contribute to the processes of value creation.

Similar to the idea of hub actors in network theory, some actors within this networked system in tourism destinations are crucial to promoting connectivity, collaboration, and value creation (Romero & Molina, 2011). Hub actors, also known as network orchestrators, serve as focal points that integrate and coordinate the efforts of diverse stakeholders toward shared objectives. They are frequently represented by tourism associations, destination management organizations (DMOs), NGOs, or powerful businesses (Idisondjaja, Wahyuni, & Turino, 2023). They facilitate the sharing of information, the mobilization of resources, and the development of relationships, all of which influence the structure and operation of and within the destination (Idisondjaja et al., 2023).

Since the tourism sector is made up of a web of small- and medium-sized enterprises, it has been determined that having a lead actor or an orchestrator is beneficial for innovation (Hjalager, 2010; Milwood & Roehl, 2018). In this cooperative system, orchestrators facilitate the effective introduction, creation, and application of innovations. Good network orchestration improves information flow, stimulates creativity, and facilitates the destination's overall resilience (Tajeddini, Hussain, Gamage, & Papastathopoulos, 2024). The level of social capital, the closeness of relationships, and trust among individuals and organizations, is crucial in this context for the analysis of interactions between tourism stakeholders within a destination. Cooperation, knowledge exchange, and collective action—all necessary for innovation—are facilitated by high social capital levels (Nunkoo, 2017; Rodriguez-Giron & Vanneste, 2019; Soulard, Knollenberg, Boley, Perdue, & McGehee, 2018). The ability of destinations to adjust to shifting market dynamics and grasp new opportunities can be improved through the creation and maintenance of social capital. Social capital has been associated with increased resilience and adaptability within tourism communities (Chowdhury, Prayag, Orchiston, & Spector, 2019; Musavengane & Kloppers, 2020), as well as increased innovation in tourism organizations (Molina-Morales & Martínez-Fernández, 2010).

### **Measuring Innovation in Tourism and Hospitality**

Measuring innovation in tourism and hospitality is a complex yet essential endeavor. Innovation research has historically concerned itself primarily with manufacturing and technological advancements in products (Gallouj & Savona, 2010) and has investigated innovations in the service scope only in the

past decades (Witell et al., 2016). Research on innovation in services has gone through several phases in the past. After a period of apathy that lasted until the 1980s, during which services were not explicitly studied because they were not deemed innovative (Camisón & Monfort-Mir, 2012), existing literature in the field of innovation recognized that services could also be innovative. Innovation was approached generically in the 1990s following the *assimilation approach* (Mu et al., 2022). Accordingly, the perception of the manufacturing and service environments were perceived as equal, allowing researchers to apply manufacturing-based methodologies that were originally developed for product innovation to study innovations in services (e.g. Camisón & Monfort-Mir, 2012; Mu et al., 2022).

The *demarcation approach* was developed as a result of academic recognition that certain forms of innovation might not be as easily distinguished in services as they are in manufacturing (Mu et al., 2022; Tether, 2005). The demarcation approach emphasizes that service-specific concepts should be used to investigate service innovation (Pikkemaat et al., 2019). From a demarcation standpoint, the dynamic and interactive nature of services renders the conventional analytical inquiry unsuitable (Gallouj & Savona, 2010). This argument is also supported by the literature on hospitality. Innovation can be complex, fuzzy, and interwoven with the service experience, as demonstrated by Eide and Mossberg (2013). This could help explain why certain aspects of innovation might be harder to detect and obscure using more conventional, standard innovation metrics and measurements when applied to service settings (Camisón & Monfort-Mir, 2012; Nordli, 2017; Taques, López, Basso, & Areal, 2021).

Finding a suitable metric or measurement to assess innovative performance in services has long been a challenge for management research (Hagedoorn & Cloudt, 2003). Businesses' innovations have frequently been assessed as a result using a single dependent variable (such as R&D, patents, patent citations, or announcements of new products and services) (Hagedoorn & Cloudt, 2003). Conventional measures might not adequately represent the complex character of innovation in the tourism and hospitality sector. To evaluate how innovations affect visitor experiences, destination competitiveness, and organizational performance, tailored approaches to measurement are required.

Measures like a dichotomous variable that indicates whether a company has developed a service innovation in the past years or not have been used to measure innovation in service firms because patents and R&D inputs have less applicability in the tourism context (Jiménez-Zarco, Martínez-Ruiz, & Izquierdo-Yusta, 2011). Previous research has proposed measurement items that are specific to a given service (Taques et al., 2021) or developed instruments that are specific to a given service, such as the INNOSERV (Manohar, Paul, Strong, & Mittal, 2023). However, a major problem with service-specific innovation measurements is that they frequently aren't comparable to other industries (Hipp & Grupp, 2005).

Various degrees of innovation may also be taken into account in order to measure innovation in the tourism and hospitality industries appropriately. Organizations can either explore new opportunities to generate radical innovations or use their current capabilities to make incremental innovations by

adjusting their current services and products (Farzaneh, Wilden, Afshari, & Mehralian, 2022; Soto-Acosta, Popa, & Martinez-Conesa, 2018).

### Research Objective & Structure

Overall, the objective of this dissertation project is to gain a better understanding of the dynamics underlying innovation in the field of tourism and hospitality. This thesis aims to answer the following overarching research question: *What factors impact innovation in tourism and hospitality at the destination and organization level?*

This question is answered in four studies that tap into different investigation perspectives – the destination level (Study 1 & Study 2) and organization level (Study 3 & Study 4). This research combines different conceptual foundations in its investigation, which are outlined in Figure 1.

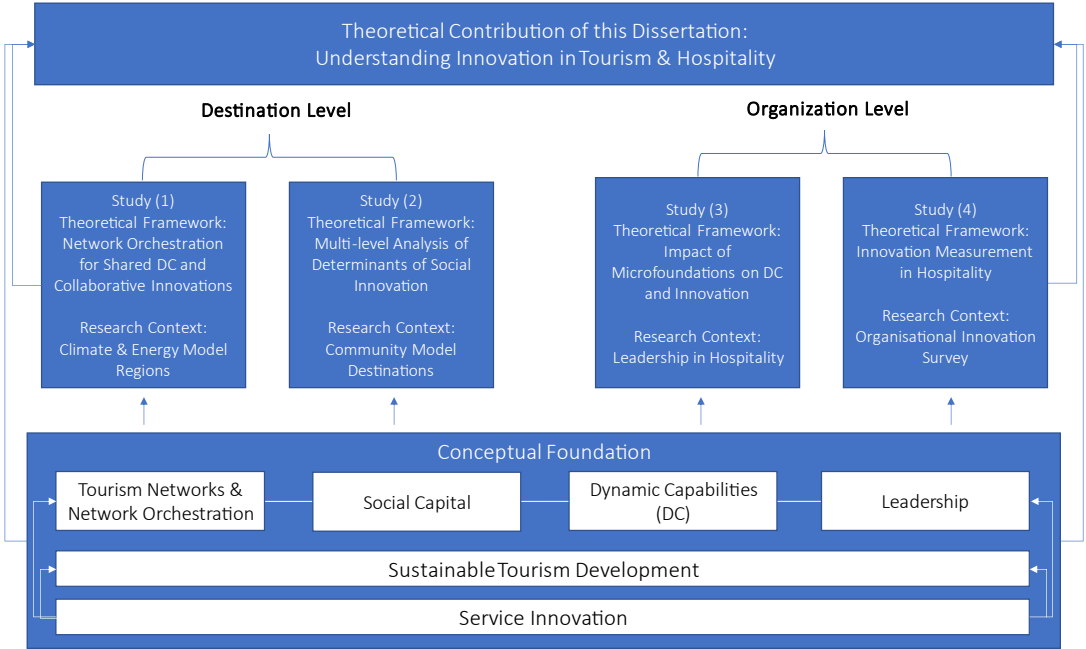


Figure 1: Conceptual Foundations of Dissertation

### Research Contributions

#### Destination Level Analyses

##### Study 1

Study (1) investigates the interplay of network orchestration, shared dynamic capabilities, and collaborative innovation within tourism destinations, aiming to elucidate how these contribute to more sustainability. The research employs a qualitative methodology, utilizing a case study approach and semi-

structured interviews. This research examines how dynamic capabilities are developed, shared, and utilized among various stakeholders within tourism destinations and ultimately impact innovation. Despite the recognition of the importance of dynamic capabilities in driving innovation, there is a lack of understanding regarding how these capabilities are shared and leveraged among stakeholders within tourism destinations (Alford & Duan, 2018; Murray, Lynch, & Foley, 2022). By focusing on two destinations, the study aims to identify common patterns in how shared dynamic capabilities are facilitated, thus contributing to a deeper understanding of the mechanisms underlying innovation in tourism destinations.

The idea that shared DC can be developed and maintained in tourism contexts is supported by the study's findings (Alford & Duan, 2018; Camison, Navarro, & Julián, 2018; Shrestha & L'Espoir Decosta, 2023). Furthermore, it is discovered that the radicalness of collaborative innovations is distinctly influenced by several shared DC and different forms of social capital (Al-Omouh, Ribeiro-Navarrete, Lasala, & Skare, 2022; Kaasa, 2009). Therefore, in the context under investigation, bridging capital and exploration capabilities appear to be linked to incremental innovations for sustainability, while exploitation capabilities and bonding capital appear to be tied to radical innovations. These insights offer a more nuanced perspective on how cooperative efforts influence the results of innovation in the tourism industry.

Further, this study examines how collaborative innovations are initiated, coordinated, and sustained within tourism destinations through network orchestration. While collaboration and network orchestration are recognized as drivers of innovation in tourism, there is limited research on the specific mechanisms through which collaborative innovations are facilitated and managed within destinations (Marasco, Martino, Magnotti, & Morvillo, 2018). This research emphasizes how crucial orchestration is to promote sustainable growth in tourist locations. In order to promote collaboration, information sharing, and resource sharing among stakeholders in tourist locations, orchestrators have proven beneficial in the tourism context (Murray et al., 2022). Network orchestrators have most frequently been studied in the context of tourism as destination management organizations (Murray et al., 2022; Volgger & Pechlaner, 2014). This study delves into a different type of network orchestrator and expands upon previous research by highlighting the orchestrator's function in constructing and enhancing social capital and shared DC in destinations. Contextual elements unique to the destination, such as prevailing visitor structures, local business motives, and external influences, appear to further influence effectiveness of orchestration (Trunfio & Campana, 2019).

A main contribution of this research is that it introduces a novel conceptual framework that illustrates how orchestration impacts shared dynamic capabilities and social capital within tourism destinations, while also pinpointing factors that foster sustainable collaborative innovation. The connection between different types of social capital and shared dynamic capabilities with innovations of varying degrees of radicalness are outlined. We further the discussion of the impact of various shared capabilities

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on different types of innovations, an area that has not received much attention up to this point (Shrestha & L'Espeir Decosta, 2023).

Additionally, we locate enabling factors that impact the radicalness of collaborative innovations for sustainability. These insights add to the body of knowledge and open up new directions for study and application (Marasco et al., 2018). Because of the deeper recognition of local characteristics, the integration of contextual knowledge, and the diversity of viewpoints, the more local community is involved in collaborative innovation development, the more radical solutions are developed (Luongo et al., 2023; Zhang, Chen, Wei, & Dai, 2022). Due to increased trust and closer engagement, a higher level of collaborative cohesiveness also increases the radicalness of collaborative innovations. As more radical ideas are put out and more risk-taking and experimentation is practiced, a heightened level of sustainability awareness further contributes to more radical collaborative innovations for sustainability in tourism destinations. Thereby, this research provides the critical function that efficient network orchestrators play in enhancing shared dynamic capabilities and encouraging collaborative innovations ultimately contributing to sustainable tourism development.

## **Study 2**

Study (2) focuses on community-based tourism destinations, employing a qualitative approach to identify and analyze drivers and hinderances of social innovations. To provide a holistic picture of the factors promoting and impeding social innovations in tourism, necessitates taking into account different investigation levels. The study posits a multilevel assessment of the drivers and impediments of sustainable innovations, which have garnered scholarly interest recently (Dugonski & Tumelero, 2022; Hueske & Guenther, 2021; Zen, Bittencourt, Hervas-Oliver, & Rojas-Alvarado, 2022). Through semi-structured interviews, the study aims to highlight the role of social innovations in enhancing community resilience, fostering cultural preservation, and promoting sustainable tourism practices.

This study uncovers factors influencing social innovation at the micro, meso, and macro levels. The social entrepreneurial elements and innovation in tourism are interrelated, and this study builds on earlier research (Grilo & Moreira, 2022; Novak, 2021; Phillips, Lee, Ghobadian, O'Regan, & James, 2015). Additionally, we add to the body of knowledge by emphasizing the role models and pioneers that drive social innovation initiatives (Grabs, Langen, Maschkowski, & Schöpke, 2016; Pikkemaat, Peters, & Chan, 2018), illuminating the impact these individuals have on motivating and directing other tourism stakeholders. Moreover, the findings support normative implications by highlighting altruistic motivations as a driving force of social innovations, a perspective informed by psychological research highlighted by Lin et al. (2022).

The participation and inclusion of local communities in social innovation projects is identified in this study as a critical driver, offering insights into a domain where understanding remains incomplete (George, Baker, Tracey, & Joshi, 2019; Patnaik & Bhowmick, 2020). Furthermore, this research pro-

poses that effective social innovation in community model tourism destinations can be fueled by promoting audience sensitization to cultural heritage and emphasizing the significance of fostering understanding of local culture. With a recent focus on the unique challenges given by the COVID-19 epidemic, this research also extends the knowledge of external innovation push factors, particularly in the face of regulatory gaps and crises (Sharma, Shin, Santa-María, & Nicolau, 2021). The findings expand on prior research examining the role of authenticity in social innovation, validating findings from leadership (Knox, Crawford, & Kelder, 2022) and corporate social responsibility (CSR) literature (Alhouti, Johnson, & Holloway, 2016; Hassan, Pandey, Behl, Pereira, & Vaz, 2023).

New obstacles that further the state of current knowledge are identified. Notably, the degree of tourism's economization shows up as a major barrier to change, illuminating the ways in which tourism's excessive commercialization can impede the uptake of socially innovative activities. The research also identifies contextual elements that, depending on the circumstances, may either operate as drivers or impediments, such as economic dependence on tourism and the prevalence of small and family companies in the tourism industry. The identification of contextual influences highlights the necessity for a customized approach that takes into account the particular issues given by each destination, adding depth to the current literature on social innovation in tourism.

### **Organizational Level Analyses**

#### **Study 3**

Study (3) utilizes a quantitative approach to explore how different leadership behaviors influence the development and deployment of dynamic capabilities within hospitality organizations and ultimately influence innovation. While organizational dynamic capabilities are widely recognized as drivers of innovation, we focus on the impact of different microfoundations on dynamic capabilities and innovation. The advantages of employing the idea of DC to explain hotel performance as proposed by earlier studies in the hospitality field have been widely validated (Bornay-Barrachina, López-Cabrales, & Salas-Vallina, 2023; Camisón et al., 2017; Pereira-Moliner et al., 2021; Shin & Perdue, 2022). The knowledge of how hospitality firms innovate, adapt, and transform under various leadership philosophies is expanded by this research. When examining organizational transformation and adaptability in the hotel industry, leadership skills and management philosophies appear to be very important (Huertas-Valdivia, Gallego-Burín, & Lloréns-Montes, 2019). By demonstrating that various leadership types have distinct effects on both dynamic capacities and innovative results, this study adds to the body of knowledge (Hassi, 2019).

Individual aspects of leadership behaviors such as empowering, visioning, and promoting creativity in employees have been shown to positively influence innovation outcomes in service organizations (Hughes, Lee, Tian, Newman, & Legood, 2018; Koziol-Nadolna, 2020). We find that some leadership styles have a favorable impact on innovation outcomes while others do not. While no statistically sig-

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nificant impact was found for participative leadership, both empowered leadership and transformational leadership styles appear to significantly promote innovation in hospitality organizations (Teo, Lee, & Lim, 2017; Valero, Jung, & Andrew, 2015). This contradicts the assertions of certain scholars that participatory leadership significantly improves organizational performance, agility, and adaptability (Wang et al., 2022; Yan, 2011). Furthermore, this research indicates that distinct leadership styles have varying effects on the three sub-constructs of DC utilized (sensing, seizing, and transforming) as well as the higher-order construct of DC. In this study, it has been observed that while empowered leadership can assist in scanning and exploring activities to uncover opportunities, transformational leadership can additionally help in seizing these opportunities, as well as transforming and restructuring the organization.

Further, this research employs a comparative, multi-group methodology, analyzing the microfoundations of dynamic capabilities in both innovative and non-innovative hospitality firms. Thereby, the study aims to identify the specific leadership practices that distinguish innovative firms from their non-innovative counterparts. We identify that innovative hospitality firms differ from non-innovative firms in their level of dynamic capabilities and in the extent that different leadership styles impact dynamic capability development. We advance recent management literature in support of differences in business processes and operations between innovative and non-innovative firms (Montresor & Vezzani, 2022). Insights from this comparative analysis contribute to a better understanding of the mechanisms underlying innovation in hospitality organizations and inform strategies for enhancing innovative capacity and performance.

#### **Study 4**

Study (4) addresses the issue of measuring innovation in the hospitality industry. This study explores the appropriateness of the most broadly utilized innovation measurement instrument, the European Union's Community Innovation Survey (CIS), for the hospitality industry. Existing standardized measures of innovations commonly focus on manufacturing indicators that lack appropriateness for the hospitality industry (Camisón & Monfort-Mir, 2012; Hjalager, 2010), while tourism and hospitality specific innovation measures lack comparability to other industries (Hipp & Grupp, 2005). A more realistic picture of the innovative activity in the sector can be obtained by evaluating, improving, and expanding current innovation frameworks and metrics to take into account the unique characteristics of the hospitality industry (Molina-Castillo et al., 2023).

Drawing on insights from both stakeholder and academic expert interviews, this study identifies avenues of adaption for the EU's community innovation survey (CIS) to suit the intricacies of the hospitality domain, capturing multifaceted innovation aspects currently misreported or overlooked, while ensuring comparability across industries. According to Camisón and Monfort-Mir (2012) these kinds of uncertainty could lead to bias or mistakes in survey responses, which could cause the survey to be un-

necessarily prolonged and possibly cause respondents to stop responding early. Furthermore, the findings suggest certain concerns regarding certain survey components, specifically those pertaining to research and development (R&D) and patents, which may not only represent inappropriate metrics for service innovation but also may lead to early survey abandonment as a result of perceived misfit (Nordli, 2017). This research validates other studies' conclusions that these types of innovation metrics are inappropriate for non-product-producing companies (Hjalager, 2010; Sipe, 2021). In addition, this may suggest that innovation in the service industry overall may be much higher and more varied than generally reported in standardized survey instruments (Hertog et al., 2011).

Having said that, the CIS does show promise in identifying innovations in hospitality firms. Multiple survey sections, especially the ones that discuss the distinction between business and market innovation, fit in nicely with the body of research that focuses on incremental innovation in the hotel industry (Molina-Castillo et al., 2023). The hospitality literature on typologies and taxonomies, which is crucial to conceptualize and analyze the diverse character of innovation in hospitality, is further aligned with the recognition of many forms of innovation within the industry, such as product/service innovation, process innovation, and eco-innovations reflected in the CIS (Hjalager, 2010). Furthermore, the findings show that the survey adeptly encapsulates contemporary industry patterns in artificial intelligence and sustainable practices, while also furnishing discernments into innovation collaborations, barriers, and funding.

The survey's coverage is noticeably lacking in some areas, though. The significance of staff engagement (Engen et al., 2021) and a more detailed explanation of innovation in service environments (Randhawa & Scerri, 2015) are not sufficiently represented. The involvement of employees in all stages of the service delivery practice, necessitates their inclusion in the CIS. Recent studies have also emphasized the role that employees play in the service innovation process (Engen et al., 2021; Nagwan Abu, Stoetzel, Bessant, & Pinkwart, 2013; Smith, 2018). Certain questions and survey items also show to be too technical or misaligned with service settings generally, or the hospitality sector specifically.

The research yields valuable insights that have led to the creation of an adapted survey instrument for examining innovation and its underlying mechanisms in the hospitality sector. A hospitality-appropriate community innovation survey is introduced to address the identified shortcomings, empowering stakeholders to better understand, manage, and address innovation in the industry. The academic community's discussions and debates over the best indicators, metrics, and evaluation techniques for innovation in service businesses are directly addressed by this research (Camisón & Monfort-Mir, 2012; Dziallas & Blind, 2019; Gomezelj, 2016; Pikkemaat, 2005; Shin & Perdue, 2022; Taques et al., 2021).

The following parts outline the four publications included in this dissertation thesis.



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# 1 CHARTING SUSTAINABLE PATHS: SHARED DYNAMIC CAPABILITIES AND COLLABORATIVE INNOVATION FOR SUSTAINABILITY IN TOURISM

**Abstract** – This research delves into the interplay of network orchestration, shared dynamic capabilities, and collaborative innovation within tourism destinations, aiming to elucidate how these contribute to more sustainability. Our study introduces a conceptual framework that illustrates how orchestration influences shared dynamic capabilities and social capital within tourism destinations, while also pinpointing factors that foster sustainable collaborative innovation. We outline the connection between different types of social capital and shared dynamic capabilities with innovations of varying degrees of radicalness. Additionally, we identify enabling factors that contribute to the breadth and depth of innovations. We contribute to literature by illuminating how network orchestration and shared dynamic capabilities challenge traditional dichotomies between sustainable development and tourism growth, showcasing their role in fostering innovation for sustainability.

**Keywords:** sustainable tourism development; collaborative innovation; shared dynamic capabilities; social capital; network orchestration

## 1.1 Introduction

The global tourism industry finds itself at a pivotal moment, with sustainable destination development emerging as an avenue to overcome pressing global concerns. As tourist arrivals continue to soar and destinations become increasingly commodified, the imperative to promote sustainability in both practical implementation and scholarly inquiry cannot be overstated. Scholars have increasingly recognized the need for tourism development that balances economic growth with environmental conservation and social equity (Higgins-Desbiolles et al., 2019; Sharpley, 2020). This necessitates a holistic approach that considers the interplay of economic, environmental, and socio-cultural factors, as well as different stakeholders within the destination (Shafieisabet & Haratifard, 2020). The rise of ecotourism and community-based tourism initiatives underscores a growing recognition of the significance and benefit of involving communities in decision-making processes (Phelan, Ruhanen, & Mair, 2020). Despite these advancements, challenges such as overtourism, climate change impacts, and unequal distribution of benefits persist, requiring ongoing research to ensure the long-term sustainability of tourism destinations (Buhalis et al., 2023).

This paper delves into the realm of sustainable tourism development, with a particular emphasis on collaborative innovation within destinations—an aspect often overlooked despite its importance for fostering a more sustainable future within the industry (Marasco et al., 2018). There is an influence of destinations in shaping visitor experiences and driving economic growth, however scant attention has been paid to innovation within this sphere (Halkier, Kozak, & Svensson, 2014; Milwood & Roehl, 2018). Traditional paradigms often fall short in capturing the multifaceted nature of destination development, particularly concerning sustainable change and adaptation (Volgger & Pechlaner, 2014).

This study aims to uncover the dynamics underlying collaborative innovation in sustainable tourism development. Organizational dynamic capabilities (DC) are posited as indispensable assets for navigating external turbulence and catalyzing meaningful change within businesses (Gibb & Sune, 2013; Teece, 2007). However, the extant literature lacks in providing comprehensive insights into the workings of shared DC at the tourism destination level (Alford & Duan, 2018; Shrestha & L'Espoir Decosta, 2023). Importantly, the application of shared DC theory to the context of tourism destinations offers a fresh perspective, one uniquely attuned to the challenges and opportunities inherent to tourism (Alford & Duan, 2018). Our research seeks to address several research gaps identified by Reinhold et al. (2023) concerning tourism destination development towards a more sustainable future by posing two research questions:

1. How does network orchestration cultivate and harness shared dynamic capabilities?
2. What factors enable collaborative innovation in fostering sustainability within destinations?

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## 1.2 Literature Review

### 1.2.1 Collaborative Innovation for Sustainability in Tourism

Collaborative innovation plays a pivotal role in fostering sustainable tourism destination development (Marasco et al., 2018). By engaging various stakeholders such as the local communities, government agencies, NGOs, businesses, and tourists themselves, collaborative innovation processes facilitate the co-creation of solutions that address complex sustainability challenges in the destination (Marasco et al., 2018; Maziliauske, 2024; Polese, Botti, Grimaldi, Monda, & Vesce, 2018). Through collaborative platforms and initiatives, stakeholders can share knowledge, resources, and best practices, leading to the development of innovative initiatives that promote responsible practices and enhance sustainability (Roxas, Rivera, & Gutierrez, 2020). Collaborative efforts may involve the design and implementation of eco-friendly infrastructure, the establishment of sustainable tourism certification schemes, or the creation of community-based tourism enterprises that empower locals while conserving natural and cultural resources (Dangi & Jamal, 2016).

In tourism research, collaboration is acknowledged for its role in stimulating innovation, sustainable growth, and competitive edge economically (Alford & Duan, 2018; Gomezelj, 2016). However, establishing such networks is challenging and contingent upon factors such as the tasks, technologies, partner orientations, and prior experiences (Wilkinson & Young, 2002). As such, collaborative innovation emerges as a vital mechanism for driving sustainable tourism development by harnessing the collective wisdom and creativity to co-create solutions that balance economic prosperity, environmental integrity, and socio-cultural well-being. In empirical research, the assessment of innovation within destination contexts presents a rather unclear picture, with results showing a blend of outcomes (Alford & Duan, 2018; Zach, 2012).

### 1.2.2 Tourism Destinations as Networks

Destinations are seen as dynamic systems characterized by a web of interactions between diverse actors such as tourists, local communities, businesses, government bodies, and non-governmental organizations (Pearce, 2014). The conceptualization of tourism destinations as an ecosystem or network has gained traction within academic literature, offering a framework to understand the complex interrelationships contributing to the value creation processes (Philipp et al., 2022; van der Zee & Vanneste, 2015).

Within this networked system, certain actors play a central role in facilitating connectivity, collaboration, and value creation, akin to the concept of hub actors in network theory (Romero & Molina, 2011). Hub actors, or network orchestrators, often represented by destination management organizations (DMOs), tourism associations, NGOs or influential businesses, act as focal points that coordinate and integrate the efforts of various stakeholders towards common goals (Idisondjaja et al., 2023; Murray

et al., 2022). They serve as conduits for information exchange, resource mobilization, and relationship building, thereby shaping the configuration and functioning of the destination (Idisondjaja et al., 2023). Especially in a context of small- and medium-sized businesses, a lead actor (Hjalager, 2010) or an orchestrator (Milwood & Roehl, 2018) serves as a linchpin in the collaborative mechanism to drive innovations by enabling the successful introduction, development, and implementation of innovations. Notably, an orchestrator's involvement is a critical characteristic in collaborative innovative research (Milwood & Roehl, 2018). Innovation outcomes also benefit from network orchestration, as business relationships are coordinated and resources are mobilized more effectively (Giaccone & Longo, 2016).

#### **1.2.2.1 Social Capital in Destinations**

Social capital, defined as the collective resources embedded within social networks, emerges as a critical determinant of interactions and development within tourism destinations (Rastrollo-Horrillo & Rivero Díaz, 2019). Scholars have increasingly recognized the significance of social capital in fostering trust, cooperation, and collaboration among diverse stakeholders within destination contexts (Nunkoo, 2017; Rodriguez-Giron & Vanneste, 2019; Soulard et al., 2018). By facilitating information sharing, knowledge exchange, and mutual support, social capital enhances the efficiency and effectiveness of collaborative endeavors (Nunkoo, 2017). Furthermore, social capital has been linked to enhanced innovation in tourism organizations (Molina-Morales & Martínez-Fernández, 2010) as well as resilience, and adaptability within tourism communities (Chowdhury et al., 2019; Musavengane & Kloppers, 2020).

In social capital literature, bridging capital facilitates interactions and collaborations between people from different backgrounds, cultures, or social circles, enabling the exchange of information, resources, and opportunities (Narayan, 1999). Bridging capital is particularly valuable in fostering innovation, economic development, and collective action, as it enables individuals and groups to access diverse perspectives, knowledge, and resources (Granovetter, 1992; Nahapiet & Ghoshal, 1998; Narayan, 1999). Bonding capital focuses on the ties that bind individuals together within a shared identity, community, or affiliation (Narayan, 1999). Bonding capital is often nurtured through frequent interactions, shared experiences, and common values within a community (Granovetter, 1992; Nahapiet & Ghoshal, 1998). Bonding capital is particularly important for fostering social cohesion, mutual support, and collective action (Widmalm, 2005).

#### **1.2.2.2 Dynamic Capabilities in Destinations**

Dynamic capabilities (DC) have garnered increasing attention in the tourism literature, frequently serving as a framework to examine adaptability and innovation (Camisón et al., 2017; Denicolai, Cioccarelli, & Zucchella, 2010; Shrestha & L'Espoir Decosta, 2023). Previous research has focused most commonly on the investigation of DC within organizations. Teece et al. (1997) pioneered the concept of Dynamic

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Capabilities, leveraging resource-based perspectives to argue that organizations adept at responsiveness harness both internal and external capabilities and resources to adapt to evolving environmental dynamics.

Less commonly, DC have been investigated at the level of tourism destinations (Camison et al., 2018; Sainaghi & Carlo, 2016). Even though, Denicolai et al. (2010, p. 261) highlights that: *“the competitive advantage of the tourism destination as a whole often relies on the overall inter-firm network configuration, more than on a few individual firm competencies”*. When resources and capabilities across the network are combined, the development and execution of tourism activities can be enhanced in terms of effectiveness and efficiency (González-Rodríguez, Díaz-Fernández, & Pulido-Pavón, 2023). Scholars have argued that local business networks, clusters, or other forms of regional cooperatives between organizations and stakeholders, may foster the generation of DC shared within the network (Camisón et al., 2017). When resources and capabilities across the network are combined, the development and execution of tourism activities can be enhanced in terms of effectiveness and efficiency (González-Rodríguez et al., 2023).

Accordingly, there is a differentiation between shared capabilities for exploration and exploitation (Camison et al., 2018). Shared exploration capabilities encompass elements such as the presence of knowledge flows, information dissemination, and knowledge management activities between actors to identify opportunities and assess challenges (Camison et al., 2018). Shared exploitation capabilities are built upon leveraging existing knowledge and capabilities to address identified opportunities (Camison et al., 2018). These capabilities are reinforced by nurturing a unified identity, collective vision, and shared reputation through collaborative cognitive and normative structures (Camisón et al., 2017).

## **1.3 Research Design**

### **1.3.1 Study Context**

In 2023, there were 124 Climate and Energy Model Regions (KEMs) in Austria, with 1,134 participating municipalities. The KEM program aims at promoting sustainability and reducing carbon emissions through the support in local sustainability projects. Some KEMs in Austria have a thematic focus - for the first thematic specialization call in 2019, the focus was placed on tourism. Tourism KEMs intend to serve as inspiring examples of how tourism and sustainability can be harmoniously merged, benefiting local communities, tourists, and the environment alike. This research focuses on the two model regions that were selected in the application call for a specialization in tourism (namely Nassfeld – Lesachtal – Weißensee and Zell am See – Kaprun).

Following the discussion in section 1.2.2 on network orchestration, the KEM program generally, and the KEM management specifically has been seen as a network orchestrator in that it provides a platform for information exchange and knowledge sharing, while additionally providing administrative assistance and facilitating the value creation process.

### **1.3.2 Materials & Methods**

The Flexible Pattern Matching Approach (FPMA) serves as the chosen research approach, offering a pathway for theory development while maintaining a close connection between existing literature and empirical evidence in qualitative studies (Bouncken, Qiu, & García, 2021). Our research follows seven steps, suggested by Bouncken et al. (2021): (1) formulating theory driven research questions, (2) generating (initial) theoretical patterns, (3) theory-laden sampling and data collection, (4) initial data analysis and pattern matching, (5) comparing and surfacing new constructs, (6) interpreting and theorizing and (7) integration of trends and changes.

#### **1.3.2.1 Data Collection**

Our critical analysis approach commenced with the literature review, shaping the conceptual framework guiding data collection, sample selection, and data analysis. Semi-structured interviews were conducted, providing a flexible yet systematic approach to gathering qualitative data (Creswell & Creswell, 2018). The semi-structured interview guide can be found in A.1 Appendix – Interview Guideline.

The use of semi-structured interviews facilitated a rich and nuanced exploration of the research questions, capturing diverse viewpoints and contributing to a deeper understanding (Walther et al., 2017). We collected data from 25 interviewees including tourism stakeholders, representatives from the involved tourism associations, local tourism business owners, KEM representatives and local political representatives (see Table 1). Official documentation (e.g. KEM meeting minutes, project websites) and stakeholder input, aided in selecting interviewees. Purposive sampling allowed us to select interviewees based on their experience, domain expertise and relevance to the research topic (Campbell et al., 2020). The criteria established for inclusion were (1) an active involvement in the KEM program, (2) holding a leading function in their respective organization (General Manager, Managing Director, Board Member, etc.) and (3) at least 2 years involvement in the KEM in their current function.

Interview	Affiliation	Position
T1	Tourism Management Organizations	Managing Director (MD) Tourism Regional Office
T2		MD DMO
T3		MD DMO
T4		MD DMO
K1	KEM Office	KEM Manager
K2		Head of Regional Management Office
K3		KEM Manager
B1	Business	Hotel Owner & Tourism Chairperson
B2		Member of Board of Directors of the largest local cable car
B3		Head of Mobility Management Office
B4		COO of local Hospitality Business
B5		MD of local Hospitality Business
B6		MD of local Hospitality Business
B7		General Manager of Spa Resort
B8		MD of local Hospitality Business
B9		Technical Lead of largest local cable car
C1	Civil Society	MD of Nature Park
C2		Lead of local Association for energy conservation
C3		Lead of local Association for energy conservation
C4		MD of Leisure and Community Center
P1	Politics	District Governor
P2		Mayor of involved municipality
P3		Vice Municipal Tourism Chairperson
P4		Mayor of involved municipality
P5		Municipal Tourism Chairperson

Table 1: Summary of Interview Participants

The interviews were conducted between August and November 2023. The interviews were held either in person or virtually, depending on participants' preferences and logistical considerations, lasting an average of 60 minutes. Probing techniques were employed to delve deeper into participants' responses and uncover nuanced insights (Creswell & Creswell, 2018). With participants' consent, interviews were recorded to ensure accurate data capture and supplemented by detailed note-taking to document nonverbal cues and contextual information (Tessier, 2012). Following the interviews, verbatim transcriptions were prepared.

### 1.3.2.2 Data Analysis

The FPMA combines deductive and inductive analyses, iteratively matching patterns derived from prior theories with observed realities, as recommended by Yin (2009) to enhance internal validity. This iterative process grounds analysis in existing theories, legitimizing identified factors and guiding the interpretation of collected data, ensuring analytical rigor (Gatignon & Capron, 2023). NVIVO14 was used as a software tool in the analysis.

Following the (Gioia) template (2004), first-order categories are generated through 'open coding,' which involves descriptive write-ups of code segments to capture key information. Then first-order categories and theoretical patterns are compared, and the level of overlap is assessed. The first-order

categories are aggregated into second-order themes, situated at a higher level of abstraction. By combining flexible pattern matching logic with the Gioia method, we enhance the exploration of empirical data and theory, facilitating theory building. Second-order themes are conglomerated into aggregate dimensions (Figure 2). Data interpretation and analysis was shared with selected interviewees by email for verification, enhancing emic validity (Morse, Barrett, Mayan, Olson, & Spiers, 2002).

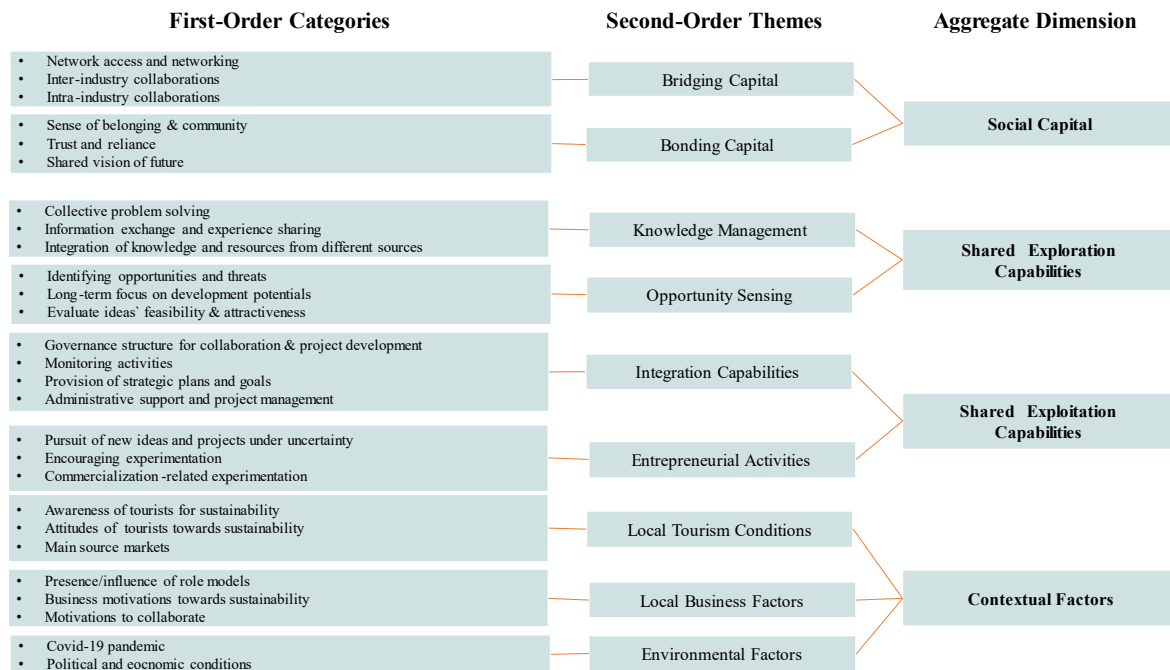


Figure 2: Coding Process

## 1.4 Findings

### 1.4.1 Impact of Orchestration on Destinations

#### 1.4.1.1 Bridging Capital

In the context of social capital, the KEM plays a pivotal role in cultivating and amplifying *bridging capital* within the social fabric of the region. Bridging capital, characterized by connections and relationships established across diverse stakeholder groups, serves as a conduit for the exchange of information and enhanced interaction, thereby fostering collaboration and collective action.

The KEM undertakes a significant responsibility in networking, underscoring the importance of establishing and nurturing connections with various stakeholders. This sentiment is echoed by numerous interviewees, who emphasize the vital role of networking in ensuring widespread awareness and engagement with the initiatives in the destination. P1 elucidates the impact of the network orchestrator noting “...that the different cells of the regional network [...] cooperate more intensively with each other and sharpen their focus even more in one direction [than before].”



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The collaborations facilitated by the KEM extend beyond mere networking activities to encompass inter-industry interactions. The KEM's role in forging connections among organizations that previously operated in silos is lauded, emphasizing the transformative potential of such cross-industry collaborations in advancing sustainable activities. C1 states that following the KEM's introduction "*something has really happened because industries have come together that previously didn't think they could work together in the municipalities.*" Moreover, K3 states: "*you can see that the businesses collaborate much more with each other than was previously the case. That is definitely an advantage.*" Interview participants emphasize the proactive engagement of businesses in jointly developing sustainability initiatives, transcending traditional competitive boundaries to foster collective progress.

#### **1.4.1.2 Bonding Capital**

Bonding capital, a fundamental component of social capital, encapsulates the cohesive relationships and trust cultivated within specific groups or communities, fostering a sense of solidarity and mutual support.

Interview participants highlight the strengthened collaboration among stakeholders since the initiation of the KEM. B2 passionately emphasizes the collective strength derived from deeper collaboration, asserting, "*And I believe that as a region, we are much, much stronger than if each individual actor in the market tries to move something. Together, it's also much nicer for me. We have a common goal and that's just like in a team. And when this goal is then implemented positively, it's naturally more enjoyable within the community.*" This unity of purpose fosters a supportive community environment, enhancing cohesion within the KEM.

This sense of community and belonging not only amplifies collective efforts towards tourism development but also contributes to a unified vision of the region as a living space for both locals and tourists alike. T2 stresses the importance of clear vision and transparent structures to ensure inclusive participation and engagement from all stakeholders. B3 observes a shift in focus towards sustainability catalyzed by the KEM's efforts, indicating a collective evolution in priorities towards more environmentally and socially responsible practices. Multiple interviewees highlight the ease of implementation when there is alignment in vision and direction among regional stakeholders.

#### **1.4.1.3 Shared Exploration Capabilities**

In the context of shared dynamic capabilities, shared exploration capabilities refer to the collective ability of organizations within a network to sense opportunities and integrate knowledge effectively.

*Opportunity sensing* involves the capacity to identify emerging trends, market shifts, and new possibilities for innovation or growth. In sensing opportunities and assessing the feasibility and attractiveness of new ideas, numerous interviewees underscore the importance of strategic planning for the future

of the destination to guide opportunity sensing activities. K2 elucidates the importance of clarifying objectives and identifying areas of greatest need prior to engaging in sensing activities.

B9 underscores the importance of evaluating the feasibility of projects and ideas, recognizing that delayed implementation may yield superior outcomes if following more careful evaluations. Others discuss a conviction in the necessity of present actions to contribute to the betterment of future livelihoods, symbolising a forward-thinking approach to opportunity sensing. T1 emphasises this by stating: *"That's the core that motivates me to actively engage in thinking about our region, to create a place that promises a better life compared to today. But not in terms of economy and economics. On the contrary, we will have to reevaluate our economic growth. Instead, it should be a place of good living overall."*

*Knowledge management* pertains to the collaborative processes through which organizations and individuals pool and synthesize diverse sources of knowledge, expertise, and insights, fostering a shared understanding of complex issues and facilitating joint problem-solving and decision-making.

The testimonies from stakeholders shed light on the pivotal role of collective problem-solving and learning. B3 emphasizes the increased propensity for stakeholders to convene and discuss topics, problems, or challenges since the KEM. This cooperative approach fosters a conducive environment for joint problem-solving, where diverse perspectives are considered and integrated into decision-making processes.

By leveraging collective knowledge and insights, stakeholders aim to enhance their individual and collective capacities. Further the iterative nature of learning and adaptation is underscored, in which the significance of continuously refining strategies based on emergent insights and experiences is mentioned. Concretely, K3 states that *"with many topics, we also had incredibly many learnings, which, from my personal point of view, could not have been estimated before the project started. There are many learning effects involved. We also had to strongly adapt certain measures during the project runtime because we realized that what we had in mind was not heading in the right direction."* Open-mindedness and a culture of dialogue enable stakeholders to freely discuss experiences and insights, fostering mutual learning and understanding. B2 highlights *"We are in constant exchange. One talks about things much, much easier [than before the KEM]."*

#### **1.4.1.4 Shared Exploitation Capabilities**

Within the concept of shared dynamic capabilities, shared exploitation capabilities involve the collective capacity of organizations within a network to leverage (consolidated) resources, competencies, and seizing opportunities for sustained value creation.

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*Entrepreneurial activities* encompass the collaborative initiatives undertaken to identify, develop, and commercialize innovative products, services, or business models, thereby capitalizing on market opportunities and fostering growth. Key to this endeavor is the pursuit of new ideas and projects amidst uncertainty. Related to this, entrepreneurial activities encourage experimentation. T1 expresses appreciation for initiatives like the KEM, acknowledging the inherent risks associated with trial and error but emphasizes the importance of perseverance and learning from failures. B1 emphasizes the iterative process of refinement and evaluation, stressing the necessity of continuous improvement. P2 echoes these sentiments, advocating for a culture that embraces failure as a catalyst for growth and innovation, stating *"If you fail, then you fail, but then you may get the chance to try it differently again. Hopefully, we fail, yes, failure is important, that you also allow that, that you fall on your face once and don't have to resign immediately if it doesn't work out."* The significance of resilience and adaptability in entrepreneurial pursuits is underscored.

*Integration capabilities* refer to the collaborative processes through which involved stakeholders coordinate and harmonize their activities, resources, and operations to achieve synergies, economies of scale, and operational efficiencies. Central to integration capabilities is the establishment of effective governance structures and efficient project frameworks. Interviewees emphasize the importance of providing a supportive environment for stakeholders to engage and get involved. Multiple participants advocate for the effectiveness of decentralized decision-making complemented by overarching support and guidance from higher authorities. Thereby, local stakeholders are empowered to leverage their autonomy while aligning with broader strategic objectives and achieving more fruitful results in the KEM structure.

Administrative support and effective project management are integral components of integration capabilities. Multiple interviewees emphasize the advantages of dedicated KEM personnel streamlining processes. Thereby, the pivotal role of manpower in driving project progression is highlighted, as well as the need for dedicated individuals to ensure the successful implementation of initiatives. T3 mentions *"That there is someone taking care of it. The advantage is that they [the KEM managers] can focus on this issue full-time, thereby gaining more expertise."* P2 further accentuates that: *"Certain things simply come together with the KEM. There is personnel, there is data, there are funding streams, there are contacts, and we naturally use that because everyone on their own is simply inferior as a lone fighter."*

#### **1.4.1.5 Contextual Factors**

In both case study regions, we found similar levels of shared exploration capabilities and bridging capital, whereas one of the regions exhibited a significantly higher number of codes relating to shared exploitation capabilities and bonding capital. These variations may be attributed to several contextual factors shaping the tourism destinations and influencing the effectiveness of the network orchestration and collaboration activities. The observed factors include:

*Local tourism conditions*, include the level of tourists' awareness regarding sustainability and the main source markets. The interview transcripts reflect a nuanced understanding of the interplay between sustainability considerations and tourists' preferences. B4 highlights the diversity in tourist attitudes, noting that *"It's a bit more nuanced. [...] I think that the German-speaking region, regarding this [sustainability] topic, is very progressive and forward-thinking. But of course, there are also guests for whom it doesn't matter at all. So [in our region], you can't overlook the fact that there are many [guests from a specific country] here in the summer. So, I can't imagine that [sustainability] is a consideration for them."*

Adding to this, multiple interview participants emphasize the gap between rhetoric and action concerning sustainability in the guest's booking behavior. B8 mentions that *"many people do say that sustainability is important. But between saying it's important and making a booking decision, there's still a very, very big gap. [...] there's still too little pressure."* Conversely, some interview partners expressed optimism about the increasing trend towards sustainability awareness, attributing it to their region's longstanding commitment to environmental stewardship. C2 emphasizes the intrinsic link between authenticity and sustainability, positing that genuine experiences in nature can only be achieved through an authentic sustainability-oriented approach.

*Local business factors* include the presence of role models and diverse business motivations for participating in collaborative activities. The presence of role models often serves as inspirational catalysts. T4 highlights the pivotal role of influential stakeholders in driving collaborative efforts forward, stating the importance of *"the commitment from the major stakeholders, because they are already opinion leaders [...] [thereby] we also have the opportunity to bring others along."* Indeed, the existence of best practice examples, provides a blueprint for emulation, easing the process of imitating sustainable endeavors.

In addition, diverse business motivations, ranging from resource-based considerations to more altruistic attitudinal factors, influence organizations in their decision to participate in sustainable initiatives. B8 acknowledges the varying levels of emphasis placed on sustainability issues within the business community. Certain resource-based motivations may facilitate or inhibit businesses from participating. K3 emphasizes the role of financial incentives in driving business actions towards sustainability: *"There are indeed very, very many businesses...that have taken steps towards energy efficiency, climate protection, and so on because there are [financial] subsidies."*

*Environmental factors*, including crises like the COVID-19 pandemic, and political and economic conditions, particularly concerning energy prices, may have additional impact on the effectiveness of network orchestration and collaboration initiatives for sustainability. Different interviewees mention the challenges faced by businesses during the pandemic, where sustainability might have taken a backseat to more immediate business concerns. B8 states *"In a phase of Corona, where many companies struggled with other concerns. [...] the focus on that issue is not what it actually deserves."*

Conversely, B8 further extends that “a big help was certainly the issue of energy prices in the last 12 to 18 months, if you want to put it that way, now there the people really engaged with the topic of energy self-sufficiency and renewable energy, PV, etc. [...]” Others echo this sentiment, observing that rising energy costs have prompted many to take action. The intertwined nature of economic factors and sustainability is mentioned, suggesting that as energy costs rise, businesses naturally gravitate towards sustainable practices, regardless of their personal convictions. T2 highlights that “because certain energy costs generally rose, that did hurt [businesses], and then certain sustainable activities are followed. Whether they are convinced of this, is another question.”

**1.4.2 Collaborative Innovation in Destinations**

We find that the level of innovativeness in collaborative activities for sustainability is influenced by social capital and shared DC, where shared exploitation capabilities and bonding social capital seemed to impact more radical collaborative innovations for sustainability, whereas exploration capabilities and bridging capital are aligned more closely with incremental innovations. In addition, we identify enabling factors that also influence innovation radicalness. Higher levels of the identified enablers are perceived with more radical innovations for sustainability. Figure 3 depicts the research findings conceptually.

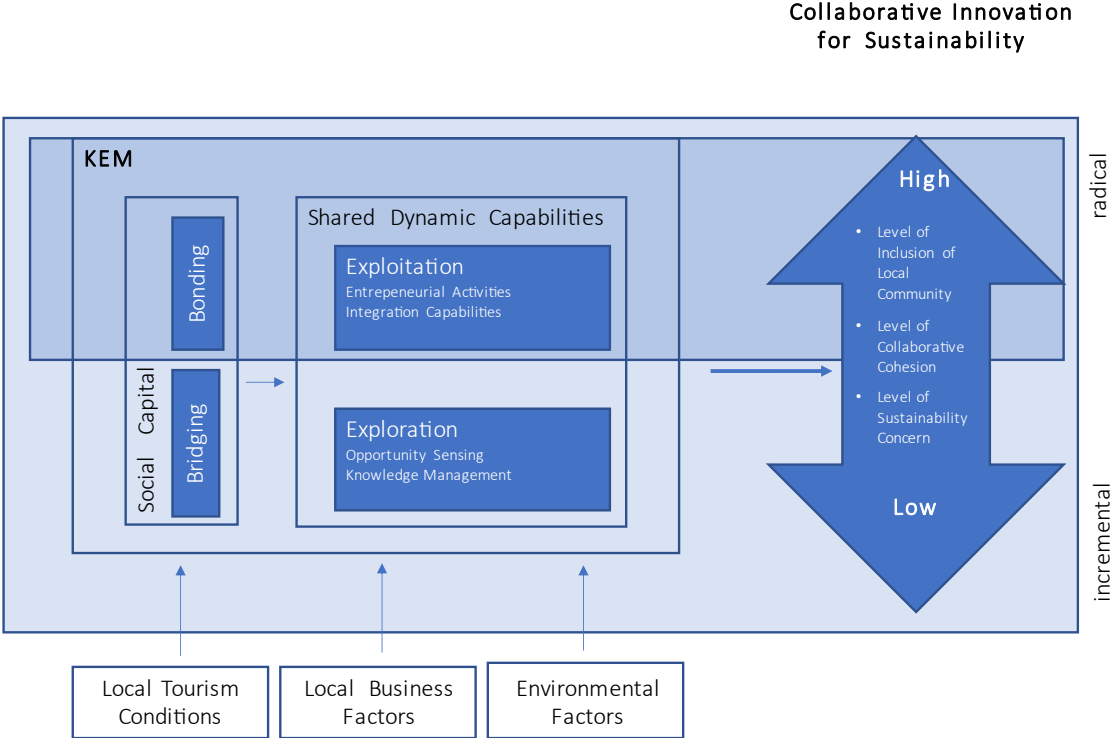


Figure 3: Conceptual Representation of Findings

#### 1.4.2.1 Level of Inclusion of Local Community

The inclusion of the local community seems pivotal in driving forward collaborative innovations for sustainability in tourism destinations. By embracing diverse perspectives, local knowledge, and active inclusion ensures the development of more comprehensive and impactful solutions. This approach encompasses not only the consideration of local community needs and perspectives but also more active involvement in the planning and execution of innovative activities.

Our analysis reveals a nuanced dynamic in stakeholder priorities. In certain cases, a predominant focus on satisfying tourist demands overshadowed the concerns of the local community. Several interview partners highlight the tension between tourists and the local population. In this context, T4 mentions *"the problem is that many often believe we do everything just for the guests... and the population or the locals are forgotten."* Thereby, catering to tourists' needs and preserving the local way of life often seem to stand in contrast, lamenting the perceived neglect of local interests in favor of tourist demands and economic gains. P3 bluntly states *"I believe it's important not to forget the locals. Yes, I believe they haven't really benefited from this whole KEM story so far."* Other interview participants argue sustainable endeavors should first-and-foremost benefit tourists and only *"at the end of the day, it also benefits the local population"* [P4]. Such perceptions may cripple engagement in tourism destination development projects by locals.

Conversely, other instances showcase a more community-centric approach, with locals` taking precedence over tourists` interests. P5 advocates for early and deep involvement of locals in decision-making processes, recognizing the heightened potential for success through community engagement. The necessity for initiatives to resonate with and be supported by the local populace to ensure long-term viability, is highlighted. P2 states that *"It should work first for the locals, and if it works for them, it will work for the tourists or guests. We don't place as much value on inventing something that benefits and attracts tourists. If the local population and the structures do not support it and do not carry it, then it makes no sense, it is not sustainable."* Embracing a more community-focused approach, may offer a more balanced and holistic strategy for sustainable tourism development and is associate with more radical collaborative innovations for sustainability.

#### 1.4.2.2 Level of Collaborative Cohesion

Increased levels of collaborative cohesion facilitate more radical collaborative innovations for sustainability by fostering deeper integration, and higher collective commitment among stakeholders, enabling the co-creation of more ambitious and transformative initiatives.

Enhanced collaborative cohesion serves as a cornerstone for fostering transformative innovations for sustainability, as articulated by the stakeholders involved in the KEM. K1's observation that *"much depends on the individuals who are involved"* underscores the pivotal role of individual agency. K3 underscores the importance of regional engagement and collaboration along the whole tourism value

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chain, emphasizing the collective efforts of stakeholders in advancing sustainability initiatives. In that sense, C4 contends that for collaborative innovations to develop and sustain *"it takes the support of all stakeholders. The municipalities must play along, and in this case, the tourism associations must also participate."* C4 further emphasizes the active involvement of involved stakeholders highlighting that *"...the people who sit in the steering group should not only sit there but also take on an active role."*

One important aspect to mention in the context of collaborative cohesion is the contention of conviction tied to a sense of collective action. Multiple interviewees recognized the benefits of unified action. C1 stresses the mutual advantages of collaborative sustainability efforts, remarking, *"We [...] strive to be very sustainable. For us, it's an advantage if more people do it; it's easier for everyone."* Furthermore, P2 underscores the imperative of collaboration in enhancing visibility and impact: *"We have to be creative, we have to collaborate, because otherwise, we won't be seen or heard."*

#### **1.4.2.3 Level of Sustainability Concern**

We find that greater perceived urgency for sustainable action drives more radical collaborative innovations by mobilizing stakeholders to prioritize sustainability, overcome inertia, and taking more risks. The imperative for urgent sustainable action serves as a catalyst for fostering transformative collaborative endeavors aimed at addressing pressing environmental and social concerns.

The necessity to confront the challenges of today compels to reevaluate perspectives and approaches. In that respect, T1 contends that *"we cannot speak of tomorrow but think like yesterday"*, which underscores the urgency of embracing novel paradigms and thinking outside-the-box.

The collective sentiment articulated by B5 reinforces the notion that sustainability is not a solitary endeavor but a shared responsibility that transcends individual interests, stating *"This concerns us all, this concerns our future"*. The reflection on the limitations of conventional paradigms, resonates deeply with the need to reassess prevailing norms and practices - T1 states: *"We have reached a point. That truly cries out for change. And this change can only be achieved by those who change perspectives. So, we can no longer do more or less of the same. That won't get us anywhere in this situation. Instead, we must truly consider things from a different angle."*

## **1.5 Discussion & Conclusions**

### **1.5.1 Theoretical Implications**

Our study highlights the critical role of orchestration in driving sustainable development within tourism destinations. Orchestrators play a pivotal role in fostering collaboration, knowledge exchange, and resource sharing among stakeholders in tourism destinations. Most commonly in the tourism context,

network orchestrators have been investigated in form of destination management organisations (Murray et al., 2022; Volgger & Pechlaner, 2014). We not only investigate a different kind of network orchestrator, but we also extend extant literature by identifying that the orchestrator has a role in building and developing social capital and DC in destinations. The effectiveness seems to vary due to destination-specific contextual factors, such as local business motivations, prevalent guest structures and external influences (Trunfio & Campana, 2019).

Our findings validate the notion that shared DC can be cultivated and sustained within a tourism contexts (Alford & Duan, 2018; Camison et al., 2018; Shrestha & L'Espoir Decosta, 2023). Adding to this, we also find that different shared DC, as well as different types of social capital, have distinct influences on collaborative innovations, in terms of radicalness (Al-Omouh et al., 2022; Kaasa, 2009). Thereby, bridging capital and exploration capabilities seem to be linked with incremental innovations for sustainability, whereas exploitation capabilities and bonding capital seems to be associated to more radical innovations in the investigated context. These insights provide a nuanced understanding of how collaborative efforts shape innovation outcomes in tourism.

A main contribution of this research is the conceptual model describing the factors enabling collaborative innovations for sustainability in tourism destinations derived from the empirical findings. We shed light on how social capital and shared DC influence the level of innovativeness in sustainability initiatives. In terms of shared DC literature, we advance the discourse on the effect of different types of shared capabilities on innovation, which has not been investigated extensively so far (Shrestha & L'Espoir Decosta, 2023). While bridging capital has traditionally been associated with innovations (Narayan, 1999), our findings challenge this. At the same time, we advance the notion that bonding capital facilitates collective action (Widmalm, 2005) and enhanced innovativeness of activities. The study of shared DC in an orchestration network of a tourism character extends the understanding of the role within which the orchestrator should invest in creating a collaborative and innovative platform of resources useful for the creation of new value. To be effective, it is useful to understand how it can offer solutions to other actors in the system so that it attests to the ability to attract and/or retain members.

Beyond, we identify enablers that influence the radicalness of collaborative innovations for sustainability (Marasco et al., 2018). These insights extend existing literature, providing new avenues for research and practice. The greater inclusion of the local community in collaborative innovation development drives radicalness due to deeper acknowledgement of local properties, integration of contextual knowledge and diverse perspectives, which ultimately brings forward more impactful solutions (Lungo et al., 2023; Zhang et al., 2022). A higher level of collaborative cohesion also enhances radicalness in collaborative innovations, because of more trust and closer interaction. A heightened level of sustainability concern further contributed to more radical collaborative innovations for sustainability in tourism destinations as more radical ideas are brought forward, more risk-taking and experimentation is practices.



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### 1.5.2 Practical Implications

Our research indirectly serves as an evaluation of a particular policy measure, offering valuable insights for policymakers. By assessing existing policies, we provide critical feedback that informs decision-making processes and future policy design. This may be used to refine and enhance future strategies, ensuring impactful and targeted interventions.

Network orchestrators act as catalysts, facilitating collaboration, knowledge exchange, and resource sharing among various tourism stakeholders. By understanding their role, policymakers and industry leaders can strategically design and support network structures that drive sustainable innovations in tourism. Further, we contribute to the broader goal of sustainable development in the tourism industry. The study contributes to understanding how shared DC actively influence sustainable destination development outcomes. In particular, the collective, collaborative, and cooperative skills adopted in an orchestration network by the pool of stakeholders to activate governance and policy-making mechanisms for achieving sustainable development are highlighted (Almeida Barbosa Franco, Franco Junior, Battistelle, & Bezerra, 2024; Rodríguez, Barón, & Martínez, 2020). The same results indicate a fair degree of scalability of initiatives and shed light on the mechanism through which resources are shared.

In addition, we provide insights into enablers for more radical innovations for sustainability. These results can empower tourism stakeholders in future innovation activities. Destination Management Organizations can leverage these insights to create policies that promote responsible tourism, minimize negative impacts, and enhance long-term sustainability.

### 1.5.3 Limitations & Future Research

While our study leverages qualitative research methods to explore intricate phenomena, it is essential to recognize its inherent limitations. Qualitative approaches provide depth and context, but they may lack generalizability. Future research should complement our findings with quantitative investigations to establish robust causal relationships and validate patterns observed. By combining both qualitative and quantitative approaches, researchers can complement our comprehensive understanding of the phenomenon under study with statistically robust results.

Our research employed a case study design, which allowed us to delve deeply into specific contexts. However, case studies inherently face limitations related to external validity. To enhance the generalizability of our findings, future studies could expand the sample size by including multiple cases from diverse settings (e.g. other KEM regions, as well as non-KEM tourism destinations). Additionally, employing comparative analyses would enable cross-case analysis, revealing commonalities and differences across contexts. Further, our study investigates a particular policy intervention. Future research should explore sustainable development practices in other countries and under different programs, considering variations in program setup, governance, and stakeholder engagement.

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## A.1 Appendix – Interview Guideline

### Introduction

1. Please describe your current role and your relation to the Climate- and Energy-Model region (KEM).

### Destination Development

2. From your point of view, please describe briefly:
  - How the KEM came about
  - What the main objectives of the KEM are
  - Your personal and organisational motivation in joining the KEM

### Interaction and Coordination

3. Please explain the process of interacting/communicating with other involved stakeholders within the KEM
  - What is the formal set-up (contractual, policies, rules, etc.)?
  - What informal communication exists (relationships, informal structures, etc.)?
4. Has the access to and exchange of information between organizations in the region changed since the KEM? If yes, how?
5. Has the level of coordination between organizations across different industries in the region changed since the KEM? If yes, how?
6. Has the level of coordination between organizations in the same industry in the region changed since the KEM? If yes, how?

### New Product Development Process

7. Please explain the processes of
  - generating new ideas within the KEM
  - implementing and managing initiatives and projects
  - measuring success of initiatives and projects

### Benefits & Drawbacks

8. From your perspective, what are the benefits of participating in the KEM?
9. From your perspective, what are the downsides of participating in the KEM?

### Performance & Change

10. Have you perceived a change in touristic performance in the region since the initiation of the KEM (e.g. number of guests, bookings, revenue, etc.)? If yes, how?
11. Have you perceived a social change in the region since the initiation of the KEM (quality of life, employee satisfaction, etc.)? If yes, how?
12. From your perspective, has the image of the region changed since the initiation of the KEM? If yes, how?
13. From your perspective, what have been the main facilitating factors towards the success of the KEM?
14. From your perspective, were there factors that slowed the success of the KEM?

### Closing

15. What does the future of the destination look like?
16. Is there anything else you would like to add, that we have not covered so far?

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## 2 UNLOCKING SUSTAINABLE TOURISM: EXPLORING THE DRIVERS AND BARRIERS OF SOCIAL INNOVATION IN COMMUNITY MODEL DESTINATIONS

**ABSTRACT** - This study delves into the realm of sustainable tourism development, focusing on social innovation within community model destinations. It addresses a gap in existing literature by exploring the drivers and barriers of social innovation in tourism. We uncover factors influencing social innovation at the micro, meso, and macro levels. This research extends previous work on the interconnectedness of social entrepreneurial factors and innovation. It emphasizes altruistic motivations, the importance of networks, role models, and the inclusion of local communities as critical drivers. Additionally, it identifies contextual factors that can act as both drivers and barriers depending on local circumstances, enriching understanding in this domain. Shedding light on challenges like bureaucratic hurdles and over-commercialization of tourism, the study offers practical insights for destination management organizations, contributing to the development of strategic guidelines for more responsible and community-oriented tourism practices aligned with global sustainability goals.

**Keywords:** social innovation; drivers and barriers; community model destinations; sustainable tourism development; social sustainability

## 2.1 Introduction

The discourse on sustainability has increasingly emphasized the need for transformative solutions to address complex global challenges, ranging from climate change and biodiversity loss to social inequality and poverty (Fernhaber & Zou, 2022). While technological advancements and policy interventions have received considerable attention, the role of social innovations merits further scholarly attention (Bataglin & Kruglianskas, 2022; Repo & Matschoss, 2020). Social innovation, recognized as a transformative approach to societal problems, has only recently gained prominence in addressing wider environmental and social challenges (Haskell, Bonnedahl, & Stål, 2021).

In the tourism context, social innovations emerge as transformative tools that enable residents to harness the opportunities presented by tourism economically while addressing its associated challenges (e.g., overtourism). By fostering community empowerment, cultural revitalization, and environmental stewardship, social innovations contribute to sustainable destination development that is both economically viable and socially equitable. Community-led tourism activities, where residents actively participate in and manage tourism initiatives, align closely with social innovation. In comparison to a corporate model tourism destination, which prioritizes profit generation, and shareholder interests, a community model tourism destination emphasizes local participation, cultural preservation, and community engagement (Gajdošík, Gajdošíková, Maráková, & Flagestad, 2017).

The social column of sustainability has received little scholarly attention generating a need to focus on identifying how social innovations can aid tourism sustainability (Mosedale & Voll, 2017; Pikkemaat et al., 2019; Wirth, Bandi Tanner, & Mayer, 2023). This is especially true, for the interplay of different actors involved in innovation processes within tourism destinations (Wirth et al., 2023). Such investigations are of relevance for the tourism context, given that the predominant focus on technological oriented innovations tends to gloss over the complexity of diverse actors needed and included in innovation processes. In addition, while tourism destinations have been investigated intensively, there is still little research on sustainable tourism development and innovation in tourism destinations, as well as the factors influencing both (Kuščer, Mihalič, & Pechlaner, 2017).

We aim to address this research gap by engaging in a qualitative investigation of both drivers and barriers to social innovations in tourism destinations. In the context of community model tourism destinations, we aim to answer the following research questions: (1) How is the participation and development of social innovations facilitated? (2) How is the participation and development of social innovations hindered?

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## **2.2 Theoretical background**

### **2.2.1 Emerging Approaches in Sustainable Tourism Development**

The notion of community engagement in sustainable tourism development has gained increasing scholarly attention (Choi & Murray, 2010; Iqbal, Ramachandran, May Ling, Subramaniam, & Latiff, 2023; Simpson, 2001). Because tourism is a highly fragmented industry, community participation is essential to tourism planning and strategy implementation. In order to create the tourist experience, government agencies, the public and private sectors, and local communities must work together in a destination eco-system, which is made up of a variety of sectors and sub-industries (Bello, Carr, & Lovelock, 2016).

Sustainable development and planning, in conjunction with community participation and conservation efforts, produce suitable development frameworks and strategies that guarantee positive local attitudes, the preservation of local resources, and—above all—the preservation and enhancement of the quality of life of communities affected by tourism development (Malek & Costa, 2015; Okazaki, 2008). Furthermore, by combining various viewpoints, participatory approaches to tourism development can reduce stakeholder conflicts and provide a more inclusive problem-solving process (Islam, Ruhanen, & Ritchie, 2018; Wanner & Pröbstl-Haider, 2019).

Social innovations have been suggested as one emerging approach in sustainable tourism development that builds strongly on community involvement (Dangi & Jamal, 2016; Krittayaruangroj, Suriyankietkaew, & Hallinger, 2023; Waligo, Clarke, & Hawkins, 2013). While social innovation is strongly linked to the social pillar of sustainability, little research has been conducted in terms of identifying what factors influence the creation and participation in social innovations within the tourism destinations.

### **2.2.2 Social Innovation**

Academic researchers and policymakers increasingly view social innovation as vital for addressing pressing environmental and social challenges, particularly amid economic crises (Haskell et al., 2021). Social innovation involves addressing social needs, reshaping social dynamics, reorganizing institutional structures, and empowering society through collaboration (Avelino et al., 2019; Haskell et al., 2021; Pel et al., 2020). It entails finding creative solutions to market failures and governmental gaps. To qualify as social innovation, solutions must be transformative, introducing novel approaches that reshape social relations and involve new modes of thinking, doing, and organizing (Avelino et al., 2019).

Building on this foundation, Avelino et al. (2019) emphasize the transformative nature of social innovation, highlighting the importance of novel approaches in reshaping social relations. Furthermore, Pel et al. (2020) provide insights into the collaborative aspect of social innovation, emphasizing the role of collective efforts in addressing societal challenges.

Social innovation can draw upon the input of a diverse range of actors, including citizens, civil society entities, local communities, businesses, as well as public officials and services (Aksoy, Alkire, Choi, Kim, & Zhang, 2019). Additionally, Haskell et al. (2021) contribute to the discourse by underlining the relevance of social innovation in times of economic crises. In essence, social innovation is a multifaceted concept centered on initiatives aimed at solving pressing social issues and driving positive societal changes.

We employ a definition for our study that incorporates all known individuals that contributed to the development of the social innovations, and we pay close attention to both the process and the result. Accordingly, Murray et al. (2010) defines social innovations as follows:

*“innovations that are social both in their ends and in their means. Specifically, we define social innovations as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society’s capacity to act”* (Murray et al., 2010, p. 3).

There is a scholarly call to delineate the factors that foster social innovations in tourism and in turn stimulate sustainable tourism destination development (Aksoy et al., 2019; Pikkemaat et al., 2019; Vrana, 2023). Drivers and barriers to socially sustainable innovations have been commonly investigated at different levels in isolation (Dias, Palacios-Florencio, & Hallak, 2023).

### **2.2.2.1 Determinants of Social Innovation**

The role of individuals, such as (social) entrepreneurs (Dias et al., 2023; Grilo & Moreira, 2022; Phillips et al., 2015), as well as role models and pioneers (Grabs et al., 2016) has been identified as crucial facilitators of social innovations. Social innovation relies heavily on the activities of social entrepreneurs, who, in turn, utilize innovation to address social needs (Grilo & Moreira, 2022). Social entrepreneurship is characterized by its emphasis on inclusivity and creativity in addressing societal challenges (Aquino, Lück, & Schänzel, 2018). The ability of social entrepreneurs to generate social value hinges on innovation, which underscores its pivotal role in their endeavors (Phillips et al., 2015). Notably, literature on social entrepreneurship accentuates the significance of considering the social outcomes that go beyond profit maximization (Del Gesso, 2019; Morris, Santos, & Kuratko, 2021; Phillips et al., 2015). Specifically, Novak (2021) identifies a perspective held by numerous scholars supporting the transcendence of the economic interpretation of the entrepreneurial function in the context of social entrepreneurship.

Extant literature demonstrates that social embeddedness among tourism entrepreneurs heightening their awareness of limitations, available resources, and local potential, fostering trust and recognition within the local community (Dias et al., 2023; Jack & Anderson, 2002). Socially embedded and trusted individuals efficiently acquire resources and take more calculated risks that promote innovation (Jack

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& Anderson, 2002). Generally, strong social ties and a high level of social embeddedness fosters social innovation initiatives (Czernek-Marszałek, 2020).

At its core, sustainable innovation is strongly based on collaboration that benefits from networks, cooperation, and co-production effects (Buijtendijk, Blom, Vermeer, & van der Duim, 2018; Mosedale & Voll, 2017). Social innovation processes and outcomes are dependent on the level of interaction and community engagement. Czernek-Marszałek (2020) emphasizes the social embeddedness's significance in accessing essential resources, such as local knowledge, and fruitful for business collaborations.

Similarly, community-led tourism activities are where local community members actively participate in and manage tourism initiatives to shape tourism development (Khalid, Ahmad, Ramayah, Hwang, & Kim, 2019). This concept is closely intertwined with social innovation in tourism as it empowers communities to address social and environmental challenges while providing economic viability (Khalid et al., 2019). Barriers to the development and implementation of social innovation projects, such as bureaucratic and legal hurdles, resource scarcity and gaining support from stakeholders have been suggested (Davies, Haugh, & Chambers, 2019; Mendes et al., 2012).

Residents take the lead in decision-making procedures when it comes to community-led tourism, ensuring that the advantages of the industry are shared fairly among community members (Khalid et al., 2019). This approach encourages innovative solutions to create authentic and sustainable experiences for visitors, often incorporating elements of cultural preservation, environmental conservation, and more inclusive practices.

Governments and policymakers at the global, but also at the local level are increasingly acknowledging the gravity of global challenges and actively integrating them into their policy agendas. However, conventional profit-driven entrepreneurial activities have shown to be inadequate in addressing these 21st-century challenges. Novel approaches aimed at confronting, if not mitigating, these pressing societal issues are imperative. Above that, the perceived authenticity of innovative social initiatives plays a significant role in gaining support and project success (Hassan et al., 2023).

Sustainable tourism practices, such as responsible tourism and community-based tourism initiatives, have emerged as a potent force for positive change, providing opportunities to address environmental and cultural preservation (Dangi & Jamal, 2016) and particularly promising for addressing grand challenges. Tourism may act as a vehicle for cross-sector collaboration, encouraging partnerships between tourism and other industries to promote sustainability and inclusivity (UNWTO, 2023). Social innovation emphasizes creative solutions to societal problems through collaboration, drawing upon diverse networks and harnessing the collective intelligence of communities (Millard & Fucci, 2023).

## 2.3 Research Design

### 2.3.1 Study Context

Empirical data was collected in South Tyrol, which can be defined as a community model tourism destination. Unlike corporate tourism models driven predominantly by profit, a community model destination prioritizes the well-being of residents and the environment alongside economic gains (Pikkemaat et al., 2018). Community model destinations strive to preserve and showcase their unique cultural heritage, offering visitors authentic experiences that highlight local traditions, cuisine, and way of life (Gajdošík et al., 2017). This is closely tied to the prevalent business structure in the destination. South Tyrol's tourism industry is dominated by SMEs and family businesses. SMEs have been found to have less capital for investments, smaller scaled projects, and slower product development cycles due to resource constraints (Camisón & Monfort-Mir, 2012; Pikkemaat et al., 2018). These structural properties and the networked nature of the tourism product have supported the need for formal and informal collaborations to advance innovative projects.

### 2.3.2 Materials & Method

#### 2.3.2.1 Data Collection

Due to the exploratory nature of the research and the intention to provide a holistic account of the factors influencing the participation in social innovation in community model destinations, a qualitative study seemed appropriate (Creswell & Creswell, 2018).

Semi-structured interviews are an investigative method that provide you access to other people's perspectives and experiences. (Jamshed, 2014). Open-ended questions were used to facilitate rich and context-relevant data (Creswell & Creswell, 2018). Prior to the interview, the interviewees were provided with a definition and explanation of that is defined as social innovation in the context of this study, to provide a common understanding across all participants. The respondents were informed about the structure of the interview and the purpose of the research. The interviewees were informed about how their data will be handled and that their anonymity will be ensured. The interviewees' consent was collected before starting the interviews.

An interview guideline consisting of 7 questions was used to facilitate the interview. The questions were formulated in an open manner to facilitate more elaborate answers and interpretations. Firstly, interviewees were asked about the perceived needs and motivations of social innovation in the tourism destination. Then, interview participants were asked to reflect on the driving forces and the success factors of innovative social initiatives in their tourism destination. Additionally, we asked about innovation processes and how social innovations were created. Finally, the barriers to the creation of and participation in social innovation were addressed. The interviews were conducted between September and November 2023.



Semi-structured interviews with 16 key stakeholders, such as social initiative leaders, social organization representatives, government representatives, tourism researchers and tourism representatives were conducted to explore social innovations in the destination (Table 2). Purposive sampling was utilized to ensure diverse perspectives are captured. Participants were identified based on their expertise, knowledge, and experiences relevant to the research topic (Campbell et al., 2020). Thereby, interviewees needed to be involved or economically associated with social innovations and/or social entrepreneurial activities in the tourism destination. Alternatively, they could be politically or academically involved. The goal is to ensure a comprehensive, yet diverse representation of perspectives that contribute to a richer understanding of the subject matter (Campbell et al., 2020).

Interview Code	Gender	Position	Group
A1	female	Social Entrepreneur	Social Initiative - Activity Leader
A2	female	Social Entrepreneur	
A3	female	Social Entrepreneur	
S1	male	Managing Director	Social Initiative – Organizational Representative
S2	female	Chairwoman of a Social Cooperative	
S3	female	National Secretary	
P1	male	Special Representative for Sustainability	Politics
P2	male	Department Director for Social Affairs at Provincial Government	
T1	female	Project Manager	Tourism Marketing/DMO
T2	male	Project Manager	
T3	male	Managing Director	
T4	female	Project Lead	
T5	female	Sustainability Manager	
R1	male	Head of Research Department	Research
R2	female	Sustainability Manager	
R3	male	Sustainability Manager	

Table 2: Interview Partners

**2.3.2.2 Data Analysis**

The analysis was conducted using NVIVO 14, a qualitative data analysis software, through the application of a manual inductive coding technique (Azeem, Salfi, & Dogar, 2012). We used Braun and Clarke’s (2006) thematic analysis method, an iterative process consisting of six steps: (1) becoming familiar with the data, (2) generating codes, (3) aggregating concepts, (4) identifying themes, (5) refining and naming themes, and (6) locating exemplars. Text segments derived from the qualitative interview data are clustered into meaningful concepts, grouped into themes and consolidated into categories, by applying a pattern-inducing technique as described by Gioia et al. (2013).

Becoming acquainted with the data involves immersing oneself in it and engaging in iterative reading cycles, each contributing additional insights. Generating codes entails identifying and coding as many topics as possible, applying codes to contextual segments rather than isolated phrases. This process

leads to the organization of codes into higher-level concepts. This phase culminates in the identification of themes. Identifying and refining themes involves critically examining them by revisiting the data associated with the component concepts. It may result in the realization that some themes lack sufficient data support or exhibit too much variation across text segments, necessitating theme renaming or subsuming under broader themes. The iterative nature of the analysis allowed for constant refinement and validation of emerging themes, ensuring that the interpretation remained closely aligned with the participants' perspectives. Additionally, any discrepancies were systematically addressed and examined to maintain the integrity of the analysis.

Producing the report involves elucidating the complex narratives of the themes, initially delving into their meanings with illustrative examples and potentially uncovering connective takeaways or meta-themes across themes. Braun and Clarke (2006) underscore that themes capture significant facets of the data in a structured manner, irrespective of their representation across participants. While frequency might aid in identifying patterns, the essence of thematic analysis lies in the interpretation of meaning rather than quantitative emphasis. Thus, themes are identified based on their relevance to the research question, even if not all participants explicitly address them. 2<sup>nd</sup> Order themes are consolidated into categories. Figure 4 summarizes the data coding process, showcasing the first-order concepts, 2<sup>nd</sup> order themes and categories.

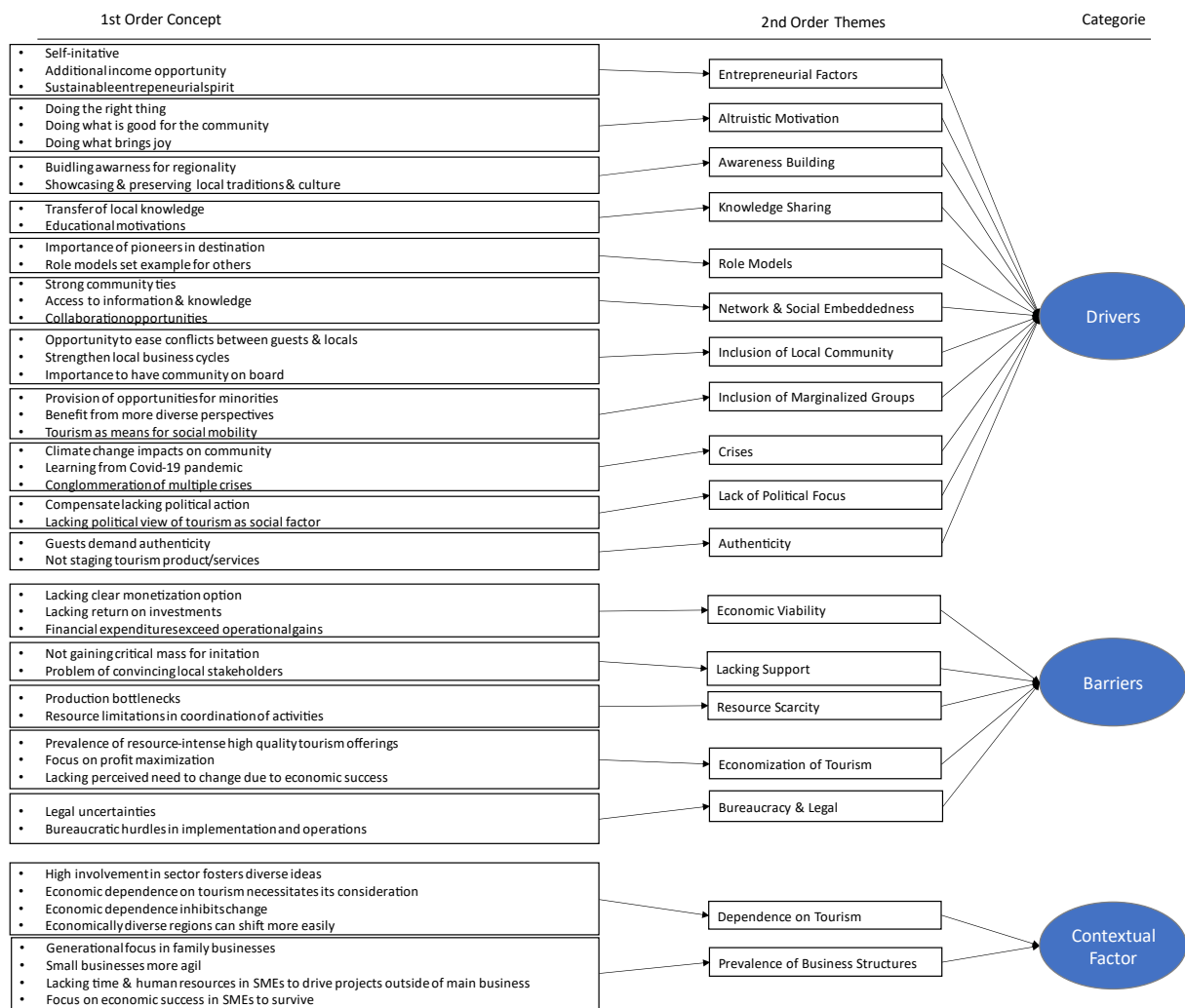


Figure 4: Data Structure

## 2.4 Results

We identified drivers and barriers to social innovations. In the completion of the analysis phase, discussions within the research team revealed a categorization of these factors into three levels based on their respective spheres of influence. Thereby, the research team identified drivers and barriers operating at the micro (individual), meso (community) and the macro level. An overview of the findings including the assignment to the three levels and exemplary quotes is provided in Table 3.

Category	Micro	Exemplary Quotes	Meso	Exemplary Quotes	Macro	Exemplary Quotes
Drivers	<p>Entrepreneurial Factors</p> <p>Altruistic Motivation</p> <p>Awareness Building</p> <p>Knowledge Sharing</p>	<p>"it depends on the entrepreneurial spirit of those involved." S2</p> <p>"we try to implement many projects in the offers for our guests that are deeply rooted locally. Because ultimately, guests come here not just because we have mountains, but essentially because of the people and the products, traditions, and culture here." T4</p> <p>"I don't do it to make money but because it's fun, and I want to share my knowledge". A3</p>	<p>Role Models</p> <p>Networks</p> <p>Inclusion of Local Community</p> <p>Inclusion of Marginalized Groups</p>	<p>"there are a few leading companies, pioneers, which can convince the others to join in, by saying, 'yes, this is an important issue for us, for our sector, and it will continue to be important for our guests in the future.' And they can motivate others." R3</p> <p>"I think that a higher degree of networking can also help to enable social innovation... to enable or drive it" R1</p> <p>"in rural areas, it is always important that the locals are in favor of the project" S2</p>	<p>Crises</p> <p>Lack of Political Focus</p> <p>Authenticity</p>	<p>"Tourism has always been an economic factor politically and never a social factor. [...] politics can contribute, by paying more attention to the social function of tourism and not just the economic one." R1</p> <p>"We try to do something great with the local people, which is simply honest. There's no use in trying to invent something. [...] That wouldn't be us and I think that's important too." T4</p>
Barriers	<p>Economic Viability</p>	<p>"Financing is always - always difficult... and leads to difficulties for new investments. So, getting a loan is very difficult. In our case, all are private individuals who are personally liable with their own assets, co-sign. That is a big problem." S2</p> <p>"Because it is not inherently a business model when I want to do something good. And thus, there is no return on investment flowing in." P1</p>	<p>Lacking Support</p> <p>Resource Scarcity</p>	<p>"We always have groups of people who make an effort, who want to change something, and who, from a financial aspect, sometimes feel a bit left alone." P1</p> <p>"So it does not necessarily fail exclusively due to money but rather because of time or personnel, as often in tourism, they are family businesses, small businesses." T2</p>	<p>Economization of Tourism</p> <p>Bureaucracy &amp; Legal</p>	<p>"I would even say that the economization of tourism, as we know it, from Austria, South Tyrol, and other countries, is actually an obstacle to social innovation." R1</p> <p>"Areas where innovation and social innovations take place more strongly, are especially areas where market saturation is not as pronounced, where tourism development is not as strong." T2</p> <p>"it's always a bit of a question of legality—what do I have to offer, what do my legal regulations look like?" S1</p>

Contextual Factors	<p>Dependence on Tourism</p> <p>Prevalent Business Structures</p>	<p><i>"The nature of a tourist destination may either enable or perhaps hinder social innovation. In a place that is solely tourism-focused, a destination with an intense focus on tourism, primarily building its entire model around tourism, in my opinion, has much more difficulty advancing social innovations compared to a place with a balanced economic structure, where tourism is a part but only a part."</i> R1</p> <p><i>"The implementation is associated with effort, time, and resource expenditure, and yes, depending on whether I am a large enterprise or a small enterprise, I may find it easier to allocate resources or not [respectively]."</i> R2</p>
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Table 3: Summary of Findings

## 2.4.1 Drivers

### 2.4.1.1 Micro Level

The analysis of our interview data shows that micro (individual) level drivers play a pivotal role in driving social innovations in community model tourism destinations. Specifically, we identify entrepreneurial factors, altruistic motivations and awareness building and education of local traditions and cultures as critical for participation in and creation of social innovations.

Our findings highlight the pivotal role of entrepreneurial factors, particularly entrepreneurial spirit and taking initiative, in the social innovations' context. S2 emphasizes this by stating that *"it depends on the entrepreneurial spirit of those involved."* Further, A2 emphasizes the need for self-driven individuals, particularly in social initiatives in tourism by expressing, *"It has to come from oneself. Tourism doesn't come to you; you have to move yourself."* The findings indicate that the additional income potential that the involvement in certain social activities brings, may motivate individuals, even though financial gain is not the overarching goal. Instead, the interview participants indicate that altruistic motivation, driven by personal conviction, values and sense of purpose, play a pivotal role. This is underscored by interviewee S2, who speaks from personal experience stating that, *"The track it [the social initiative] is currently on, is not a track where you make a lot of money. They [the members] are convinced that this is a good path for themselves."* R3 further emphasizes the necessity that individuals need a *"certain convictions or mindset, [...] that he fully supports the cause and it's important to him, and then it will go in the right direction."*

Awareness building and knowledge sharing on local practices, culture, and traditions, pose an additional micro level driver for social innovations in community-based tourism destinations. Numerous respondents emphasize the overarching goal of conducting sensitization efforts to enhance understanding and appreciation for regional products and traditions. One of the activity leaders interviewed, explicitly stated, *"the big goal is to raise awareness with our craftsmanship,"* [A1], placing emphasis on traditional practices used in their agriculture project. One of the project managers on the DMO side, also emphasizes the significance by talking about the main objectives of their social innovation project: *"Knowledge building and knowledge transfer are the overarching goals."* [T1] T4 shares her perspective on the importance of constructing projects that are deeply rooting locally, also towards enhancing economic sustainability and providing a long-term differentiation strategy for local tourism products and services. She states, *"we try to implement many projects in the offers for our guests that are deeply rooted locally. Because ultimately, guests come here not just because we have mountains, but essentially because of the people and the products, traditions, and culture here."* [T4]

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#### 2.4.1.2 Meso Level

Drivers towards the involvement of social innovations at the meso (i.e. community destination) level include the importance of role models, networks, as well as the inclusion of the local community and marginalized groups.

We find a significant influence of role models, both in the form of influential people, as well as businesses, in facilitating involvement in social innovations within community-led destinations. R3 highlights the influence of leading companies, by mentioning that *"there are a few leading companies, pioneers, which can convince the others to join in, by saying, 'yes, this is an important issue for us, for our sector, and it will continue to be important for our guests in the future.' And they can motivate others."* Further, T2 also highlights the importance of individuals as pioneers, particularly in a concentrated regional context, *"in small spaces, it often depends on pioneers, figures or individuals who are already a step ahead in terms of development and then instigate others to follow suit."*

The influence of pioneers or role models is supplemented by a high level of interconnectedness within community model destinations. The level of networking and familiarity within the community creates a conducive environment for collaboration, idea exchange, and a more successful implementation of social innovation initiatives. S3 highlights the significance of local relationships and social networks particularly in the context of community-led tourism destinations towards driving innovative social practices, mentioning, *"Most of the time, it's good contacts locally; they usually all know each other somehow."* This is supported by S1, who highlights the reliance on a well-established network, stating, *"So one can actually rely on a very well-developed network and quickly access all kinds of available information to set something up on their own."*

At the community level, the inclusion of the local community, with a particular focus on marginalized groups, plays a significant role in creating and advancing innovative social initiatives. Speaking about marginalized groups, S2 acknowledges the inclusion opportunities the social cooperative she leads provides by describing that they can more easily *"provide people who have difficulties in the normal job market with the right framework conditions and the right support"*. Many interview participants recognize the active engagement of the local population as a key element in the successful implementation of innovative social practices. S2 stresses the importance of gaining the approval and acceptance by the local population by stating *"in rural areas, it is always important that the locals are in favor of the project."* A potential path of ensuring inclusivity for the local community is to actively involve them in the design and implementation of social innovations. In this respect R2 reflect on her own experience and current initiatives, mentioning, *"so I believe this is already the direction we are heading, to collaborate with local partners, suppliers, farmers, and so on, wherever and whenever possible."*

In addition, some social innovations intentionally focus on the inclusion of marginalized groups, such as migrants, people with disabilities and women. This may involve the integration of socially marginalized groups into the workplace, as well as the provision of access to tourism for a wider group of people. S2 uses the social initiative she is involved in to illuminate the employment opportunities that are provided for individuals from socially marginalized groups, acknowledging the challenges they face in traditional employment: "*The social cooperative's task is to employ people from social fringe groups in a standard working relationship.*" Emphasizing the importance of making tourism services and products accessible to a wider group of people, A2 underscores the social aspect of accessibility and the necessity of providing opportunities for a diverse group of people to take part in touristic offering.

#### **2.4.1.3 Macro Level**

Drivers for social innovations in community model destinations at the macro level include the global crises, a perceived lack of political focus and perceived authenticity. Crises are mentioned by our interview participants multiple times as external push factors towards concretizing the need, as well as facilitating the generation of social innovations.

Multiple participants mention the Covid-19 pandemic and climate change as pivotal catalysts for innovative responses and sustainable initiatives in tourism. R1 recognizes "*Sustainability questions can be an important driver for social innovations. [...] Rising environmental awareness, and that applies to tourism, it applies to guests as well, and I think these can also be drivers for social innovations.*"

Interview participants additionally identified the lacking political attention and action to address social issues as a driver for community-driven social innovations. The historical neglect of the social dimension of tourism in political discourse, indicating a need for a shift in perspective. This is outlined by R1 who argues that "*tourism has always been an economic factor politically and never a social factor.*" Even political representatives in the interview sample admit that social issues are not currently the top priority of local administration, commonly falling behind ecological sustainability priorities. P1 admits that "*there is certainly some work to do here, to support social innovations, to say, we appreciate it when people get involved.*"

Our empirical data suggest authenticity as a crucial driving factor necessary for the creation and participation in social innovations. Interviewees stress the importance of not faking or artficing anything and ensuring authenticity by offering products and experiences rooted in the local region and traditions. T4 suggests "*...not inventing anything. So, nothing is offered that does not have its origin in the [name] Valley. So, everything is very original and is from here and also used by the locals.*" Building on this notion, S3 reinforces the idea of authenticity and the search for the genuine experience, stating, "*people are looking for the authenticity.*"



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## 2.4.2 Barriers

### 2.4.2.1 Micro Level

We find that concerns regarding the economic viability of social innovations are a hindering factor at the micro level. The lack of a clear business model, financial difficulties, and challenges in obtaining financial support may impede the development and sustainability of social innovations. Interview participants highlight that altruistic endeavors often lack a clear business model. This is described most accurately by P1: *"Because it is not inherently a business model when I want to do something good. And thus, there is no return on investment flowing in."* Financial difficulties in relation to the implementations of social innovations are also supported by the experience of S2, who contends that, *"Financing is always - always difficult... and leads to difficulties for new investments. So, getting a loan is very difficult. In our case, all are private individuals who are personally liable with their own assets, co-sign. That is a big problem."*

### 2.4.2.2 Meso Level

Interviewees mention that gaining support and resource scarcity pose critical hinderances in the creation and implementation of social innovations at the meso level. T2 emphasizes the challenge of reaching the grassroots level: *"[There is a] challenge to push through to the base. That is, to reach the individuals who would have to drive the projects."* Interviewees point to the necessity of fostering a collective understanding and commitment to sustainability among community members as crucial for the success of social innovation endeavors the tourism destination.

As tourism businesses in community model destinations are most commonly small businesses, time and labor resources are scarce and thereby can pose a substantial hinderance for the involvement in innovative social initiatives. Interviewees detail that challenges in advancing innovations are not solely monetary but are rather related to time and personnel constraints: *"So it does not necessarily fail exclusively due to money but rather because of time or personnel, as often in tourism, they are family businesses, small businesses."* [T2]. Furthermore, interviewees highlight the difficulty of aligning demand with production capabilities, suggesting that limitations in production capacity may hinder the successful operation of local initiatives.

### 2.4.2.3 Macro Level

Barriers to the involvement in innovative social initiatives in tourism include the economization of tourism, bureaucracy and legal issues.

*"Tourism only thinks economically. Put it bluntly. And when you think economically, you think less socially."* [R1] This quote underscores the prevailing economic-centric mindset within the tourism industry, which hinders the integration of social innovations. There is a perceived need

for the tourism industry to transcend its economic focus and integrate sustainability components to foster social sustainability. This view is supported by the observations made by T2, stating, *"Areas where innovation and social innovations take place more strongly, are especially areas where market saturation is not as pronounced, where tourism development is not as strong."*

Bureaucracy and legal issues additionally hinder the implementation of social innovations. Legal constraints and uncertainties pose challenges to implement innovative social initiatives and in their participation. S1 emphasizes that navigating legal frameworks may pose challenges especially when shaping new offerings, by mentioning that *"it's always a bit of a question of legality—what do I have to offer, what do my legal regulations look like?"* This notion is supported by one of the political representatives we interviewed, who further describes the difficulties that arise from a lack of legal prerequisites when it comes to social innovations.

### 2.4.3 Contextual Factors

We were also able to identify contextual factors, that may facilitate or hinder the involvement in social innovations.

The economic dependence of the region on tourism gives rise to a rather paradoxical situation - while a high dependence on tourism requires the integration and consideration of this industry in every measure and initiative, a high economic dependence on tourism also seems to paralyze a community and inhibit the generation of social innovations. The first part of the paradox is described by S1, when they acknowledge the inescapable integration of tourism in every aspect, stating, *"Naturally, as a recognized tourism destination with almost 35 million overnight stays, we are one of the top tourism destinations in Europe, and there's no way around considering these tourism aspects in every way, in every form."* R1 then introduces the paradoxical idea that the high dependence of a tourist destination may actually hinder social innovations, by mentioning that, *"The nature of a tourist destination may either enable or perhaps hinder social innovation. In a place that is solely tourism-focused, a destination with an intense focus on tourism, primarily building its entire model around tourism, in my opinion, has much more difficulty advancing social innovations compared to a place with a balanced economic structure, where tourism is a part but only a part. I believe it is easier to implement social innovations there."*

The prevalent business structures in the tourism destination act as the second contextual factor. R1 highlights the prevalent business structure in community model destinations: *"we have a structure dominated by SMEs in tourism, and these are all entrepreneurs, family businesses; everyone is somehow involved, contributing to this value creation to some extent."* This presents a dual dynamic where the involvement of the vast majority of community members may enable the introduction of social innovations, due to a higher community involvement, yet resource constraints within these businesses may simultaneously inhibit such social initiatives. R2 acknowledges the variation in ease of participation in social innovations based on the size of the

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business, stating, "*The implementation is associated with effort, time, and resource expenditure, and yes, depending on whether I am a large enterprise or a small enterprise, I may find it easier to allocate resources or not [respectively].*" A potential benefit associated with the prevalent business structure is mentioned by T2, who points out that family businesses generally have a longer-term planning horizon, due to the notion that family businesses are passed down for generations. Thereby, family businesses may have a vested interest in social activities, as to sustain in the market longer and provide more social value for future generations.

## **2.5 Discussion & Conclusion**

### **2.5.1 Theoretical Implications**

The theoretical contribution of this study lies in the confirmation and extension of existing literature in the sphere of socially sustainable tourism development, community model tourism destinations of social innovation drivers and barriers. To provide a holistic picture of drivers and barriers to social innovations in tourism, multiple levels have to be considered. Multilevel analyses of barriers and facilitators of sustainable innovations have only recently gained scholarly attention (Dugonski & Tumelero, 2022; Hueske & Guenther, 2021; Zen et al., 2022) and are extended by this research.

The micro level, our research confirms extant literature on the interconnectedness of social entrepreneurial factors and social innovation within the context of tourism (Grilo & Moreira, 2022; Novak, 2021; Phillips et al., 2015). Moreover, we contribute to the literature by highlighting the significance of role models and pioneers in propelling social innovation activities (Grabs et al., 2016; Pikkemaat et al., 2018), shedding light on the influence of these figures in inspiring and guiding tourism stakeholders. Our work additionally corroborates normative implications by emphasizing altruistic motivations as key drivers for social innovations, drawing from psychological perspectives articulated by Lin et al. (2022). Furthermore, economic viability as barrier to social innovation have been substantiated in our study.

At the meso level, this study breaks new ground by identifying inclusion of local communities into social innovation projects as crucial driver, offering insights into a domain where understanding remains incomplete (George et al., 2019; Patnaik & Bhowmick, 2020). Especially the inclusion of marginalized groups, such as women, migrants and people with disabilities, has further been identified as a driver for social innovations and supports findings from organizational studies (Yang & Konrad, 2011). Additionally, we suggest the importance of awareness building for local culture and the need to sensitize audiences to cultural heritage as drivers for effective social innovation in community model tourism destinations.

At the macro level, our research also advances the understanding of external innovation push factors, particularly in the face of political gaps and crises, with a recent focus on the unprecedented challenges posed by the COVID-19 pandemic (Sharma et al., 2021). Finally, our work builds on existing literature exploring the significance of authenticity in social innovation, confirming findings from leadership (Knox et al., 2022) and CSR literature (Alhouti et al., 2016; Hassan et al., 2023), while advancing discussions around the authentic cause, design, and delivery of social innovation in the context of tourism. Our research identifies novel barriers that contribute to the advancement of existing knowledge. Notably, the economization level of tourism emerges as a significant impediment to change, shedding light on how the over-commercialization of tourism can hinder the adoption of socially innovative practices.

Contextual factors such as dependence on tourism and the predominant business structures in tourism being small and family businesses, may either act as drivers or barriers depending on specific circumstances, are also identified in the research at hand. This nuanced understanding of contextual influences adds depth to the current literature on social innovation in tourism, highlighting the need for a tailored approach considering the unique challenges posed by each destination.

### **2.5.2 Practical Implications**

Our research identifies some practical implications for tourism entrepreneurs, intending to create meaningful social innovations that contribute to sustainable development, foster inclusive growth, and enrich both travelers' experiences and the well-being of host communities. Initially, the primary motivation for creating social innovations in tourism is genuine concern for the well-being of local communities and environments rather than solely profit-driven motives. Authenticity in the intentions will resonate with conscious travelers and foster long-term trust and support with the community.

While social innovations in tourism may prioritize social benefits, it has proven essential to ensure that projects are also economically viable and sustainable. Engaging with the local community and leveraging local networks, can amplify the impact of social innovation initiatives, foster knowledge exchange, and provide access to expertise. Furthermore, prioritizing the inclusion and empowerment of marginalized groups, such as indigenous communities, women, minorities, and persons with disabilities has shown to facilitate the success of social innovations.

The practical implications of our research extend to valuable recommendations for the design and planning of social innovation initiatives in community model destinations. Community-based destinations can provide support for social innovation politically, financially, and administratively to foster sustainable development and inclusive growth.

A key practical implication underscores the significance of active support from administrative bodies (e.g. destination management organizations), as well as political representatives. This

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support is essential for the successful implementation of social innovations, advocating for role model building and the dissemination of best practice examples. Additionally, providing networking and collaboration possibilities is recommended to facilitate synergies among stakeholders.

By integrating social innovation principles into tourism policy frameworks, governments can promote initiatives that prioritize community well-being, environmental conservation, and cultural preservation. Practical implications also highlight the importance of addressing and minimizing potential barriers. Thereby, bureaucratic hurdles and legal issues, should be overcome by providing information and administrative support. Politically, the endorsement and advocacy for policies that prioritize social innovation within the tourism sector can catalyze positive change and align initiatives with broader sustainable developmental objectives. Financial support, including grants, subsidies, and investment incentives, can provide crucial resources for entrepreneurs to kickstart and scale their innovative projects.

### **2.5.3 Conclusion**

This research has undertaken a comprehensive exploration of social innovation in the context of community model tourism destinations. Applying a multi-level lens, we advance the scholarly discussions by identifying novel drivers, barriers and contextual factors that influence social innovation activities in tourism.

The theoretical contribution of this study lies in enriching our understanding of the intricate relationships between social entrepreneurial factors, normative implications, network dynamics, and innovation push factors in the tourism sector. Our findings offer valuable insights for both academic and practical considerations. The practical implications emphasize the importance of strategic planning and active support from administrative and political entities to facilitate successful social innovation initiatives in tourism. We contribute to the evolving discourse on social innovation in tourism, fostering a more sustainable, inclusive, and resilient industry for the benefit of all stakeholders involved.

Despite the insightful findings obtained from our research, certain limitations merit consideration. Firstly, the term "social innovation" is relatively novel, and there exists a possibility that not all participants fully grasped its nuances, despite our efforts to provide a comprehensive definition at the beginning of each interview. This lack of a standardized understanding could have introduced variance in responses, impacting the insights garnered. Addressing this limitation in future research involves employing more robust measures for clarifying and ensuring a shared understanding of key concepts, potentially incorporating pre-interview training or supplemental materials to enhance participant comprehension.

Additionally, the qualitative research design and exploratory nature of our study, while invaluable for capturing rich insights, inherently limit the generalizability of findings. The specificity of

our investigation to certain regions is also a constraint. Future research endeavors could adopt a mixed-methods approach, combining qualitative insights with quantitative data to establish a more comprehensive understanding, or testing the suggested research findings quantitatively. Additionally, expanding the scope of research to encompass diverse regions and cultural contexts would contribute to a more nuanced view of social innovation in tourism.

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### 3 INNOVATION IN CRISIS. THE ROLE OF LEADERSHIP AND DYNAMIC CAPABILITIES FOR A MORE INNOVATIVE HOSPITALITY INDUSTRY

**ABSTRACT** - This paper investigates the relationship between leadership and dynamic capabilities as drivers of innovation in the hospitality industry. Utilizing data from hospitality executives, we examine how different leadership styles impact the formation of dynamic capabilities and service innovations during unprecedented crisis times. This research expands extent literature by showcasing not only that different leadership styles have differentiated impacts on dynamic capabilities, but also on innovation outcomes. We identify that innovative hospitality firms differ from non-innovative firms in their level of dynamic capability development and in the extent that different leadership styles impact dynamic capabilities. The findings suggest practical implications for hospitality businesses and provide insights that can benefit policymakers in their design of a more resilient industry.

**Keywords:** Innovation in Hospitality; Dynamic Capabilities; Leadership; Microfoundations; Human Resource Management

### 3.1 Introduction

A vital economic sector, the hospitality industry contributes significantly to the social and regional advancement of nations worldwide. Rapid technical breakthroughs, growing globalization, and shifting market patterns have completely changed this industry. Recent years have seen a number of crises for hospitality as a whole, from natural disasters to political unrest and economic downturns (Shapoval et al., 2021). The hospitality sector has seen a significant setback as a result of the recent COVID-19 epidemic, with many enterprises having to overcome hitherto unheard-of challenges (Alonso et al., 2022). The ability to innovate has grown in significance for hospitality firms in the face of these challenges as they attempt to survive in a quickly changing environment (Gössling et al., 2021). Innovation can assist organizations in the hospitality industry in creating new goods and services, increasing operational effectiveness, improving the guest experience overall, and overcoming challenging circumstances. Additionally, through encouraging resource efficiency and minimizing adverse environmental effects, innovation can support the sustainable growth and resilience of the broader hospitality sector.

However, innovation is not easy to achieve, particularly during times of crisis when resources are limited, and uncertainty is high. Investigating hospitality adaptability in economically and politically challenging times is of essence to understand the underlying factors contributing or hindering organizational change, as well as contextual conditions that may act as drivers or inhibitors to innovation. Recent hospitality research suggests that more often than not, innovation requires strong leadership and disciplined management to succeed (Hidalgo, Martín-Barroso, Nuñez-Serrano, Turrión, & Velázquez, 2022). Leadership and organizational capabilities play a crucial role in steering the hospitality industry towards innovation by providing strategic direction, mobilizing resources, and fostering a culture of change within organizations (Jovičić Vuković, Damjanović, Papić-Blagojević, Jošanov-Vrgović, & Gagić, 2018).

Building on this, our research aims to identify leadership styles that foster innovations and build dynamic capabilities (DC) in hospitality businesses. Specifically, we investigate how different leadership behaviors impact DC and in turn, influence innovation outcomes in hospitality organizations. Evaluating the impact of different leadership styles provides conceptual advancements to the literature on leadership, as well as microfoundations of DC. Without a sufficient understanding of internal factors fostering DC, firms are not able to take full advantage of the underlying capabilities in sensing and seizing business opportunities, as well as responding to market shifts (Cohen & Levinthal, 1990; Rothaermel & Hess, 2007).

Further, this study provides a valuable contribution to the existing literature on innovation in hospitality. In their recent evaluation, Shin and Perdue (2022) identify central innovation research opportunities for hospitality researchers. Our research directly addresses identified opportunities for future research (Shin & Perdue, 2022), by also bridging different literature streams to investigate how leadership and dynamic capabilities impact innovation outcomes



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in the hospitality context. By integrating the investigation of DC and leadership styles with innovation research, this research seeks to (1) identify how different leadership styles impact dynamic capabilities and (2) evaluate how dynamic capabilities impact innovation.

## **3.2 Literature**

### **3.2.1 Innovation in Hospitality**

The service sector generally, and the hospitality industry specifically, have traditionally been viewed as less innovative than other sectors. However, this view has been challenged by scholars who argue that service innovation substantially differs from innovation in manufacturing and requires a different set of capabilities in its development and measurement in its output (Mu et al., 2022). For example, services are often intangible, highly interactive, and co-created with customers, making innovation more complex and difficult to observe (Eide & Mossberg, 2013). Generally, service innovation exists where *“new services have been introduced into the market, or existing services have been significantly improved.”* (Santamaría et al., 2012, p. 148).

Innovation is of essence in business, as it is a crucial driver of growth and competitiveness across many different industries. In hospitality, research indicates a positive, direct relationship between innovation and different measures of business performance (Martin-Rios & Ciobanu, 2019; Pascual-Fernández, Santos-Vijande, López-Sánchez, & Molina, 2021). Extant literature has also been able to link operational profits to a firm’s ability to innovate and confirm that innovations can lead to a competitive advantage and long-term business success (Martin-Rios & Ciobanu, 2019).

Generally, hospitality firms have been quick to adopt technological innovations from other sectors (Martin-Rios & Ciobanu, 2019). Scholars have argued that innovative organizations are more successful in responding to environmental changes and market threats (Martínez-Román et al., 2015; Mattsson & Orfila-Sintes, 2014) however, developing hospitality specific innovation has shown to be a challenge for many firms (García-Villaverde et al., 2017). Truly radical, groundbreaking innovations in hospitality have been rare, whereby incremental innovations, introducing services to a new market or reconfiguring existing offerings to meet customers’ needs are generally more common, fostering the “low innovative” image of the industry (Gomezelj, 2016). Even though hospitality businesses generally showcase little experience in the implementation of innovations, the Covid-19 pandemic has served as a external push towards innovation activities and practices (Sharma et al., 2021).

### **3.2.2 Dynamic Capabilities**

Changing business environments have required organizations to advance capabilities that enable agile responses to market changes by reconfiguring, integrating, and improving internal and external resources (Khan et al., 2019; Teece, 2007). DC enable businesses to upgrade

existing capabilities or develop new capabilities (Teece, 2018). Thereby, organizations can adapt and address changes in the business environment more effectively displaying organizational resilience. Additionally, firms with advanced DC may also shape environmental changes by generating innovative offerings. Put together, DC can be described as a “*firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.*” (Teece et al., 1997, p. 516). Teece (2007) outlines three main types of DC, namely *sensing, seizing and transforming capabilities*. While *sensing capabilities* include the identification of opportunities by scanning, searching and exploring activities, *seizing capabilities* outline how these will be exploited or dealt with (Teece, 2007). *Transforming capabilities* center on an organization’s abilities to transform and restructure itself (Teece et al., 1997). The strength and specificity of a firm’s DC will determine how quickly, as well as to what extent business resources can be adapted or created to align with changes to the business environment (Teece, 2007).

### 3.2.3 Dynamic Capabilities and Innovation

Empirical investigations in the realm of innovation research, as well as in the hospitality context have provided evidence for the benefits of using DC research to explain innovation performance (Alonso et al., 2022; Camisón et al., 2017; Nieves & Haller, 2014; Pereira-Moliner et al., 2021). Extant hospitality research studies have suggested the combinatory conceptualization of innovation with DC (Nieves, Quintana, & Osorio, 2016). DC have the potential to foster innovation by generating new ideas, sensing and seizing opportunities, while also reconfiguring resources and processes (Bornay-Barrachina et al., 2023). Exploratory organizational capabilities generally increase a firm’s receptiveness to external input and knowledge (Lavie & Rosenkopf, 2006).

Specifically, seizing opportunities not only involve the utilization of existing offerings but commonly require resource investments in developing new offerings (Teece, 2010). In addition, seizing and transforming capabilities may not only involve service innovation, but could also center on the adaption or innovation of business models, in an effort to exploit new opportunities or sustain competitive advantages (Teece, 2010). Building on this, we propose the following hypothesis for the hospitality context:

H1: Seizing, sensing, and transforming capabilities have a positive influence on innovation.

A focus of the dynamic capabilities’ literature has been to identify the underlying processes, resources, and capabilities held within organizations to explain the creation of DC (Teece, 2018). The intention of this research stream is to better account for differences in performance across businesses and industries. This has led to the identification of the so-called microfoundations (Teece, 2007). Microfoundations generally refer to “*the distinct skills, processes, procedures, organizational structures, decision rules, and disciplines*” that make up the DC (Teece, 2007, p. 1319).

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The literature on microfoundations emphasizes individual activities, personality traits and practices as influencing the creation and advancement of DC (Foss & Pedersen, 2016). The identification and evaluation of microlevel factors and practices has been aimed at better explaining organizational adaptability and performance. Recent research has focused on employee skills and competences, team collaboration or job-fit to help explain business performance (Chen, 2017). Leadership approaches and personality traits of executive managers are suggested to be of particular importance in explaining differential business performance (Wang et al., 2022). Recent literature has emphasized the importance of exploring the connection between managerial capabilities, organizational DC, and their combined impact on different organizational outcome variables (Bojesson & Fundin, 2021; Bornay-Barrachina et al., 2023; Helfat & Martin, 2015).

### **3.2.4 Leadership as a Microfoundation for Dynamic Capabilities**

Leadership and management capabilities have been the focus in scholarly research investigating microfoundations of DC (Bojesson & Fundin, 2021; Bornay-Barrachina et al., 2023). For instance, Bendig et al. (2018) focus on how CEOs' personality traits as microfoundations influence the formation and acceleration of organizational DC. By evaluating different managerial cognitive capabilities, Helfat and Martin (2015) establish how different abilities affect the different DC. Thereby, the level of attention and perception in management generate sensing capabilities, reasoning and problem-solving skills constitute to seizing capabilities and high levels of social cognition and communication skills build transforming capabilities (Helfat & Martin, 2015). This suggests that different leadership styles and foci may impact the formation of DC differently.

Eisenhardt et al. (2010) investigate microfoundations and emphasize the role of leadership in changing business environments. Extant research has emphasised the importance of leaders' cognitive and higher-order thinking capabilities, experience and expertise, as well as flexibility and agility in management (Fallon-Byrne & Harney, 2017). This suggests differentiated impacts of leadership styles depending on business environments and industry type. Therefore, this study focuses on the investigation of three different leadership styles and their impact on DC and innovation.

In their recent review, Yating et al. (2024) suggest to explore different leadership styles and their impact on innovation across different industries. Early research primarily concentrated on examining the connection between traditional leadership styles, such as transformational and transactional leadership, and performance outcomes and innovation (Hammond, Cleveland, O'Neill, Stawski, & Jones Tate, 2015; Watts, Steele, & Hartog, 2020; Yating et al., 2024). In recent years, however, there has been a growing interest among scholars in newer leadership styles, that are more inclusive to encouraging input from employees. A growing body of research suggests that these emerging leadership styles are also linked to innovation (Lee et al., 2020; Yating

et al., 2024), impacting the performance above and beyond the more widely recognized connection between transformational leadership and innovation (Hoch, Bommer, Dulebohn, & Wu, 2018). Addressing the scholarly call to deepen the understanding of how various leadership types impact innovation performance (Yating et al., 2024), we seek to investigate the effects of more inclusive leadership styles, namely participative and empowered leadership, as well as the more established transformational leadership type on DC formation and innovation outcomes in hospitality.

### 3.2.4.1 Participative Leadership

Literature has suggested that the effectiveness of leaders in managing employee participation, especially in service settings, is important for the success of business organizations (Wang et al., 2022). Managers and business leaders have to engage appropriately with their subordinates and promote their participation in organizational decision-making (Huang, Lun, Liu, & Gong, 2010). This participation promotion is achieved by adopting an engaging and inclusive leadership style, known as participative leadership (Wang et al., 2022). Participative leadership is defined by Kahai et al. (1997), as “a leadership style in which leaders ask employees for their opinions before making decisions, delegate decision-making authority to subordinates in practice, and encourage active participation by employees to make decisions together” (Wang et al., 2022, p. 3). In participative leadership, the business leader emphasizes employee engagement in decision making, as well as product and service development (Chan, 2019; Huang & Farboudi Jahromi, 2021).

Particularly in dynamic environments and facing changing business circumstances, it has been difficult for leaders and managers to make effective decisions without stakeholder input (Li, Liu, & Luo, 2018; Zhao, Tang, Zhang, & Niu, 2019). Above that, scholars suggest that a participative leadership style can significantly improve business performance, agility and adaptability (Yan, 2011). In line with previous research, we suggest the following hypothesis:

H2: Participative leadership positively impacts seizing, sensing and transforming capabilities.

Adding to this, we argue that participative leadership as a microfoundation for DC impacts business outcomes such as profitability, innovation, and business performance not only through DC (Teece, 2012), but also directly. Therefore, we suggest that:

H3: Participative Leadership positively impacts innovation.

### 3.2.4.2 Empowered Leadership

The concept of employee empowerment as a leadership style has received significant attention in the last decades and scholarly research has advanced significantly (Vu, 2020). In empowered

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leadership, leaders' behaviors include *"delegating authority and responsibility, eliminating formal organizational practices, and identifying and removing conditions that foster powerlessness"* (I. Wong Humborstad, G.L. Nerstad, & Dysvik, 2014). Leaders with an empowering leadership style allow employees to make their own decisions, and thereby share decision-making capacity, power and responsibility (Vecchio, Justin, & Pearce, 2010). Providing employees with a greater sense of self-direction, is believed to *"increase the subordinates sense of meaning, competence, self-determination, and impact"* (Ahearne, Mathieu, & Rapp, 2005; I. Wong Humborstad et al., 2014). In comparison with participative leadership, empowered leadership delegates responsibility and provides personal autonomy, compared to merely incorporating different views during the decision-making (Wang et al., 2022).

Studies on empowered leadership posit that this leadership style improves employee performance (Ahearne et al., 2005; Vecchio et al., 2010), and can be considered as an important contributor to organizational performance and effective change management (Vu, 2020). Building on previous scholarly research and in-line with the research on the microfoundations for DC we propose the following hypotheses:

H4: Empowered leadership positively impacts seizing, sensing and transforming capabilities.

H5: Empowered Leadership positively impacts innovation.

### **3.2.4.3 Transformational Leadership**

Transformational leadership emphasizes the leaders' capabilities to identify necessary changes in the organization and market opportunities, as well as threats (Huang & Farboudi Jahromi, 2021). To practice transformational leadership, the leader must also be able to translate business plans into inspirational communication to convince subordinates through a shared vision and mission (Karimi, Ahmadi Malek, Yaghoubi Farani, & Liobikienė, 2023). With compelling communication tactics and a convincing articulation of shared goals, transformational leaders motivate subordinates to achieve performance beyond expectations (Rafferty & Griffin, 2004). Thereby, transformational leaders do not gain compliance through force or pressure, but rather influence the employee's attitudes, beliefs and values (Rafferty & Griffin, 2004).

Research by Tussyadiah et al. (2022) suggests that transformational leadership is an enabler of business reorganization, innovations and business model transformation. Similarly, Waldman et al. (2001) suggest that during uncertain times, charismatic leaders, who can communicate with determination, provide a vision and purpose impacts organizational performance positively (Teo et al., 2017). Scholars have argued that organizations with transformational leaders are more effective in maintaining high levels of employee satisfaction and encouraging positive performance outcomes (Kim, Kumar, & Kumar, 2012; Valero et al., 2015), and suggest that transformational leaders also have a beneficial impact on organizational innovativeness, as well as

sustainability performance (Valero et al., 2015). Therefore, we suggest the following hypotheses:

H6: Transformational leadership positively impacts seizing, sensing and transforming capabilities.

H7: Transformational leadership positively impacts innovation.

Put together, the conceptual design for this research is outlined in Figure 5.

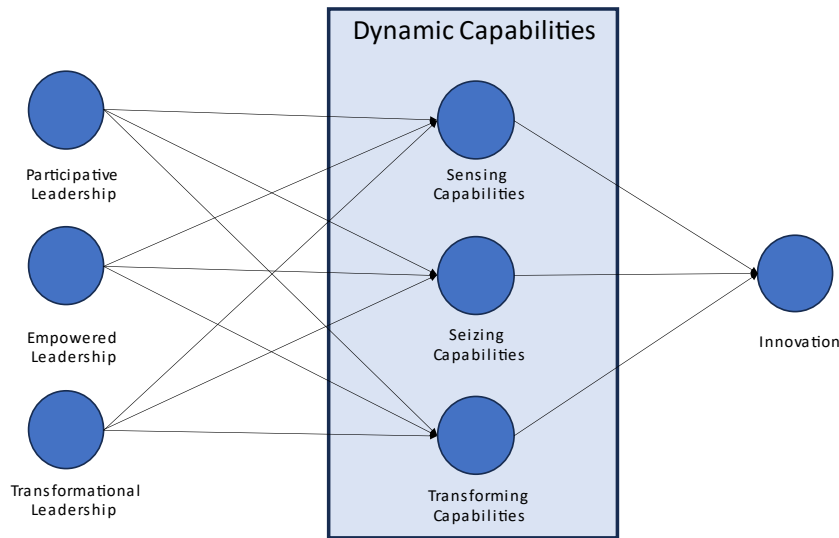


Figure 5: Conceptual Model

In the domain of business research, the distinction between innovative and non-innovative firms manifests prominently in their differential capacities to adapt to environmental changes and cultivate DC (Li & Liu, 2014). Innovative firms exhibit a heightened proclivity for proactive engagement with environmental dynamism, evidenced by their adeptness in recalibrating operational processes, strategic frameworks, and the rapid integration of emergent technologies (Seo, Kim, & Kim, 2020). Their pronounced ability to institute and deploy DC underscores a robust adaptive capacity. Conversely, non-innovative firms manifest an inclination for inertia, encountering impediments in navigating and assimilating industry shifts. Leadership styles within these different groups of firms diverge systematically - innovative firms are typically led by visionaries who prioritize experimentation and creativity, fostering an organizational ethos conducive to innovation (Mascareño, Rietzschel, & Wisse, 2020). Conversely, less innovative entities often exhibit leadership characterized by risk aversion and adherence to conventional paradigms (Costa, Pádua, & Moreira, 2023). These empirical observations underscores the pivotal role of

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innovation and leadership dynamics in shaping the adaptiveness of firms. Thereby, we propose that:

H8a: Leadership styles impact sensing, seizing and transforming capabilities differently, in incrementally innovative vs. non-innovative firms.

H8b: Leadership styles impact sensing, seizing and transforming capabilities differently, in radically innovative vs. non-innovative firms.

### 3.3 Materials & Methods

#### 3.3.1 Data and indicators

To collect data for this study a cross-sectional, online survey is conducted among Austrian hotels (A.2 Appendix – Questionnaire). Given the lower applicability of patents or R&D inputs to measure innovation in hospitality contexts (Nordli, 2017), this research applies the innovation measure used in the European Union's Community Innovation Survey (CIS) 2020. Thereby, the questionnaire includes two questions used in the CIS to assess if new services were introduced into the market (i.e. radical innovations) and whether services that were new to the business, but not new to the market (i.e. incremental innovations), were introduced to the previous three years.

The scale proposed by Kump et al. (2018) is adapted and utilized to measure DC. The concepts measuring sensing, seizing and transforming capabilities use 3, 3, and 4 items, respectively. The survey participants were asked to indicate the level of agreement for each of the items on a 9-point Likert type scale (strongly agree to strongly disagree).

The different leadership styles concepts are based on established literature and adapted to the investigation context. The measure for *participative leadership* consists of 3 items from Arnold et al. (2000). *Empowered leadership* was measured based on three items synthesized and adapted from Ahearne et al. (2005). The measure for *transformational leadership* is based on the conceptual work of Rafferty and Griffin (2004), and adapted from Madi Odeh et al. (2021).

We created a formative construct for innovation made up of the indicators for incremental and radical innovation (Al-Emran, Mezhuyev, & Kamaludin, 2019; Hair, Sarstedt, Hopkins, & G. Kuppelwieser, 2014; Liu, Vega, & Dizey, 2023). Even though extant literature has argued that Partial Least Squares – Structural Equation Modeling (PLS-SEM) generally works with nominal, ordinal, interval, and ratio scaled variables (Dijkstra, 1983; Hair, Sarstedt, Ringle, & Mena, 2012; Reinartz, Haenlein, & Henseler, 2009), there are concerns with using dichotomous variables to measure endogenous variables since path coefficients are estimated by Ordinary Least Squares (OLS) regressions (Hair et al., 2012).

In addition, control variables such as firm size, business age, COVID-19 support received and business (ownership) type, regional information and demographic information about the respondents is also collected.

The items used in the survey have been translated from English to German and then back translated from German to English to warrant translation consistency. In addition, the survey items used were pre-tested with 5 industry representatives to ensure understandability and clarity (Cohen, Cohen, West, & Aiken, 2003; Sinaiko & Brislin, 1973). Minor adaptations were made, based on the insights from the pre-test. The questionnaire construct and respective items can be found in Table 4.

Construct	Item	Description
<b>Radical Innovation</b>	RI	Have you introduced any product/service innovations in the last three years that have been new to your market (market novelties)?
<b>Incremental Innovation</b>	II	Have you introduced any product/service innovations in the last three years that have been new to your company but not new to your market?
<b>Sensing Capabilities</b>	SE1	Our company knows the best practices in the market.
	SE2	Our company is up to date on the current market situation.
	SE3	As a company, we know how to access new information.
<b>Seizing Capabilities</b>	SZ1	Our company can quickly relate to new knowledge from the outside.
	SZ2	We recognize what new information can be utilized in our company.
	SZ3	Current information leads to the development of new products or services.
<b>Transforming Capabilities</b>	TC1	By defining clear responsibilities, we successfully implement plans for changes in our company.
	TC2	In the past, we have demonstrated our strengths in implementing changes.
	TC3	In our company, new projects can be put into practice alongside the daily business.
	TC4	In our company, we are quick to adapt to changes in the business environment.
<b>Participative Leadership</b>	PL1	I encourage my employees to express ideas and suggestions.
	PL2	I listen to my employees' ideas and suggestions.
	PL3	I consider my employees' ideas, even when I disagree with them.
<b>Empowered Leadership</b>	EL1	I ensure my employees understand the importance of their work to the overall performance of the company.
	EL2	I am confident that my employees can handle demanding tasks.
	EL3	I allow my employees flexibility in performing their job.
<b>Transformational Leadership</b>	TL1	I communicate clearly where I want our company to be in 5 years to my employees.
	TL2	I challenge my employees to think about old problems in new ways.
	TL3	I encourage my employees to see changing environments as situations full of opportunities.

Table 4: Construct Indicators

### 3.3.2 Sampling and Field Phase

The Austrian hotel industry makes up the sample and accessed through a hotel network. The Austrian Hotel Association reached out to business leaders in the lodging industry in Austria.



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Email invitations were sent to 1340 member hotels asking them to participate in the survey. Following one and two weeks, a follow-up communication was administered. 163 complete surveys resulted from this, and the response rate of 12.1 percent is comparable to other similar research studies (Chmielewski & Paladino, 2007; Wilden & Gudergan, 2017). The purpose of the study was communicated to respondents upfront, and we ensured their anonymity and the confidentiality of their survey responses. By using expert comments and pilot testing, we were able to eliminate item ambiguity in accordance with the recommendations for effective questionnaire design (Memon et al., 2023). In order to take into consideration potential biases, we first looked for variations in company size (as determined by the number of employees), geographic location, and firm age between responding and non-responding businesses. No concerns were identified.

### **3.3.2.1 Sample Profile**

Approximately 5% of respondents held a leading commercial role, such as head of marketing and sales, while over 90% of respondents held a leadership position, such as managing director or CEO. Operational duties were held by the remaining respondents. Most of the respondents (more than 90%) had more than 10 years of overall work experience in the hospitality industry of which 2/3 also spent more than 10 years in their current role, which increases the robustness of our findings due to low rates of role fluctuations. Roughly two thirds of the respondents identified as male and 44% indicated an age of 50 or below. Almost 30% of the respondents indicated to have completed a tertiary education. More than half (55%) indicated to be working in a small business with 11-49 employees and one third identified as a medium business (50-249 employees; based on the OECD definition).

### **3.3.2.2 Measurement Model Validation**

To assess the convergent validity of the utilized reflective measures, the Cronbach's  $\alpha$ , average variance extracted (AVE), factor loadings, and composite reliability, were investigated (Table 5).

Construct	Item	Loadings	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
<b>Participative Leadership</b>			0.824	0.896	0.741
	PL1	0.905			
	PL2	0.877			
	PL3	0.797			
<b>Empowered leadership</b>			0.735	0.850	0.653
	EL1	0.826			
	EL2	0.834			
	EL3	0.764			
<b>Transformational Leadership</b>			0.815	0.891	0.732
	TL1	0.796			
	TL2	0.914			
	TL3	0.852			
<b>Sensing Capabilities</b>			0.838	0.902	0.755
	SE1	0.883			
	SE2	0.834			
	SE3	0.889			
<b>Seizing Capabilities</b>			0.889	0.931	0.819
	SZ1	0.903			
	SZ2	0.892			
	SZ3	0.919			
<b>Transforming Capabilities</b>			0.891	0.924	0.753
	TC1	0.862			
	TC2	0.880			
	TC3	0.852			
	TC4	0.878			

Note: All loadings significant at .001 (two-tailed).

Table 5: Measurement Quality Criteria

We inspect constructs' discriminant validity using Fornell and Larcker's (1981) criterion to investigate whether constructs differ sufficiently (see Table 6). Since shared variance does not exceed AVE discriminant validity is satisfying. The correlations between the constructs did not raise any concern. Further, we investigated the constructs' discriminant validity using the Heterotrait-Monotrait (HTMT) criterion, as suggested by Franke and Sarstedt (2019). This criterion confirms discriminant validity with HTMT values not exceeding 0.9 (Hair, Hult, Ringle, & Sarstedt, 2022).

Construct	Empowered Leadership	Participative Leadership	Seizing Capabilities	Sensing Capabilities	Transformational Leadership	Transforming Capabilities
Empowered Leadership	<b>0.808</b>					
Participative Leadership	0.736	<b>0.861</b>				
Seizing Capabilities	0.449	0.385	<b>0.905</b>			
Sensing Capabilities	0.586	0.498	0.700	<b>0.869</b>		
Transformational Leadership	0.723	0.690	0.489	0.555	<b>0.856</b>	
Transforming Capabilities	0.504	0.450	0.809	0.595	0.525	<b>0.868</b>

Note: The diagonal shows the square root of the respective AVE.

Table 6: Construct Correlations

Dynamic capabilities were measured through a Type II reflective-formative composite model, i.e. second-order index, using the repeated indicator approach (Becker, Klein, & Wetzels, 2012). According to Wetzels et al. (2009), a higher-order latent variable is created for the repeated indicator approach by utilizing all of the manifest variables of the underlying lower-order latent variables to specify the latent variable. We assessed the variance inflation factor (Diamantopoulos & Winklhofer, 2001) to make sure there was no serious multicollinearity, and we found no value above 5 (Hair, Ringle, & Sarstedt, 2011). In addition, we examined the first order constructs' significance and coefficients for the second-order DC construct (Cenfetelli & Bassellier, 2009), which is shown in Table 7.

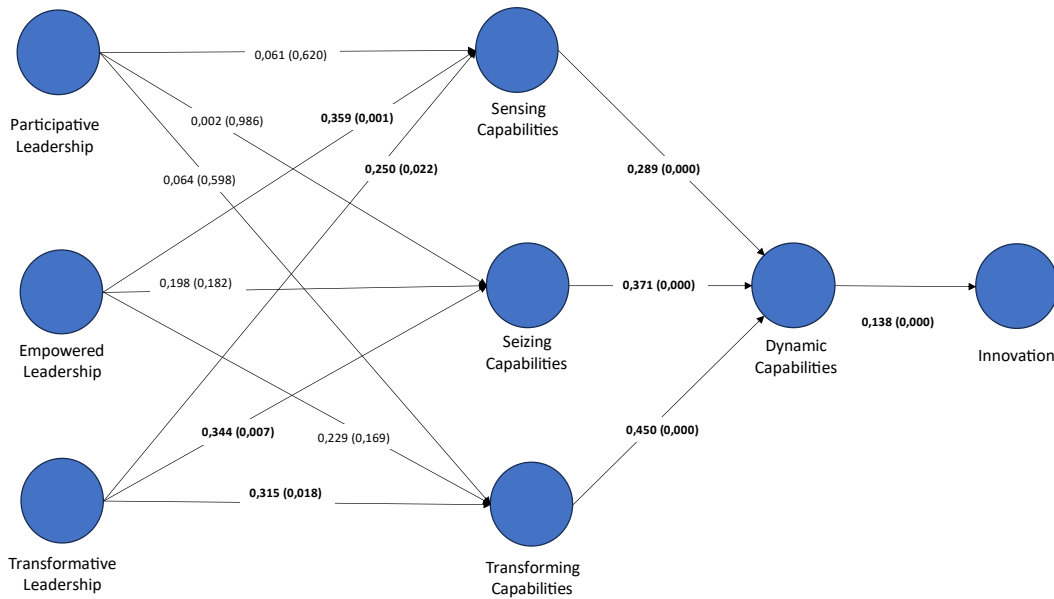
Construct	No. items	Coefficients
Dynamic Capabilities		
Sensing	3	0.289***
Seizing	3	0.371***
Transforming	4	0.450***

Note: \*\*\*Significant at 0.01 (two-tailed)

Table 7: Second-Order Construct Dynamic Capabilities

### 3.3.3 Analysis and Results

The data were analyzed using SmartPLS 4 software for soft modeling of a partial least squares structural equation model (PLS-SEM) (Wold, 1980), using the structural model (Figure 6).



Note: path coefficients (p-values); bold font indicates p-value significance.

Figure 6: Structural Model

The findings of the path coefficients and their significance level using a bootstrapping procedure (5,000 samples) are examined in Table 8. Control variables for firm size and firm type were included as robustness checks. However, since neither of the control variables showed to be statistically significant, nor did they change the significance of any of the other indicators, they were not included in the final model in an effort to minimize the potential of over-parameterization.

Hypothesis		Coefficients	Standard deviation	P-values	Decision
H1	Dynamic Capabilities -> Innovation	0.138	0.033	<b>0.000***</b>	<b>Supported</b>
H3	Participative Leadership -> Innovation	0.007	0.017	0.702	Not Supported
H5	Empowered leadership -> Innovation	0.039	0.021	<b>0.062*</b>	Not Supported
H7	Transformational Leadership -> Innovation	0.047	0.022	<b>0.031**</b>	<b>Supported</b>

Note: \*\*\*Significant at 0.01, \*\*Significant at 0.05, \*Significant at 0.1, Innovation R<sup>2</sup> = .11

Table 8: Effects on Innovation

We find that the higher-order construct of DC also shows a significant impact on innovation. At a significance level of 0.01 (two-tailed), we find support for H1 (i.e. a statistically significant impact of DC on innovation). As a robustness check we also applied a logistic regression using the latent variable for DC created in the PLS-SEM estimation. Thereby, we were able to confirm that

DC show to have a statistically significant, positive impact on both radical and incremental innovation. The coefficient is larger in the logistical regression with radical innovation as the dependent variable, indicating a stronger influence of DC compared to incremental innovations ( $\beta = 0,651, p = 0,001$  vs  $\beta = 0,353, p = 0,036$ ).

When investigating the impact of leadership types on innovation, we find that participative leadership does not have a statistically significant impact on innovation. H3 is not supported. Empowered leadership only has a statistically significant impact on innovation at a 0.1 significance level. We will cautiously reject H5. Transformational leadership has a statistically significant indirect impact on innovation, in support of H7.

In addition, we hypothesized significant effects of the investigated leadership styles on DC and its first-order constructs (see Table 9).

	Coefficients	Standard deviation	P-values
<b>Empowered Leadership</b>			
-> Dynamic Capabilities	0.281	0.133	<b>0.036**</b>
-> <i>Seizing Capabilities</i>	0.198	0.148	0.182
-> <i>Sensing Capabilities</i>	0.359	0.108	<b>0.001***</b>
-> <i>Transforming Capabilities</i>	0.229	0.167	0.169
<b>Participative Leadership</b>			
-> Dynamic Capabilities	0.047	0.116	0.684
-> <i>Seizing Capabilities</i>	0.002	0.133	0.986
-> <i>Sensing Capabilities</i>	0.061	0.124	0.620
-> <i>Transforming Capabilities</i>	0.064	0.121	0.598
<b>Transformational Leadership</b>			
-> Dynamic Capabilities	0.342	0.111	<b>0.002***</b>
-> <i>Seizing Capabilities</i>	0.344	0.127	<b>0.007***</b>
-> <i>Sensing Capabilities</i>	0.250	0.109	<b>0.022**</b>
-> <i>Transforming Capabilities</i>	0.315	0.134	<b>0.018**</b>

Note: \*\*\*Significant at 0.01, \*\*Significant at 0.05, \*Significant at 0.1, Seizing Capabilities  $R^2 = .27$ , Sensing Capabilities  $R^2 = .38$ ; Transforming Capabilities  $R^2 = .32$

Table 9: Effects on Dynamic Capabilities

Participative leadership does not show to have a significant impact on any of the sub-constructs of DC (H2). Therefore, we do not find any support for H2. Empowered Leadership shows to have a statistically significant positive impact on sensing capabilities. Thereby, H4 is partially supported. Transformational leadership is found to significantly impact all three DC sub-constructs, H6 is supported.

In an effort to answer our final hypothesis (H8) and strengthen the previous analysis, we conducted a Multi-Group Analysis in addition to the PLS-SEM path model. The groups have been defined by the binary indicators for incremental and radical innovation, respectively. Thereby,

two groups (0/1) for each innovation type are created. According to Baron and Kenny (1986, p. 1174) a categorical moderator variable “affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable”, which is conceptually required for the comparison of group-specific effects. The intention of the multi-group analysis is to identify differentiated impacts that the investigated constructs have within the model, depending on each observation’s group membership (Henseler, Ringle, & Sinkovics, 2009). As proposed by Henseler et al. (2009), we directly compare group-specific bootstrap estimates from each bootstrap sample. Table 10 and Table 11 show the model indicators for the multi-group analyses. Thereby, it is possible to investigate significant effects differentiated by innovativeness and innovation type (incremental and radical innovation, respectively).

	Incremental Innovation		Differences
	0	1	0 vs 1
	Coefficients (STDV)		P-values (two-tailed)
<b>Participative Leadership</b>			
-> Dynamic Capabilities	0.052(.153)	-0.008(.132)	0.489
-> Sensing Capabilities	-0.078(.148)	0.248(.155)	0.165
-> Seizing Capabilities	-0.031(.177)	-0.024(.171)	0.385
-> Transforming Capabilities	0.187(.167)	-0.187(.133)	<b>0.087*</b>
<b>Empowered Leadership</b>			
-> Dynamic Capabilities	0.231(.212)	<b>0.370(.131)***</b>	<b>0.041**</b>
-> Sensing Capabilities	<b>0.375(.155)**</b>	<b>0.357(.155)**</b>	0.354
-> Seizing Capabilities	0.136(.239)	0.234(.168)	0.457
-> Transforming Capabilities	0.167(.251)	<b>0.394(.155)**</b>	<b>0.087*</b>
<b>Transformational Leadership</b>			
-> Dynamic Capabilities	<b>0.433(.167)***</b>	<b>0.346(.133)***</b>	0.395
-> Sensing Capabilities	<b>0.476(.198)**</b>	<b>0.372(.132)***</b>	0.213
-> Seizing Capabilities	<b>0.405(.137)***</b>	0.074(.168)	<b>0.072*</b>
-> Transforming Capabilities	0.320(.199)	<b>0.423(.152)***</b>	<b>0.015**</b>

Note: \*\*\*Significant at 0.01, \*\*Significant at 0.05, \*Significant at 0.1

Table 10: Multi-Group Analysis – Incremental Innovation

	Radical Innovation		Differences
	0	1	0 vs 1
	Coefficients (STDV)		P-values (two-tailed)
<b>Participative Leadership</b>			
-> Dynamic Capabilities	<b>0.239(.122)*</b>	-0.237(.165)	<b>0.096*</b>
-> Sensing Capabilities	0.101(.156)	-0.003(.183)	0.370
-> Seizing Capabilities	0.208(.161)	<b>-0.309(.176)*</b>	<b>0.032**</b>
-> Transforming Capabilities	<b>0.298(.116)**</b>	-0.279(.194)	<b>0.021**</b>
<b>Empowered Leadership</b>			
-> Dynamic Capabilities	0.265(.170)	<b>0.554(.166)***</b>	<b>0.073*</b>
-> Sensing Capabilities	<b>0.371(.156)**</b>	<b>0.494(.178)***</b>	0.298
-> Seizing Capabilities	0.171(.212)	<b>0.488(.181)***</b>	<b>0.019**</b>
-> Transforming Capabilities	0.200(.192)	<b>0.504(.203)**</b>	0.180
<b>Transformational Leadership</b>			
-> Dynamic Capabilities	0.220(.156)	<b>0.345(.120)***</b>	<b>0.052*</b>
-> Sensing Capabilities	0.206(.201)	<b>0.348(.137)**</b>	0.115
-> Seizing Capabilities	0.228(.142)	0.175(.145)	0.207
-> Transforming Capabilities	0.166(.188)	<b>0.372(.138)***</b>	<b>0.041**</b>

Note: \*\*\*Significant at 0.01, \*\*Significant at 0.05, \*Significant at 0.1

Table 11: Multi-Group Analysis – Radical Innovation

Differences between companies with innovations versus non-innovators can be seen in the significance of path coefficients in the table above. Differences between firms with incremental innovations versus non-innovators can be seen in the left columns. Participative Leadership does not show to significantly impact any dynamic capability, both in firms with incremental innovations, as well as without. Whereby empowered leadership has a significant impact on sensing capabilities in both groups, this leadership type also significantly impacts transforming capabilities and the second-order construct of DC in firms with incremental innovations. Transformational leadership seems to significantly impact sensing capabilities and the second-order DC construct in firms with and without incremental innovations, as well as seizing capabilities in non-incremental innovators and transforming capabilities in innovators.

The differences between innovative vs non-innovative firms are more pronounced when innovation is measured in terms of radical innovations. The statistically significant impact of transformational leadership on the second-order DC construct, transforming capabilities and sensing capabilities perceived for incrementally innovative firms, also holds for firms with radical innovations. More strikingly, transformational leadership has no significant impact on any dynamic capability in hospitality businesses without radical innovations. Adding to this, empowered lead-

ership has a statistically significant positive impact on all three sub-constructs in radically innovative firms. Furthermore, participative leadership only shows to positive impact on transforming capabilities in firms without radical innovations. In firms with radical innovations, there even is a statistically significant negative impact of participative leadership on seizing capabilities. This indicates that participative leadership may inhibit certain DC in radically innovative firms.

In summary, we find support for our final hypotheses (H8a & H8b), in that the investigated leadership styles exhibit different impacts on sensing, seizing and transforming capabilities in both incrementally and radically innovative versus non-innovative firms. These differences seem more pronounced in radically innovative firms compared to hospitality businesses with incremental innovations. A summary of the findings in relation to the tested hypotheses can be found in Table 12.

#	Hypothesis	Decision
H1	Dynamic Capabilities positively influence innovation.	<b>Supported</b>
H2	Participative leadership positively impacts sensing, seizing and transforming capabilities.	Not Supported
H3	Participative Leadership positively impacts innovation.	Not Supported
H4	Empowered leadership positively impacts sensing, seizing and transforming capabilities.	<b>Partially Supported</b>
H5	Empowered Leadership positively impacts innovation.	Not Supported
H6	Transformational leadership positively impacts sensing, seizing, and transforming capabilities.	<b>Supported</b>
H7	Transformational Leadership positively impacts innovation.	<b>Supported</b>
H8a	Leadership styles impact sensing, seizing and transforming capabilities differently, in incrementally innovative vs. non-innovative firms.	<b>Supported</b>
H8b	Leadership styles impact sensing, seizing and transforming capabilities differently, in radically innovative vs. non-innovative firms.	<b>Supported</b>

Table 12: Hypotheses Summary

### 3.4 Discussion & Conclusion

#### 3.4.1 Theoretical Implications

In our research, we have been able to confirm the benefits of using the concept of DC to explain innovation performance suggested in previous hospitality research (Bornay-Barrachina et al., 2023; Camisón et al., 2017; Pereira-Moliner et al., 2021; Shin & Perdue, 2022). We gain a more comprehensive understanding of how hospitality organizations adapt, change, and innovate under different types of leadership. Extant literature has suggested that DC are context-dependent (Teece, 2007) and that innovation level varies across sectors (Gallouj & Weinstein, 1997). In our research, we can show that DC impact both incremental and radical innovations in hospitality firms. Adding to this, different leadership styles have been supported as a crucial determinant of innovation (Hassi, 2019). Leadership capabilities and management styles seem to be of particular importance when investigating organizational change and adaptability in hospitality



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(Huertas-Valdivia et al., 2019). Effective leaders can provide vision, direction, and support for innovation initiatives, while also promoting a culture of creativity and experimentation (Agbor, 2008; Rafferty & Griffin, 2004).

Leadership behaviors such as empowering, visioning, and promoting creativity have been shown to positively influence innovation outcomes in services (Hughes et al., 2018; Koziol-Nadolna, 2020). Advancing previous findings, we find that certain leadership styles positively impact innovation outcomes, while others do not. Both empowered leadership and transformational leadership styles seem to positively influence innovation in hospitality firms, while no statistically significant impact was identified for participative leadership. This runs counter to certain academics' claims that organizational performance, agility, and adaptability are greatly enhanced by participative leadership (Wang et al., 2022; Yan, 2011). Previous research on the contextual or mediating impacts of participatory leadership on organizational change and company success may support this (Wang et al., 2022). Furthermore, according to Li et al. (2018) there are situations in which participatory management may lessen an organization's performance. The fostering influence transformational leadership has on innovation outcomes in hospitality firms, is in line with wider human resource literature advocating that uncertain times necessitate charismatic leadership behaviour, which communicates determination and provides a vision is predictive of positive organizational performance and adaptability (Teo et al., 2017; Valero et al., 2015; Waldman et al., 2001).

Our findings advance DC research, specifically the investigation of their microfoundations. Generally, leadership and management practices have been focused on in scholarly research investigating microfoundations of DC previously (Bojesson & Fundin, 2021), but investigations on microfoundations have commonly focused on personality traits and individual characteristics or abilities, while this research at hand places explicit focus on different leadership styles and how they impact both DC and innovations in the hospitality setting. Thereby, we open a new avenue for understanding organizational dynamics in the hospitality industry and uncover the intricate interplay between leadership behaviors and organizational outcomes.

Our research suggests that different leadership styles not only impact the higher-order construct of DC differently, but also the three sub-constructs (sensing, seizing and transforming). We find that empowered leadership can support the identification of opportunities by scanning and exploring activities, but transformational leadership can additionally aid in the exploitation of these opportunities, as well as transforming and restructuring the organization as required. This means that empowered leadership acts as a radar system, enhancing the organization's awareness of potential opportunities and threats. Because transformational leadership positively influences all three sub-constructs of DC, this leadership style acts as a catalyst, propelling the organization toward innovation and adaptability.

Additionally, we can show that innovative (both incrementally innovative, as well as radically innovative) businesses are different from non-innovative firms respectively. We advance recent management literature in support of differences in business processes and operations between innovative and non-innovative firms (Montresor & Vezzani, 2022). We identify that innovative firms generally have more developed DC. This is in line with the general notion of DC, which suggests that these capabilities enable firms to adapt, learn, and respond more effectively to changing environments, while non-innovative firms have been suggested to lack such agility (Montresor & Vezzani, 2022). In addition, the effectiveness of leadership practices has been shown to vary based on the innovativeness of the firm, which advances leadership literature in connection with DC research.

### **3.4.2 Practical Implications**

The findings of this study have several important practical implications for the hospitality industry and its stakeholders. Firstly, the results highlight the crucial role of leadership in fostering innovation. Specifically, empowered and transformational leadership styles have been shown to positively influence DC and, in turn, drive both incremental and radical innovation. Therefore, hospitality organizations aiming to innovate should focus on developing and nurturing leaders who exhibit these empowering and transformative qualities. Leadership training programs and initiatives can be designed to enhance leaders' abilities to empower and inspire their teams. Empowered leadership provides agility in scanning and exploring, while transformational leadership excels in exploiting and reshaping.

Secondly, the lack of statistical significance between participative leadership and both DC and innovation suggests that this leadership style does not directly contribute to the measured outcomes in hospitality. However, it is important to note that participative leadership still holds value in terms of fostering employee engagement and collaboration, which may indirectly support innovation efforts at a later stage. Organizations may continue to encourage participatory decision-making processes and solicit employee input, as these practices contribute to other performance indicators and business outcomes.

Furthermore, this study emphasizes the significance of developing and maintaining DC within hospitality. DC enable organizations to adapt and respond effectively to changing environments. Industry leaders should prioritize investing in the development of these capabilities, as they contribute to business resilience. This could involve fostering a learning-oriented culture, encouraging experimentation and risk-taking, and providing resources and support for continuous improvement and knowledge sharing.

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### **3.4.3 Limitations & Future Research**

Despite the many contributions the study at hand has some limitations. Due to the fact that the study's conclusions are grounded in the hotel sector, their generalizability to other industry contexts may be restricted. Furthermore, the sample is limited to a certain subset of hospitality professionals, which may not accurately reflect the wide variety of companies and leadership philosophies found in the sector globally. Future studies should carry out comparative assessments across different nations or industries to improve the generalizability of the findings. This would enable a better understanding of potential industry-specific dynamics vs universal leadership principles, and if the linkages found in this study are special to hospitality or if they hold true across other sectors.

Also, this research employs self-reported measures for variables such as leadership styles, DC, and innovation. While efforts are made to ensure reliability and validity, through means of pre-testing, piloting and expert input, there may still be some inherent biases and measurement errors associated with self-reporting.

Although this study identifies associations between empowered and transformational leadership, DC, and innovation, the specific mechanisms underlying these are not explored. Future research should investigate potential mediating variables or processes that may explain how leadership styles influence DC and subsequently drive innovation. Additionally, it would be valuable to examine potential moderating factors that may influence these connections. Factors such as organizational culture, technological readiness, and external environmental conditions could impact the identified relationships, and warrant further investigation.

### **3.4.4 Conclusion**

This research contributes valuable insights into the intricate interplay between leadership, DC, and innovation in the hospitality context. We have elucidated the pivotal role that effective leadership plays in fostering an innovative culture, especially during times of crisis. The empirical evidence derived from hospitality highlights the significance of leadership in shaping DC during unprecedented circumstances, thereby influencing the innovative trajectories of firms. This study not only advances the existing literature by delineating the differentiated impacts of various leadership styles on DC but also underscores the consequential link between leadership and innovation outcomes in hospitality. Moreover, our identification of distinctive features characterizing innovative hospitality firms, provides a comprehensive understanding of the mechanisms driving innovation in the sector.

The practical implications of our findings extend to hospitality businesses seeking to enhance their resilience and competitiveness. Our research underscores the importance of aligning leadership styles with organizational objectives, to optimize dynamic capability development and

drive innovations. Policymakers can leverage these insights to navigate challenges, as the nuanced understanding provided by this research serves as a foundation for strategic decision-making, building resilience, and increasing competitiveness.

## A.2 Appendix – Questionnaire

Description	Questions
<b>Business Performance</b>	
Occupancy	Average occupancy Rate in 2019, 2020, 2021, 2022
Overnights	Total overnight stays in 2019, 2020, 2021, 2022
<b>Innovation</b>	
<i>Item</i>	<i>Description</i>
RI	Have any of your product/service innovations in the last three years been new to your market (market novelties)? <i>Your company introduced a new or improved product or service to your market earlier than your competitors (regardless of whether the product or service was already offered on other markets or not).</i>
II	Have any of your product/service innovations in the last three years been new to your company but not new to your market? <i>The new or improved product or service introduced by your company was already offered by competitors in your market.</i>
<b>Sensing Capabilities</b>	
<i>Item</i>	<i>Description</i>
SE1	Our company knows the best practices in the market.
SE2	Our company is up to date on the current market situation.
SE3	As a company, we know how to access new information.
<b>Seizing Capabilities</b>	
<i>Item</i>	<i>Description</i>
SZ1	Our company can quickly relate to new knowledge from the outside.
SZ2	We recognize what new information can be utilized in our company.
SZ3	Current information leads to the development of new products or services.
<b>Transformation Capabilities</b>	
<i>Item</i>	<i>Description</i>
TC1	By defining clear responsibilities, we successfully implement plans for changes in our company.
TC2	In the past, we have demonstrated our strengths in implementing changes.
TC3	In our company, new projects can be put into practice alongside the daily business.
TC4	In our company, we are quick to adapt to changes in the business environment.
<b>Participative Leadership</b>	
<i>Item</i>	<i>Description</i>
PL1	I encourage my employees to express ideas and suggestions.
PL2	I listen to my employees' ideas and suggestions
PL3	I consider my employees' ideas, even when I disagree with them.
<b>Empowered Leadership</b>	
<i>Item</i>	<i>Description</i>
EM1	I ensure my employees understand the importance of their work to the overall performance of the company.
EM2	I am confident that my employees can handle demanding tasks.
EM3	I allow my employees flexibility in performing their job.
<b>Transformational Leadership</b>	
<i>Item</i>	<i>Description</i>
TL1	I communicate clearly where I want our company to be in 5 years to my employees.
TL2	I challenge my employees to think about old problems in new ways.
TL3	I encourage my employees to see changing environments as situations full of opportunities.
<b>Demographics</b>	
Gender	What is your gender?
Age	How old are you?
Position	What position do you hold?
Experience Position	How long have you been working in your current position?
Experience Industry	How long have you worked in the tourism industry?
Education	What is your highest attained educational degree?
<b>Firm Control Variables</b>	
Firm Size	Number of employees in the company
Firm Age	Founding Year
Ownership Type	What ownership type describes your business best?
Opening	How many days is your business open per year?
COVID-19 Support	Which national COVID-19 support program did you take advantage of between 2020 and 2022?
<b>Market Control Variables</b>	
Region	Postal Code

## 4 YOU CAN'T MANAGE WHAT YOU DON'T MEASURE. TOWARDS A MORE APPROPRIATE MEASUREMENT OF INNOVATION IN HOSPITALITY

**ABSTRACT** - This research addresses the issue of measuring innovation in the hospitality industry. This study explores the appropriateness of the most broadly utilized innovation measurement instrument, the EU's Community Innovation Survey, for the hospitality industry. The findings uncover a misalignment between the existing measurement instrument and the industry's specific characteristics concerning for instance survey item applicability, clarity of technical terms and survey item relevance. This paper suggests avenues of adaption for the EU's community innovation survey to suit the intricacies of the hospitality domain, capturing multifaceted innovation aspects currently misreported or overlooked, while ensuring comparability across industries. A hospitality-appropriate CIS is introduced to address the identified shortcomings, empowering stakeholders to better understand, manage, and address innovation in the industry. This research contributes to the ongoing discourse by bridging theoretical frameworks with practical industry realities, offering a foundation for practical application and future innovation research.

**Keywords:** hospitality; service innovation; CIS; Community Innovation Survey; innovation measurement

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## 4.1 Introduction

In the ever-evolving landscape of the hospitality industry, where competition is fierce and consumer expectations continually rise, there is an imperative need for innovation. As the sector grapples with the challenges of adapting to changing consumer behaviors, emerging technologies, and recent crises, the need for a comprehensive and accurate measurement of innovation to assess the status quo, progress, and gaps, becomes paramount. The axiom, 'You can't manage what you don't measure,' resonates profoundly in this context, urging a critical examination of the existing metrics employed to gauge innovation within in hospitality.

Traditionally, innovation in the hospitality industry has commonly been assessed through innovation instruments derived from the manufacturing context, using arguably unfitting indicators such as R&D investments, patent filings or new product announces (Hagedoorn & Cloodt, 2003). These measures often neglect the nuanced and multifaceted nature of transformative advancements in this service-oriented domain, potentially misrepresenting the innovativeness of the industry (Narduzzo & Volo, 2018). Rather than having no data available, using misrepresentative data from inappropriate data collection tools may be worse. In a 'blind leading the blind' scenario, decisionmakers may use inaccurate, misrepresentative and potentially misleading information to draw conclusions, which produces negative consequences for businesses and the wider economy.

In response to the acknowledged shortcomings of applying manufacturing innovation measuring in service contexts, scholars have suggested utilizing hospitality specific innovation scales (Gomezelj, 2016; Hertog et al., 2011; Manohar et al., 2023). Even though such instruments provide evident benefits from utilizing a tailored approach for the industry, they commonly lack comparability to other industries, widespread implementation and often merely reach limited sample-sizes. This paper contends that the prevailing innovation measurements fall short in encapsulating hospitality innovation when derived from manufacturing contexts, are too service specific, restricting comparability across industries, or are not used on a large enough scale to garner in-depth insights.

In this light, this paper does not aim to create yet another hospitality-specific innovation measurement, but rather adopt the most widely used instrument in the European Union (EU) to assess innovation - the Community Innovation Survey (CIS). A main benefit of building on the EU's CIS is that it is an established innovation measurement tool and requires organizations to complete the survey according to EU regulation. We suggest avenues of change to this standardized instrument to fit the hospitality context, by eliminating inappropriate terminology and accounting for elements of service innovation that were missing previously (Alsos, Eide, & Madsen, 2014; Nordli, 2017). Thereby, a particular focus is placed on striking a balance between implementing necessary changes, while keeping as many parts of the CIS as possible, to not endanger comparability with other sectors and countries.

There is not merely an apparent need for reliable data on innovation in hospitality, but decisionmakers need more valid information to assess the effectiveness of support initiatives and analyze industry trends (Rodríguez et al., 2014). The future growth of hospitality businesses depends on accurately evaluating innovation since enterprises must be innovative to remain competitive by launching new services and/or producing outputs of greater quality at reduced costs (Jayawardena, Ahmad, Valeri, & Jaharadak, 2023; Sharma et al., 2021). By utilizing a suitable measurement to evaluate hospitality innovations, businesses and destination managers will be able to benchmark the performance against regional competitors and other industries to make more informed decisions.

## **4.2 Literature Review**

### **4.2.1 Innovation in Hospitality**

In the sphere of hospitality, both practice and academia have paid attention to the phenomena of innovation, yet efforts frequently stay disjointed (Gomezelj, 2016). It is unsurprising that investigations specifically focused on innovation within the hospitality industry are relatively scarce, and statistical examinations of this phenomenon are even more infrequent (Gomezelj, 2016; Molina-Castillo et al., 2023). This scarcity of research can be attributed, in part, to conceptual challenges arising from the unique characteristics of service-oriented, tourism-related, and hospitality firms, as well as the limits in the collection and availability of relevant data. Furthermore, the extant literature exploring innovation in the hospitality industry spans various topics and research domains, posing challenges in grasping the diverse factors that impact a hospitality organization's capacity for innovation (Gomezelj, 2016).

The hospitality industry at large has been quick to adopt technological innovations from other areas. For instance from marketing to address customers more effectively, information and communication technology to target new customers better and customer relationship management systems to keep existing customers engaged longer (Camisón & Monfort-Mir, 2012; Casanovas et al., 2010). Nevertheless, research on innovation in services (Gallouj & Savona, 2010; Hertog et al., 2011) demonstrates that service companies are more than just willing recipients of inventions from others.

Technology has revolutionized various aspects of the hospitality industry, enhancing efficiency, personalization, and guest experience. Innovations such as mobile check-in/check-out, keyless entry systems, and mobile concierge services have streamlined operations and improved guest satisfaction (Dang-Van, Wang, van Huy, & Nguyen, 2024). Additionally, the integration of artificial intelligence (AI) and machine learning algorithms has enabled personalized recommendations, dynamic pricing strategies, and predictive analytics, facilitating better decision-making processes (Kong, Yin, Chon, Yuan, & Yu, 2024). This includes the implementation of immersive technologies such as virtual reality (VR) and augmented reality (AR) for virtual tours, interactive



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experiences, and destination marketing (Fan, Jiang, & Deng, 2022). Furthermore, the integration of IoT (Internet of Things) devices allows for personalized room settings, smart room controls, and seamless connectivity, catering to the preferences of modern travelers (Pelet, Lick, & Taieb, 2021).

Developing hospitality specific innovation has shown to be an issue for many firms (Hall, 2009; Hall & Williams, 2008; Hjalager, 2010). Truly radical, ground-breaking innovations in hospitality, such as AirBnB as a novel accommodation concept or booking.com as a reservation and travel planning simplifier, have been rare (Rodríguez et al., 2014). Incremental innovations, introducing services into a new market or reconfiguring existing offerings, are generally more common, fostering the ‘low innovative’ image of the tourism industry (Peters & Pikkemaat, 2006). This perception does injustice to the industry, as incremental innovations have been shown to be essential in driving business performance indicators (Souto, 2015).

With growing environmental concerns and increasing consumer awareness, sustainability has become a central focus for the hospitality sector. Innovations in this realm include the adoption of eco-friendly practices, energy-efficient technologies, waste reduction measures, and green certifications (Sharma, Chen, & Liu, 2020). Hotels are investing in renewable energy sources, realizing water conservation measures, and promoting responsible tourism practices to minimize their environmental footprint and appeal to eco-conscious travelers and changing customer preferences (Kamboj, Matharu, Lim, Ali, & Kumar, 2022).

The food and beverage segment of the hospitality industry has witnessed significant innovations aimed at meeting changing consumer preferences and dietary requirements. This includes the rise of plant-based menus, sustainable sourcing practices, and culinary experiences that reflect local culture and authenticity. Moreover, advancements in food technology, such as 3D printing, molecular gastronomy, and automated kitchen systems, are revolutionizing food production, presentation, and service delivery in hotels and restaurants (Berezina, Ciftci, & Cobanoglu, 2019).

Innovations in hospitality extend beyond guest-facing technologies to encompass operational processes and management systems. Cloud-based property management systems (PMS), integrated booking platforms, and data analytics tools are empowering hoteliers to optimize revenue management, streamline operations, and improve overall efficiency. Furthermore, the adoption of robotics and automation in housekeeping, room service, and maintenance tasks is reducing labor costs and enhancing service quality (Berezina et al., 2019).

However, it is contended that the preponderance of micro and small businesses in the tourism sector could impede the ability of hospitality corporations to innovate (Gomezelj, 2016). This stems from inadequacies in these business` management systems to effectively support innova-

tion, coupled with lower employee competencies. Additionally, small and medium-sized enterprises face challenges in maintaining dynamic capabilities independently, relying instead on external resources and support (Soluk, Decker-Lange, & Hack, 2023). Furthermore, the presence of change-resistant staff and conservative organizational cultures in small companies may hinder innovation efforts (Zhang, Zeng, Liang, Xue, & Cao, 2023).

Consequently, there exists a notable divergence between hospitality companies with internal or external R&D initiatives, emphasizing the essential nature of collaboration within the tourism sector (Martin-Rios & Ciobanu, 2019). Hospitality businesses have been shown to increase their innovativeness through cooperations, collaborative and open innovation practices (Biconne et al., 2023; Narduzzo & Volo, 2018; Novelli, 2023; Pikkemaat & Weiermair, 2007). Related to this, extant literature has emphasized the importance of place-based characteristics in driving not only innovation in hospitality organizations, but also increasing competitiveness and productivity (Camisón et al., 2017; Romão & Nijkamp, 2019).

#### 4.2.2 Defining Innovation in Hospitality

The OECD (2005), in an attempt to bring together the variety of utilized definitions, outlines four main types of innovation in its Oslo Manual, namely *product innovation*, *process innovation*, *marketing innovation* and *business model innovation*. *Product innovation* concerns the market introduction of novel goods or services, or a product with significantly improved characteristics (OECD, 2005; Wang & Ahmed, 2004). The idea of product innovation is also applicable to services, whereby product innovations in services include the addition of new service characteristics, the introduction of completely new services, as well as significant improvements to the service provision (OECD, 2005). Since process innovation deals with new or significantly improved production and delivery methods (OECD, 2005; Wang & Ahmed, 2004), there is an overlap with product innovation when it comes to service settings, due to the simultaneous creation and delivery of services. Put together, it can be said that generally service innovation exists where ‘*new services have been introduced into the market, or existing services have been significantly improved or important changes have been made to their basic characteristics, intangible components or desired purposes*’ (Santamaría et al., 2012, p. 148).

Specific to innovations in tourism and hospitality, Hjalager (2010) outlines five types of innovation: (1) product or service innovations (advancements in products or services, which entail changes perceivable by customers, encompassing either entirely novel offerings or those new to a specific enterprise or destination); (2) process innovations (typically occurring behind the scenes and aimed at bolstering efficiency and productivity); (3) managerial innovations (encompassing novel methods of organizing business operations, empowering staff, devising compensation structures, and enhancing workplace morale); (4) marketing innovations (incorporating novel concepts like loyalty programs and collaborative brand development); and (5) institutional

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innovations (introducing new collaborative or organizational frameworks). However, distinguishing clearly among these categories proves challenging due to their interconnected nature and mutual influence (Gomezelj, 2016). Building on this, Gomezelj (2016) contends that it remains challenging to not only define innovation in hospitality, but also apply appropriate measures of innovation in the field.

The concept of innovation as an outcome (also referred to as innovative performance) has already been suggested by Schumpeter's (1934) innovation theory. Given that innovation can be understood as a performance, it is a visible, measurable result of the ability to generate novel ideas and knowledge (Camisón & Monfort-Mir, 2012). Management research has a history of struggling with the identification of an appropriate measurement of innovative performance in service firms in general (Hagedoorn & Cloudt, 2003) and in hospitality, specifically (Gomezelj, 2016; Rodríguez et al., 2014).

### **4.2.3 Measuring Innovation in Hospitality**

Even though economies across the globe are increasingly dominated by services, innovation research has primarily concerned itself with manufacturing and technological advancements in products (Gallouj & Savona, 2010). Historically, the research on innovation in services has passed through various stages. Following a time of indifference up until the 1980s, in which services were not considered innovative and therefore not studied explicitly (Camisón & Monfort-Mir, 2012), extant literature in the innovation realm acknowledged that services could be innovative as well. In the *assimilation approach* applied in research during the 1990s, innovation was treated generically (Mu et al., 2022). Thereby, service and manufacturing settings were generally perceived as equal, enabling researchers to study innovation in services by applying the same manufacturing-based approaches derived from product innovation research (e.g. Camisón & Monfort-Mir, 2012; Mu et al., 2022).

In 1991, the European Union launched a standardization process aimed at developing a European database on innovation at the enterprise level, introducing the Community Innovation Survey (CIS). Every two years, the European Union, the European Free Trade Association (EFTA), and the candidate nations participate in the CIS. Prior to the year 2000, the definition and application of innovation in the CIS were predominantly concentrated on the manufacturing sector and concentrated on product and process innovation. Even though all four innovation types as defined in the Oslo Manual are suggested to be measured using the EU's CIS, it is only sparsely used to evaluate innovation in hospitality, as hospitality does not constitute one of the mandatory industries. When used however, the CIS has provided quite differentiated results for the innovativeness of the hospitality industry across different countries. This may be due to truly different levels of innovativeness in the respective hospitality industries, but it may also suggest

confusing, misleading, or inappropriate terminology in the CIS, potentially causing misunderstandings or false reporting. This suggests the first research question for this research study: *How well does the CIS capture innovations in the hospitality industry?*

The *demarcation approach* was developed as a result of academic recognition that certain forms of innovation could not be as easily distinguished in services as they are in manufacturing (Mu et al., 2022; Tether, 2005). The demarcation approach places emphasis on the need to use service-specific concepts while doing research on service innovation (Pikkemaat et al., 2019). According to the demarcation approach, the traditional analytical study is inadequate due to the interactive and dynamic qualities of services (Gallouj & Savona, 2010). This viewpoint is also supported by the literature on hospitality, whereby innovation in can be complex, fuzzy, and interwoven with service experiences, as demonstrated by Eide and Mossberg (2013). This could help to explain why some aspects of innovation might be harder to detect and quantify using common innovation measurements (Camisón & Monfort-Mir, 2012; Nordli, 2017; Taques et al., 2021).

A possible measurement bias has been highlighted in the literature that exists when utilizing scales like the CIS to gauge innovation in the travel and hospitality industries (Camisón & Monfort-Mir, 2012). Therefore, extant literature has suggested service-specific measurement items (Taques et al., 2021) or created service-specific instruments, such as the INNOSERV (Manohar et al., 2023). A main issue with service-specific innovation measurements though, is that these commonly lack comparability with other industries (Hipp & Grupp, 2005) and their implementation, in addition to established manufacturing innovation measurements increases bureaucracy and administration costs. This is a main reason why this study aims at evaluating the most broadly used innovation measurement for its applicability to the hospitality industry and suggest avenues of improvement (Nordli, 2017).

Because the CIS originally defined innovation only in the manufacturing context, it has been argued that the measurement instrument covers product innovations more completely than service innovations (Alsos et al., 2014; Hagedoorn & Cloudt, 2003). As previously mentioned, the CIS has been adapted to include services, but unfortunately, service properties such as immateriality/intangibility, perishability, interactivity and simultaneity (Taques et al., 2021), have been not explicitly been accounted for. Consequently, the measurement items might not capture service innovation adequately (Narduzzo & Volo, 2018). The second research question in this study is: *What improvements to the CIS can be suggested to capture innovation related to hospitality services?*

### **4.3 Materials & Methods**

We use a qualitative investigation, as it is deemed most useful in the methodological conception of data collection instruments (Creswell & Creswell, 2018). A two-stage qualitative design was

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applied in the data collection process, as suggested in similar studies evaluating existing measurement instruments and developing them for further use (Nordli, 2017; Petri, Mari, & Carbone, 2015; Smith et al., 2005).

### **4.3.1 Data Collection**

#### **4.3.1.1 Phase 1**

Semi-structured interviews are an exploratory technique that provide access to other people's perspectives and experiences (Jamshed, 2014). The respondents were identified by a search in online business databases by sector in Austria, as well as industry connections. Thereby, business leaders and managing directors could be identified and contacted via email and telephone. A purposive sampling technique was utilized. When a research project calls for participants with a high degree of expertise on a certain topic, expert sampling is employed. Thus, experts are chosen according to a verifiable skill set or degree of expertise. We selected our industry experts based on industry experience (minimum 10 years), current position (General Manager, Managing Director, CEO or similar) and focused on a balanced split of company affiliation (between independently owned, business group, chain business). The industry expert interviews were conducted between March and May 2023.

The interview's format and the goal of the study were explained to the participants. The respondents were told about the handling of their data and the assurance of their confidentiality prior to the commencement of the interviews. Before the interviews began, the consent of the interviewees was obtained. Initially, the CIS for 2022 was given to the responders to complete. The CIS for 2020 was modified by shifting the reference year to 2022 since the CIS 2022 was not yet available at the time of data collection (A.3 Appendix - CIS Survey 2020 adapted for 2022). The main parts of the CIS include questions concerning the (1) company information, (2) patents, (3-5) product, service, and process innovation, (6) R&D activities, (7) funding, (8) cooperations and partnerships, (9) innovation hinderances, (10) climate change, (11) eco-innovations, and (12) artificial intelligence. While answering the CIS, the interviewees were instructed to memorize or note down any uncertainties, confusing or unusual terms, as well as ideas and thoughts that came up during the process. Thereafter, the semi-structured interview started.

We developed a semi-structured interview guideline (A.4 Appendix - Interview Guideline) based on the research questions and the literature review (Smith et al., 2005). Firstly, the interviewees were asked if there were any questions, terms, phases, or sections that were confusing, or difficult to understand or answer. The respondents were asked, if elements crucial to the innovation process in hospitality were not reflected in the survey. Then interviewees were asked to describe the properties and processes underlying the innovations in their industry and whether there were any innovations that could not be reported in the current structure of the survey. We asked respondents to discuss the questions they weren't sure about or where they had uncertainties.

The interviews were conducted through an online collaboration platform, or in person, depending on the interviewee's preference. In either case, the interviews were recorded and later transcribed. Supplemental notes on observations and impressions from the interviews were then included. The industry expert interviews were conducted until information saturation was reached. Information saturation, a key concept in qualitative research, refers to the point at which no new information or themes emerge from additional interviews, indicating that data collection is sufficient for addressing the research objectives (Guest, Bunce, & Johnson, 2006). In this research information saturation was ensured by starting out with a sample of 6 expert interviewees. These interviews were analyzed according to the process described in the following section. Interviews were continued until no new themes were identified in the analysis. Thereafter, another interview was conducted to ensure that information saturation had truly been reached and no new themes were identified.

#### **4.3.1.2 Phase 2**

Phase 2 intends to objectively evaluate the preliminary recommendations and suggestions expressed by the industry experts. Therefore, interviews were conducted with independent innovation researchers. The academic experts were identified by purposive sampling and identified through screening Austrian university databases. In line with the industry experts' sample, we selected the academic experts based on research experience in the field of service innovation (minimum 10 years), current position (university professor, research lead, research department head or similar) and focused on a balanced split of genders and affiliation (no more than 1 researcher per institution). The academic expert interviews were conducted between June and August 2023.

The interview process mirrored the industry expert interviews, apart from the fact that the academic experts were also presented with the preliminary recommendations derived from the preliminary analysis. This had the intention to receive feedback on the feasibility of the suggestions and identify potential problems if implemented. The interviews were conducted through an online collaboration platform, or in person depending on the interviewee's preference. In either case, the interviews were recorded and later transcribed. Supplemental notes on observations and impressions from the interviews were then included. The full list of interview partners from phase 1 and 2 can be found in Table 13.

Interviewee	Gender	Role	Company Affiliation	Group
I1	Male	Political Industry Representative	Independent	Industry Advisory
I2	Male	Industry Consultant	Independent	
A1	Female	Owner & General Manager of Hotel	Independent	Accommodation
A2	Male	General Manager of Hotel Group	Business Group	
A3	Male	General Manager of local Hotel	Hotel Chain	
A4	Female	Owner & General Manager of family-business Hotel	Independent	
A5	Male	General Manager of local Hotel	Hotel Chain	
A6	Male	General Manager of local Hotel	Hotel Chain	
G1	Male	Owner & General Manager of Restaurant	Independent	Gastronomy
G2	Female	Owner & General Manager of Bar	Independent	
G3	Male	Owner & General Manager of Restaurant Group	Business Group	
G4	Male	Owner & General Manager of restaurant Group	Business Group	
R1	Male	University Professor	University	Research
R2	Female	University Professor	University	
R3	Male	Head of Research and Digitalization	Statistics Bureau	

Table 13: Interview Partners

#### 4.3.2 Analysis

Transcribed interview material lasting a total of 8 hours and 28 minutes, supplemented with notes taken during the interviews, was used for analysis. The thematic analysis method described by Braun and Clarke's (2006) was used in the analysis, comprising six steps: (1) becoming familiar with the data, (2) generating codes and concepts, (3) generating themes, (4) reviewing themes, (5) defining and naming themes, and (6) locating exemplars.

A manual thematic coding approach was used to investigate the data. Thereby, similarities and differences expressed in the interviews built the first-order codes (Saldaña, 2016). The coding process involved creating a codebook that clearly defined each code. This was done to ensure consistency and reliability in the coding process across multiple rounds of analysis. In a next step, codes were compared to the literature and grouped into first-order constructs and then second-order themes (Nowell, Norris, White, & Moules, 2017).

In an iterative approach, transcripts were analyzed and their responses were compared to the predefined codes, looking for variations, patterns, and deviations (Saldaña, 2016). Where appropriate, new concepts were included into the thematic framework, as well as extending it where necessary and refining themes. This flexibility allowed for a more comprehensive understanding of the data, striking a balance between the application of existing theory and the exploration of novel findings (Collins & Stockton, 2018). This enabled to identify gaps, ambiguities,

or areas where the CIS survey may need further refinement to better suit the hospitality industry. The coding process resulted in a list of themes and underlying concepts, which are visualized in Figure 7.

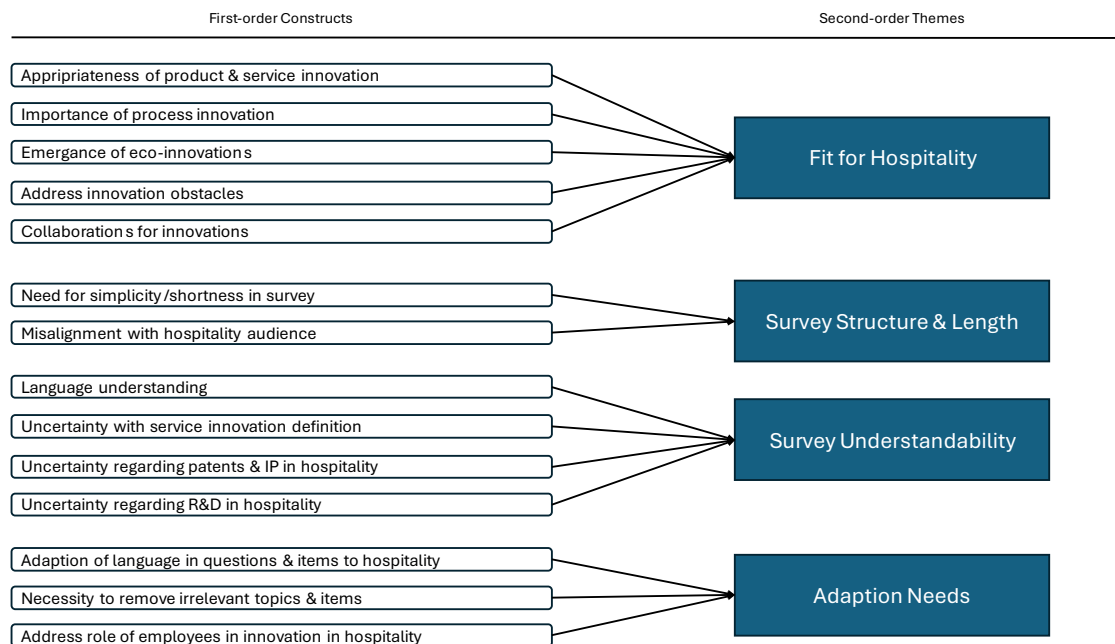


Figure 7: Constructs & Themes

Following the analysis of the empirical investigation, the CIS was adapted based on the derived recommendations. To improve reliability and validity, the findings were sent out to the interview partners for additional feedback and to ensure that all necessary changes and recommendations had been included sufficiently.

## 4.4 Results

### 4.4.1 Fit for Hospitality

The CIS is perceived as fit for the hospitality industry across different dimensions, ranging from product and service innovation to process innovations, eco-innovations as well as obstacles and collaborative efforts.

Interviewees highlighted the significance of exploring innovation in products, services, and business processes within the hospitality industry. One participant emphasized, *'I think it's extremely important to ask; something I have felt about it in recent years, a lot has developed in the Gastronomy, there is already a lot more going on at the moment.'* (G3). Participants also recognized the importance of distinguishing between business and market innovations. A4 expressed their viewpoint, stating, *'I think it's relevant. That would be exciting to know because I... I can't think*



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*of anyone who has introduced a market novelty from the gastronomy and hotel industry, but certainly a business innovation.'* This insight highlights the nuanced nature of innovation within the industry, emphasizing that incremental innovations may be more prevalent in hospitality.

Adding to this, participants expressed a strong interest in the CIS-questions related to climate change, eco-innovations, and artificial intelligence. A4 further stated, *'And what I find very interesting is actually the whole thing with climate change, Eco-innovation, and artificial intelligence. I think that's very important, and that's what so many people are working on and implementing at the moment.'* Furthermore, respondents identified obstacles to innovation as a crucial survey question as well. A1 emphasized, *'Of course, it [obstacles to innovation] is very important, I also believe, that this will be a huge topic.'* G2 provided further context, stating, *'Okay, so I think the biggest one, so what everybody is going to say, is "other priorities". At least that's how it is with us. I have an insane number of small but important things left behind because I have to set other priorities. Our core business is just different from innovation.'*

The importance of cooperations for innovations emerged as a crucial factor for multiple interviewees. Participants discussed the potential for collaborations within tourism associations, businesses and within corporate networks. One participant suggested, *'Innovation cooperations could be within the framework of the tourism associations that several have joined forces, for example.'* (I1). R2 added to this point and mentioned the significance of participation in initiatives for innovations, stating, *'I would see it in combination with cooperations, with networks, with participation in Living Labs, for example. I think that's very, very important, so whether someone gets involved or not, I think that shows... in my opinion, it is a reflection of whether he really wants to develop his company or not, and actively participates in tourism and is ready to run his business in the future.'*

#### **4.4.2 Survey Structure & Length**

The survey structure revealed a dichotomy in perspectives, emphasizing the need for simplicity and shortness, while also recognizing challenges in parts due to lacking alignment, particularly for smaller businesses in the industry.

Participants emphasized the importance of simplicity in survey design. A3 remarked, *'So first of all, the best thing we can do is to make a questionnaire so banal and simple that everyone understands it.'* This underscores the notion that a straightforward and uncomplicated survey is essential for ensuring broad accessibility and comprehension. Adding to this, another interviewee highlighted the importance of not making the survey too time-resource intensive to not risk losing survey participants. Concretely, *'It shouldn't be too long, if it goes on for a too many minutes then, I think, you'll find a few who say OK, I'll just drop it''.* (I1)

Building on this notion, some interviewees expressed challenges in completing the survey due to lacking alignment with their industry. One participant voiced, *'I find it too technical, and I*

would pay a bit more attention to the content” (G3). This statement highlights a potential misalignment with the industry, geared towards a more technically versed audience. A second interviewee offered a different perspective by suggesting that the questionnaire in its current form may be addressing larger companies and chains, instead of accurately approaching small and medium-sized businesses (SME) (which make-up the majority of hospitality firms). A4 noted, *‘So I think that the questionnaire is more for the larger companies and also it looks more like it’s for chains.’* A4 further highlighted the potential difficulties by stating, *‘especially for smaller companies or family-run businesses, I think it’s more difficult to fill out because there are many things simply not there or they don’t do that or don’t even know what is meant by it.’*

G2 brought attention to specific aspects of the current CIS that may be perceived as irrelevant in the hospitality sector. They expressed, *‘So I think there are a few things included that gastronomy doesn’t need. They [the survey respondents] won’t do anything, they’ll cross it out or, they’ll say ‘please, why do I need that?’ (G2).* This raises concerns about the inclusion of elements that may not resonate with certain industry sectors, potentially leading to incomplete or dismissive responses.

#### 4.4.3 Survey Understandability

Several participants expressed positive sentiments regarding the clarity and understandability of the wording in the current CIS. The language is well understood, as one participant confidently stated, *‘So, what I’ve read about it now, is clear to me,’* (A2) highlighting a positive perception of the survey’s comprehensibility. Another participant reinforced this sentiment, expressing, *‘It’s pretty clear and understandable.’* (I2) These responses suggest that general comprehension of the language and wording is not an issue for the interviewees. While interview participants acknowledged the clarity of the CIS survey in its language, several uncertainties emerged regarding specific concepts discussed in the survey.

Participants revealed uncertainties regarding what constitute R&D activities in the hospitality industry. One participant expressed skepticism, stating, *‘I don’t know whether someone is doing that [R&D] at all, in the accommodation industry.’* (A5) This reflects either a lack of clarity in the concept of R&D activities and/or the awareness regarding the prevalence of R&D initiatives in hospitality. Adding to this, concerns about patents emerged as a first-order construct in the interview analysis. Participants highlighted the rarity of patent-related activities in hospitality, with one participant noting, *‘There are very, very, very few hotels and restaurants that actually generate an innovation on their own, so that it afterwards needs to be patent protected or whatever... It just doesn’t exist.’* (I2). Another participant mentioned the incongruence, stating, *‘This doesn’t fit... of course we don’t have any patents.’* (A1). These quotes underscore a perception of lacking patent-related considerations in the hospitality industry, and thereby a potential unnecessary to question industry professionals about patent activities in relation to innovation.

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The uncertainties extend to the conceptualization of innovation in services within hospitality. Participants grappled with the definition of innovation in the investigated industry. One participant questioned, *'There is always the question, what is an innovation in our field?'* (G4). Another participant advocated for a more precise definition, stating, *'New or improved products yes, but it could perhaps be defined a bit more precisely towards hospitality.'* (I1). Another interviewee expressed uncertainty about the classification of improvements or innovations, stating, *'New improvement of the service or improved products, that is...? If I renovated now, it would fall under this? I've improved my product, right?'* (A3). Thereby, uncertainties arise from what constitutes innovation in hospitality and what changes, alterations or adaptation would qualify as 'innovations'.

#### **4.4.4 Adaption Needs**

The identified adaption needs underscore the importance of adapting the language used in questions and response items to the service industry, removing non-relevant topics, and addressing the crucial role of employees in the innovation process in hospitality businesses. These insights provide valuable guidance for refining the survey so that it more closely aligns with the unique characteristics and priorities of the industry.

Participants outlined the need for tailored language and service-focused descriptions in certain questions and sub-items. One participant asserted, *'you have to make the examples completely different or declare the questions completely differently,'*(A3) suggesting a desire for industry-specific language to enhance the relevance and applicability of the CIS survey. Adding to this, interviewee G1 said *'You have to tailor it [the CIS] to the hospitality industry'*. For some other interviewees tailoring to the hospitality industry focused on specific response items, for instance A4 *'point B, I don't know if it necessarily fits – 'Logistical procedures, delivery and distribution methods' - I don't know if that is so interesting, especially for accommodation.'*

Generally, all interviewees expressed a consensus on the need to remove or at least reduce the emphasis on patents and R&D activities within the current survey. One participant highlighted the perceived irrelevance, stating, *'Research and Development... is also not relevant for us. What should a hotel research? Well, I don't know any, let's put it that way.'* (A2). Others echoed this sentiment, with one participant suggesting, *'you can leave everything out,'* (I2) and G3 stating, *'there is one in 100 probably doing things like that [R&D]. You could, I think, delete it.'* Interviewees also concurred on the limited relevance of IP (intellectual property) protection topics, expressing that the rubric on patents is not necessarily appropriate for the hospitality industry, as it is mainly applicable to manufacturing businesses. A3 expressed this contextual perspective, distinguishing between the manufacturing and service sectors, by stating, *'for manufacturing companies, I would say definitely, but in the service sector, a patent may be rather difficult.'*

Interviewees also highlighted the absence of a focus on employees in the current survey structure. One noted, *'in services, the human factor plays a much greater role for us and how processes are organized around them.'* (G1). G3 emphasized the centrality of the human component in service innovation as well by, stating, *'A big part in service innovation is the human component.'*

#### 4.4.5 Hospitality-appropriate CIS

Based on the feedback, insights and recommendations of the interview process, a CIS appropriate for the hospitality industry has been derived (A.5 Appendix- Hospitality-appropriate CIS). The following outlines exemplarily changes that have been made to the existing CIS. For instance, adapting and simplifying the wording of certain questions, descriptions, and sub-items to incorporate hospitality-appropriate language seems crucial. This is in support of extant literature advocating for service-specific measures of innovations in instrument design (Camisón & Monfort-Mir, 2012; Pikkemaat et al., 2019) . For instance, the question concerning process innovations has been adapted to services, by eliminated terms such as “production of goods”, “packaging” or “logistical processing” (Figure 8).

<b>3.1 In the three years from 2020 to 2022, has your organization introduced any of the following types of new or improved business processes that are significantly different from those previously used?</b>		
	<i>Yes</i>	<i>No</i>
a) New or improved methods for developing or providing services		
b) New or improved distribution methods		
c) New or improved methods of information processing or communication		
d) New or improved methods in accounting or administration		
e) New or improved methods for organizing business processes or external relations with third parties		
f) New or improved methods of work organization, decision-making or personnel management		
g) New or improved marketing methods for product promotion, pricing, product placement or after-sales service		

Figure 8: Process Innovation Module

Furthermore, the removal of patent-, as well as research-and-development-related questions as much as possible, and the relocation to the end of the survey is recommended by the empirical findings and in-line with extant literature (Hagedoorn & Cloudt, 2003; Narduzzo & Volo, 2018). This strategic placement aims to minimize the potential for survey respondents to be turned off by seemingly unfitting questions, reducing the risk of premature survey abandonment. By addressing these concerns, the CIS can enhance its relevance and engagement within the hospitality sector. For example, instead of having five consecutive questions concerning Intellectual Property, the suggested hospitality-appropriate CIS concentrates on the main patent-related question from the CIS at the end of the questionnaire (Figure 9) and obsoletes the others.

8.1 Has your company taken the following protective measures in the three years from 2020 to 2022?	
	Select all/any that apply
a) Registered for a patent	
b) Registered a utility model	
c) Registered a design or design patent	
d) Registered a trademark	
e) Asserted a copyright	
f) Measures to protect confidential business information (trade secret)	
g) other	

Figure 9: Patent Module

Additionally, introducing a dedicated module for employees is proposed (Figure 10). This module allows for an exploration of the human component in service innovation, providing the opportunity to capture insights into the level of employee involvement, and the organizational activities in human resource management, related to innovation.

6.1. Has your company carried out the following HR management activities in the three years from 2020 to 2022?	
	Select all/any that apply
a) Planned job rotation of employees in different functional areas	
b) Regular brainstorming sessions for employees to think about possible improvements within the company	
c) Cross-functional working groups or teams (made up of different work areas or functions)	
d) Systematic collection of ideas from employees	
e) actively involving employees in the development of new products and/or services	
f) actively involving employees in the development of new business processes	

Figure 10: Employee Module

## 4.5 Discussion & Conclusion

### 4.5.1 Theoretical Implications

Developing a deeper understanding of innovation in hospitality contributes to the advancement of innovation theory by addressing the unique characteristics, drivers, and challenges of innovation within this industry. The evaluation, refinement and expansion of existing innovation frame-

works and measurements to accommodate the intricacies of the hospitality sector can help provide a more accurate representation of the innovation activity in the industry (Molina-Castillo et al., 2023).

The closer investigating of innovation in the hospitality industry provides an opportunity to explore the role of factors shaping innovation processes and outcomes. Several interviewees noted that some questions and items do not align well with the service industry, echoing previous research findings (Taques et al., 2021). As suggested by Camisón and Monfort-Mir (2012) such uncertainties may introduce bias or inaccuracies in survey responses, potentially leading to an unnecessary lengthening of the survey and potential early abandonment by turning off respondents. Additionally, there is a concern that some parts of the survey, particularly those related to research and development (R&D) and patents, may not only constitute unfitting measures of service innovation, but may additionally contribute to early abandonment of survey completion due to perceived lacking fit. This is in support of previous research findings that criticize such measures of innovation in industries that are not primarily concerned with producing goods (Hjalager, 2010; Sipe, 2021).

Importantly, the difficulties reported by industry professionals do not stem from a lack of understanding of language or the general survey structure; rather, a perceived disconnect between the survey content and the nature of hospitality businesses and innovation is highlighted in the findings. These insights provide a more nuanced understanding of how hospitality professionals engage with standardized innovation measurement instruments and supports the notion that innovation in the service industry may be much higher and more varied than generally reported (Hertog et al., 2011).

This being said, in its current state, the CIS demonstrates a certain level of effectiveness in capturing innovations in hospitality businesses. Several sections, particularly those addressing the differentiation between market and business innovation, align well with extant literature suggesting the prevalence of incremental innovation in hospitality (Molina-Castillo et al., 2023). The acknowledgement of different types of innovation within the hospitality industry, such as product/service innovation, process innovation and eco-innovations in the CIS, further aligns with the hospitality literature on typologies and taxonomies, which is essential to conceptualize and analyze the multifaceted nature of innovation in hospitality (Hjalager, 2010).

Additionally, the survey effectively captures current industry trends in artificial intelligence and sustainable practices, along with providing insights into innovation cooperations, obstacles, and financing. However, there are notable gaps in the survey's coverage. The importance of employee involvement (Engen et al., 2021) and a more nuanced description of what innovation entails in service settings (Randhawa & Scerri, 2015) are not adequately reflected. The lack of sufficient description of what innovation entails in service industry generally, and hospitality specially, supports the demarcation perspective (Pikkemaat et al., 2019). The deep involvement

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of employees in all stages of the service delivery practice, necessitates their inclusion in the CIS. Employees' involvement in the service innovation process has also been highlighted in recent studies (Engen et al., 2021; Nagwan Abu et al., 2013; Smith, 2018).

A major contribution of this research is the development of a hospitality-appropriate CIS (A.5 Appendix- Hospitality-appropriate CIS). The hospitality-appropriate CIS, derived from the synthesis of industry insights, recommendations from esteemed academic experts and extant literature, symbolizes a concerted effort to tailor innovation measurement to the hospitality sector, while maintaining as many parts as possible to ensure comparability.

Importantly, a standardized measurement instrument that is comparable across industries allows for comparative studies of innovation processes and outcomes between the hospitality sector and other industries. This can provide insights into the similarities and differences in innovation dynamics across diverse economic sectors, enriching our understanding of innovation as a universal phenomenon. Furthermore, developing a measurement instrument that is comparable across countries enables international comparative studies of innovation in the hospitality industry, allowing to examine how different factors influence innovation practices and performance in different national contexts.

This assessment of metrics measuring innovation performance in hospitality directly addresses the discussions and debates within the academic community about the most appropriate indicators, measures, and methodologies for evaluating innovation in service-oriented industries (Camisón & Monfort-Mir, 2012; Dziallas & Blind, 2019; Gomezelj, 2016; Pikkemaat, 2005; Shin & Perdue, 2022; Taques et al., 2021). The insights from this research lead to the development of a novel methodological approach for studying innovation and impact in the hospitality industry.

#### **4.5.2 Practical Implications**

Providing a more nuanced understanding of innovation in hospitality and adapting an internationally recognized measurement instrument to it has several practical implications for businesses and management in the industry. A better understanding of innovation across the industry can help hospitality businesses identify areas for improvement and develop innovative solutions, leading to increased competitiveness in the market. Thereby, businesses may be encouraged to increase their innovation activities, ultimately leading to the development of new services, amenities, and experiences, enhancing the overall guest experience. Innovations in processes, technology, and management practices can streamline operations, reduce costs, and improve efficiency within hospitality establishments, increasing operational efficiency. Additionally, innovation can drive the adoption of sustainable practices, such as energy-efficient technologies, waste reduction strategies, and eco-friendly initiatives, contributing to environmental stewardship.

Developing a hospitality-appropriate measurement instrument for innovation that is comparable across industries and countries can enable benchmarking activities. Businesses can compare their innovation performance with industry peers and across different geographical regions, gaining insights into their relative strengths and weaknesses. In addition, investors and stakeholders may use the results to assess the innovation potential and performance of hospitality businesses, informing investment decisions and strategic partnerships.

Further, measuring innovations in the hospitality industry holds profound policy-related implications, serving as a linchpin for informed decision-making and targeted governmental interventions. A meticulously designed and industry-appropriate Community Innovation Survey not only enables policymakers to gauge the overall innovation landscape but also identifies specific areas where strategic interventions can catalyze positive change.

By understanding the patterns and drivers of innovation within the hospitality sector better, policymakers gain insights into the industry's strengths and international competitiveness. This knowledge, in turn, informs the formulation of policies that nurture a conducive environment for innovation, whether through incentives, regulatory adjustments, or investment strategies.

Furthermore, a nuanced understanding of innovation dynamics allows policymakers to align their initiatives with the evolving needs of the industry, fostering resilience and adaptability. For instance, policies could be crafted to support the integration of emerging technologies, enhance workforce skills, or promote sustainable practices—all crucial facets of innovation in the modern hospitality landscape.

#### **4.5.3 Limitations & Future Research**

While our industry-appropriate CIS represents a significant step forward in understanding innovation dynamics within the hospitality sector, certain limitations warrant consideration. Firstly, the proposed survey's practical utility requires validation through real-world testing and application. Future research endeavors should involve the implementation of the CIS across diverse hospitality settings to assess its effectiveness, reliability, and adaptability to different organizational contexts.

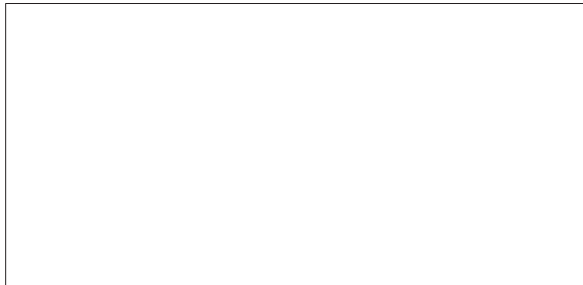
A notable limitation lies in the use of purposive sampling in the data collection process, which may introduce potential biases. Moreover, to strengthen the empirical foundation of our findings, there is a potential need for quantitative assessments of the survey. Comparative analyses with existing CIS and other measurement tools would offer valuable insights into the relative strengths and weaknesses of our hospitality-appropriate CIS. This avenue of research could provide benchmarks for innovation performance within the hospitality industry and inform strategies for improvement.



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Additionally, the decision to build upon an existing survey raises questions about the potential limitations inherent in adapting a general survey tool to a nuanced environment. Even though our approach has the advantage of comparability and certain standardization, future research could explore the feasibility and benefits of creating a bespoke measurement tool tailored explicitly to the intricacies of innovation within the hospitality industry. This comparative analysis would shed light on the advantages of using a customized survey versus adapting existing frameworks, providing a more comprehensive understanding of innovation in hospitality.

## A.3 Appendix - CIS Survey 2020 adapted for 2022



**Adaptierter Fragebogen der**  
 Bundesanstalt Statistik Österreich DIREKTION  
 BEVÖLKERUNG  
 Forschung und Digitalisierung  
 Guglgasse 13, 1110 Wien  
 Tel.: +43 1 71128-7054, Fax: +43 1 71128-7680  
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 URL: <http://www.statistik.at>

### Adaptierter Fragebogen zur EUROPÄISCHEN INNOVATIONSERHEBUNG (CIS 2022)

- ▶ Die Erhebung ist auf Grund einer verpflichtenden EU-Verordnung durchzuführen. **Bitte füllen Sie den Fragebogen auch dann aus, wenn in Ihrem Unternehmen keinerlei Innovationsaktivitäten durchgeführt wurden!**
- ▶ **Erhebungseinheit ist das Unternehmen.** Das Unternehmen entspricht einer rechtlichen Einheit und übt eine oder mehrere Tätigkeiten an einem oder an mehreren Standorten aus. **Machen Sie bitte nur Angaben für das Unternehmen, das von Statistik Austria per Brief zur Teilnahme an der Erhebung aufgefordert wurde.**
- ▶ **Berichtszeitraum** dieser Erhebung sind die Jahre **2020 bis 2022**. **Wirtschaftsdaten** werden nur für das **Berichtsjahr 2022** erfragt. Entspricht Ihr Wirtschaftsjahr 2022 (Buchführungsperiode) nicht dem Kalenderjahr 2022, dann berichten Sie bitte für das letzte vor dem 31.12.2022 abgeschlossene Wirtschaftsjahr.
- ▶ **Alle Angaben werden gemäß § 17 Bundesstatistikgesetz 2000 streng vertraulich** behandelt und **ausschließlich für statistische Zwecke** in einer Weise verwendet, dass Rückschlüsse auf Ihr Unternehmen ausgeschlossen sind.
- ▶ Weitere Informationen und Hilfestellungen erhalten Sie telefonisch unter **01/711 28 – 7054** oder per **E-Mail** unter [innovation@statistik.gv.at](mailto:innovation@statistik.gv.at).

Dieser Fragebogen wird ausgefüllt von:

Name	<input type="text"/>	Telefon	<input type="text"/>
Funktion im Unternehmen	<input type="text"/>		
E-Mail	<input type="text"/>	Website	<input type="text"/>
Datum	<input type="text"/>	Unterschrift	<input type="text"/>
▶ Ich bin einverstanden, dass Statistik Austria meine Kontaktdaten für die nächste Innovationserhebung speichert. Ja <input type="checkbox"/> Nein <input type="checkbox"/>			

1. UNTERNEHMENSGRUPPE		
<b>1.1 War Ihr Unternehmen im Jahr 2022 Teil einer Unternehmensgruppe (z.B. als Mutter-, Tochtergesellschaft)?</b> (Eine Unternehmensgruppe besteht aus zwei oder mehr Unternehmen in gemeinsamer Eigentümerschaft. Die Konzernzentrale ist ebenfalls Teil der Gruppe.) Ja <input type="checkbox"/> Nein <input type="checkbox"/> → Bitte weiter mit Frage 2. ↓ <b>a) Falls „Ja“: Wo befand sich der Hauptsitz Ihrer Unternehmensgruppe?</b> In Österreich <input type="checkbox"/> Im Ausland <input type="checkbox"/> → c) In welchem Land? _____ ↓ <b>b) Waren alle Unternehmen der Unternehmensgruppe in Österreich beheimatet?</b> Ja <input type="checkbox"/> Nein <input type="checkbox"/>		
2. SCHUTZMASSNAHMEN, SCHUTZRECHTE		
<b>2.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 folgende Schutzmaßnahmen getroffen?</b>		
a) Ein Patent angemeldet .....	Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
b) Ein Gebrauchsmuster angemeldet .....	<input type="checkbox"/>	<input type="checkbox"/>
c) Ein Muster oder Geschmacksmuster angemeldet .....	<input type="checkbox"/>	<input type="checkbox"/>
d) Eine Marke angemeldet .....	<input type="checkbox"/>	<input type="checkbox"/>
e) Ein Urheberrecht geltend gemacht (Copyright) .....	<input type="checkbox"/>	<input type="checkbox"/>
f) Maßnahmen zum Schutz vertraulicher Geschäftsinformationen (Geschäftsgeheimnis) .....	<input type="checkbox"/>	<input type="checkbox"/>
<b>2.2 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eigene Schutzrechte (Patent, Gebrauchsmuster, Muster, Geschmacksmuster, Urheberrecht, Markenrecht) an Dritte auslizenziiert?</b>		
.....	Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
<b>2.3 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eigene Schutzrechte (Patent, Gebrauchsmuster, Muster, Geschmacksmuster, Urheberrecht, Markenrecht) an Dritte verkauft?</b>		
.....	Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
<b>2.4 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 Schutzrechte mit Dritten ausgetauscht (z.B. Patentpool, Kreuzlizenzierung)?</b>		
.....	Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
<b>2.5 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 Schutzrechte (Patent, Gebrauchsmuster, Muster, Geschmacksmuster, Urheberrecht, Markenrecht) von Dritten erworben oder einlizenziiert?</b>		
.....	Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
	↓	↓
	Ja	Nein
a) Von Unternehmen oder Einzelpersonen .....	<input type="checkbox"/>	<input type="checkbox"/>
b) Von öffentlichen Forschungseinrichtungen, Universitäten oder anderen höheren Bildungseinrichtungen.....	<input type="checkbox"/>	<input type="checkbox"/>

3.-9. INNOVATION																
<p>Innovationen sind neue oder verbesserte Produkte, Dienstleistungen oder Geschäftsprozesse, die sich merklich von den bisherigen Produkten, Dienstleistungen oder Geschäftsprozessen des Unternehmens unterscheiden und die auf dem Markt oder im Unternehmen eingeführt worden sind.</p>																
Produkt-/Dienstleistungsinnovationen (3.1 bis 3.5)																
<p>Eine Produkt-/Dienstleistungsinnovation ist die Einführung eines neuen oder verbesserten Produkts oder einer neuen oder verbesserten Dienstleistung. Sie muss sich hinsichtlich ihrer Merkmale (z.B. integrierte Software, Benutzerfreundlichkeit, Design, Komponenten oder Teilsysteme) merklich von denjenigen Produkten und Dienstleistungen unterscheiden, die das Unternehmen bisher auf dem Markt angeboten hat. <b>Die Innovation muss neu für Ihr Unternehmen sein, es muss sich dabei nicht notwendigerweise um eine Marktneuheit handeln.</b> Es ist dabei unerheblich, ob die Innovation ursprünglich von Ihrem Unternehmen oder von anderen Unternehmen entwickelt worden ist. Digitale Produkte oder Dienstleistungen sind einzuschließen. Ein <b>Produkt</b> ist normalerweise ein greifbarer Gegenstand wie z.B. ein Smartphone, Möbel oder ein Softwarepaket; aus dem Internet herunterladbare Software, Musik und Filme sind auch Produkte. Eine <b>Dienstleistung</b> ist normalerweise kein greifbarer Gegenstand wie z.B. Versicherung, Verkauf, Weiterbildungskurse, Transport oder Beratung.</p>																
<p><b>3.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eine der folgenden Innovationen eingeführt?</b></p> <p>a) Neue oder verbesserte Produkte (der einfache Wiederverkauf von neuen Produkten oder nur ästhetisch veränderte Produkte sind nicht zu berücksichtigen)</p> <p style="text-align: center;">Ja <input type="checkbox"/> <span style="margin-left: 200px;">Nein <input type="checkbox"/></span></p> <p>b) Neue oder verbesserte Dienstleistungen</p> <p style="text-align: center;">Ja <input type="checkbox"/> <span style="margin-left: 200px;">Nein <input type="checkbox"/></span></p>																
<p>→ Falls Sie <u>beide</u> Fragen 3.1 a) und 3.1 b) mit „Nein“ beantwortet haben, bitte weiter mit Frage 4.1.</p>																
<p><b>3.2 Wer hat diese Produkt-/Dienstleistungsinnovationen entwickelt?</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Ja</th> <th style="width: 10%; text-align: center;">Nein</th> </tr> </thead> <tbody> <tr> <td>a) Ihr Unternehmen selbst .....</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>b) Ihr Unternehmen zusammen mit anderen Unternehmen oder Einrichtungen<sup>1)</sup> .....</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>c) Ihr Unternehmen durch Anpassung oder Veränderung von Produkten oder Dienstleistungen, die ursprünglich von anderen Unternehmen oder Einrichtungen<sup>1)</sup> entwickelt wurden.....</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>d) Andere Unternehmen oder Einrichtungen<sup>1)</sup> .....</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>			Ja	Nein	a) Ihr Unternehmen selbst .....	<input type="checkbox"/>	<input type="checkbox"/>	b) Ihr Unternehmen zusammen mit anderen Unternehmen oder Einrichtungen <sup>1)</sup> .....	<input type="checkbox"/>	<input type="checkbox"/>	c) Ihr Unternehmen durch Anpassung oder Veränderung von Produkten oder Dienstleistungen, die ursprünglich von anderen Unternehmen oder Einrichtungen <sup>1)</sup> entwickelt wurden.....	<input type="checkbox"/>	<input type="checkbox"/>	d) Andere Unternehmen oder Einrichtungen <sup>1)</sup> .....	<input type="checkbox"/>	<input type="checkbox"/>
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d) Andere Unternehmen oder Einrichtungen <sup>1)</sup> .....	<input type="checkbox"/>	<input type="checkbox"/>														
<p><b>3.3 Gab es unter Ihren Produkt-/Dienstleistungsinnovationen in den drei Jahren von 2020 bis 2022 solche, die neu für Ihren Markt (Marktneuheiten) waren?</b></p> <p>Ihr Unternehmen hat ein neues oder verbessertes Produkt oder eine neue oder verbesserte Dienstleistung früher als die Mitbewerber auf Ihrem Markt eingeführt (dabei ist unerheblich, ob das Produkt oder die Dienstleistung auf anderen Märkten bereits angeboten wurde oder nicht).</p> <p style="text-align: center;">Ja <input type="checkbox"/> <span style="margin-left: 200px;">Nein <input type="checkbox"/></span></p>																
<p><b>3.4 Gab es unter Ihren Produkt-/Dienstleistungsinnovationen in den drei Jahren von 2020 bis 2022 solche, die nur neu für Ihr Unternehmen, aber nicht neu für Ihren Markt waren?</b></p> <p>Das von Ihrem Unternehmen eingeführte neue oder verbesserte Produkt oder die neue oder verbesserte Dienstleistung wurde auf Ihrem Markt bereits von den Mitbewerbern angeboten.</p> <p style="text-align: center;">Ja <input type="checkbox"/> <span style="margin-left: 200px;">Nein <input type="checkbox"/></span></p>																
<p><b>3.5 Wie verteilen sich die Umsatzerlöse im Jahr 2022 auf die folgenden Produkte und Dienstleistungen?</b></p> <p>a) In den drei Jahren von 2020 bis 2022 eingeführte neue oder verbesserte Produkte oder Dienstleistungen, die <u>neu für Ihren Markt</u> waren (wie unter 3.3 definiert) ..... <input style="width: 50px;" type="text"/> %  <small>Falls Sie die Frage 3.3 mit „Nein“ beantwortet haben, muss der Prozentanteil an den Umsatzerlösen bei Frage 3.5 a) „Null“ betragen.</small></p> <p>b) In den drei Jahren von 2020 bis 2022 eingeführte neue oder verbesserte Produkte oder Dienstleistungen, die nur <u>neu für Ihr Unternehmen</u>, aber nicht neu für Ihren Markt waren (wie unter 3.4 definiert) ..... <input style="width: 50px;" type="text"/> %  <small>Falls Sie die Frage 3.4 mit „Nein“ beantwortet haben, muss der Prozentanteil an den Umsatzerlösen bei Frage 3.5 b) „Null“ betragen.</small></p> <p>c) In den drei Jahren von 2020 bis 2022 überhaupt nicht oder nur unerheblich veränderte Produkte/Dienstleistungen (einschließlich Umsätze aus dem bloßen Wiederverkauf von bei anderen Unternehmen eingekauften Produkten/Dienstleistungen) ..... <input style="width: 50px;" type="text"/> %</p> <p><b>Gesamtumsatz 2022</b> ..... <input style="width: 50px; border: 1px solid black;" type="text"/> 100 %</p>																

<sup>1)</sup> Andere Unternehmen einschließlich Unternehmen Ihrer eigenen Unternehmensgruppe (Tochterunternehmen, Schwesterunternehmen, Konzernzentrale); Universitäten, Forschungseinrichtungen, Non-Profit-Einrichtungen etc.

**Geschäftsprozessinnovationen (4.1 bis 4.2)**

Eine Geschäftsprozessinnovation ist die Einführung eines neuen oder verbesserten Geschäftsprozesses für eine oder mehrere Unternehmensfunktionen, der sich merklich von denjenigen Geschäftsprozessen unterscheidet, die das Unternehmen bisher verwendet hat. **Die Innovation muss neu für Ihr Unternehmen sein, es muss sich dabei nicht notwendigerweise um eine Neuheit in Ihrem Markt handeln.** Es ist dabei unerheblich, ob die Innovation ursprünglich von Ihrem Unternehmen oder von anderen Unternehmen entwickelt worden ist.

**4.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eine der folgenden Arten von neuen oder verbesserten Geschäftsprozessen eingeführt, die sich merklich von den bisher verwendeten unterscheiden?**

- a) Neue oder verbesserte Methoden zur Entwicklung oder Herstellung von Waren oder zur Erbringung von Dienstleistungen  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
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- b) Neue oder verbesserte logistische Verfahren, Liefer- oder Vertriebsmethoden  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
-----------------------------	-------------------------------
- c) Neue oder verbesserte Methoden der Informationsverarbeitung oder Kommunikation  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
-----------------------------	-------------------------------
- d) Neue oder verbesserte Methoden in Buchführung oder Verwaltung  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
-----------------------------	-------------------------------
- e) Neue oder verbesserte Methoden zur Organisation von Geschäftsabläufen oder Außenbeziehungen mit Dritten  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
-----------------------------	-------------------------------
- f) Neue oder verbesserte Methoden der Arbeitsorganisation, Entscheidungsfindung oder des Personalmanagements  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
-----------------------------	-------------------------------
- g) Neue oder verbesserte Marketingmethoden für Produktwerbung, Verpackung, Preisgestaltung, Produktplatzierung oder After-Sales-Services  

Ja <input type="checkbox"/>	Nein <input type="checkbox"/>
-----------------------------	-------------------------------

→ Falls Sie alle Fragen von 4.1 a) bis 4.1 g) mit „Nein“ beantwortet haben, bitte weiter mit Frage 5.1.

**4.2 Wer hat diese Geschäftsprozessinnovationen entwickelt?**

- |   | Ja                       | Nein                     |
|---|--------------------------|--------------------------|
| a) Ihr Unternehmen selbst .....   | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Ihr Unternehmen zusammen mit anderen Unternehmen oder Einrichtungen <sup>2)</sup> .....  | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Ihr Unternehmen durch Anpassung oder Veränderung von Prozessen, die ursprünglich von anderen Unternehmen oder Einrichtungen <sup>2)</sup> entwickelt wurden..... | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Andere Unternehmen oder Einrichtungen <sup>2)</sup> .....  | <input type="checkbox"/> | <input type="checkbox"/> |

**Noch laufende, abgebrochene und abgeschlossene Innovationsaktivitäten (5.1)**

Innovationsaktivitäten schließen jegliche von Ihrem Unternehmen durchgeführte Entwicklungstätigkeiten, finanzielle und kommerzielle Aktivitäten ein, die auf die Einführung einer Innovation abzielen.

**5.1 Hat Ihr Unternehmen in den drei Jahren von 2018 bis 2020 Innovationsaktivitäten durchgeführt, die**

- |   | Ja                       | Nein                     |
|---|--------------------------|--------------------------|
| a) vorzeitig vor Beendigung abgebrochen wurden? .....   | <input type="checkbox"/> | <input type="checkbox"/> |
| b) zum Jahresende 2022 noch liefen und noch nicht abgeschlossen waren? .....                  | <input type="checkbox"/> | <input type="checkbox"/> |
| c) zwischen 2020 und 2022 abgeschlossen wurden, aber zu keiner Innovation geführt haben?..... | <input type="checkbox"/> | <input type="checkbox"/> |

<sup>2)</sup> Andere Unternehmen einschließlich Unternehmen Ihrer eigenen Unternehmensgruppe (Tochterunternehmen, Schwesterunternehmen, Konzernzentrale); Universitäten, Forschungseinrichtungen, Non-Profit-Einrichtungen etc.

Forschungs- und Entwicklungsaktivitäten (6.1)																											
<p><b>6.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 Forschungs- und Entwicklungsaktivitäten unternehmensintern durchgeführt oder extern an Dritte (außer Haus) vergeben?</b></p> <p>a) Unternehmensinterne Forschung und experimentelle Entwicklung (F&amp;E) .....  <small>Forschung und experimentelle Entwicklung (F&amp;E) umfasst schöpferische und systematische Tätigkeiten, die mit dem Ziel durchgeführt werden, den Stand des Wissens zu vermehren - einschließlich Wissen über die Menschheit, Kultur und Gesellschaft - und neue Anwendungen des vorhandenen Wissens zu erarbeiten.</small></p> <p>→ Falls „Ja“: Wurde in Ihrem Unternehmen in den drei Jahren von 2020 bis 2022 F&amp;E                      i) kontinuierlich (Ihr Unternehmen hatte dauerhaft F&amp;E-Personal angestellt) .....                      ii) nur gelegentlich (bei Bedarf) .....                      durchgeführt?                      b) Vergabe von F&amp;E-Aufträgen an Dritte (externe F&amp;E) .....  <small>Gleiche Aktivitäten wie unter Punkt a) oben, allerdings im Auftrag Ihres Unternehmens von anderen Unternehmen (auch innerhalb Ihrer Unternehmensgruppe), öffentlichen oder privaten Forschungseinrichtungen durchgeführt.</small></p>	<p style="text-align: center;">Ja      Nein</p> <p style="text-align: center;"><input type="checkbox"/>      <input type="checkbox"/></p> <p style="text-align: center;">↓      ↓                      Bitte weiter mit                      ↓                      Frage 6.1 b.</p> <p style="text-align: center;"><input type="checkbox"/>      <input type="checkbox"/></p> <p style="text-align: center;">Ja      Nein</p> <p style="text-align: center;"><input type="checkbox"/>      <input type="checkbox"/></p>																										
<p>→ Falls Sie <u>alle</u> Fragen in 3.1, 4.1, 5.1 und 6.1 mit „Nein“ beantwortet haben, bitte weiter mit Frage 7.1.</p>																											
<p><b>6.2 Bitte schätzen Sie die Höhe der Ausgaben für jede der folgenden Innovationsaktivitäten für das Jahr 2022:</b> (Falls in Ihrem Unternehmen 2022 keine derartigen Ausgaben angefallen sind, tragen Sie bitte „0“ ein.)</p> <p>a) Unternehmensinterne Forschung und experimentelle Entwicklung (F&amp;E)  <small>(wie unter 6.1a definiert; Personalausgaben, Sachausgaben und Investitionsausgaben für F&amp;E)</small> .....</p> <p>b) Vergabe von F&amp;E-Aufträgen an Dritte (externe F&amp;E; wie unter 6.1b definiert) .....</p> <p>c) Alle anderen Innovationsausgaben (ohne F&amp;E) .....  <small>(einschließlich Erwerb von Maschinen, Ausrüstung, Software, Gebäuden für Innovationen; Erwerb von anderem externen Wissen von Dritten (z.B. Patente, Lizenzen, Markenrechte); Produktdesign und Vorbereitung für die Herstellung oder den Verkauf von Innovationen; Weiterbildungsmaßnahmen für Innovationen; Markteinführung von Innovationen, einschließlich Marktforschung)</small></p> <p>Davon: i) Personalausgaben für Innovationsaktivitäten .....                      ii) Andere laufende Ausgaben für Innovationsaktivitäten (z.B. für Dienstleistungen, Material) .....                      iii) Investitionsausgaben für Innovationsaktivitäten .....</p> <p><b>Summe der Innovationsausgaben 2022 (a - c)</b> .....</p>	<p style="text-align: center;">Innovationsausgaben 2022 (in 1 000 EUR)</p> <p style="text-align: center;">(a)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p> <p style="text-align: center;">(b)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p> <p style="text-align: center;">(c) = (i + ii + iii)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p> <p style="text-align: center;">(i)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p> <p style="text-align: center;">(ii)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p> <p style="text-align: center;">(iii)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p> <p style="text-align: center;">(a + b + c)</p> <p style="text-align: center;"><input style="width: 100%;" type="text"/></p>																										
<p><b>7.1 Hat sich Ihr Unternehmen in den drei Jahren von 2020 bis 2022 um folgende Finanzierungsmittel bemüht und bei Erfolg diese Mittel ganz oder teilweise für Innovationsaktivitäten oder Forschung und experimentelle Entwicklung (F&amp;E) eingesetzt?</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3" style="width: 50%; text-align: left; padding: 5px;">Finanzierungsmittel</th> <th colspan="4" style="text-align: center; padding: 5px;">Um Finanzierung bemüht ...</th> </tr> <tr> <th colspan="2" style="text-align: center; padding: 5px;">Ja, Finanzierungsmittel erhalten und Mittel wurden ...</th> <th rowspan="2" style="text-align: center; padding: 5px;">Ja, aber keine Finanzierungsmittel erhalten</th> <th rowspan="2" style="text-align: center; padding: 5px;">Nein</th> </tr> <tr> <th style="text-align: center; padding: 5px;">ganz oder teilweise für Innovationsaktivitäten oder F&amp;E eingesetzt</th> <th style="text-align: center; padding: 5px;">nur für sonstige Aktivitäten eingesetzt</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">a) Eigenkapital (Mittel im Austausch für eine Unternehmensbeteiligung) .....</td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 5px;">b) Kreditfinanzierung (Mittel, die zurückbezahlt werden müssen) .....</td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 5px;">c) Crowdfunding .....</td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 5px;"><input type="checkbox"/></td> </tr> </tbody> </table>		Finanzierungsmittel	Um Finanzierung bemüht ...				Ja, Finanzierungsmittel erhalten und Mittel wurden ...		Ja, aber keine Finanzierungsmittel erhalten	Nein	ganz oder teilweise für Innovationsaktivitäten oder F&E eingesetzt	nur für sonstige Aktivitäten eingesetzt	a) Eigenkapital (Mittel im Austausch für eine Unternehmensbeteiligung) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	b) Kreditfinanzierung (Mittel, die zurückbezahlt werden müssen) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	c) Crowdfunding .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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a) Eigenkapital (Mittel im Austausch für eine Unternehmensbeteiligung) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																							
b) Kreditfinanzierung (Mittel, die zurückbezahlt werden müssen) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																							
c) Crowdfunding .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																							

**7.2 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 von folgenden Einrichtungen öffentliche Förderungen erhalten und bei Erfolg diese Mittel ganz oder teilweise für Innovationsaktivitäten oder Forschung und experimentelle Entwicklung (F&E) eingesetzt?**

Unter öffentlichen Förderungen sind Zuschüsse, Darlehen, Zinsstützungen und Kreditbürgschaften der öffentlichen Hand zu verstehen. Entgelte für Aufträge von öffentlichen Auftraggebern gelten nicht als öffentliche Förderungen.

Öffentliche Einrichtungen	Ja, öffentliche Förderungen erhalten und Mittel wurden ...		Nein
	ganz oder teilweise für Innovationsaktivitäten oder F&E eingesetzt	nur für sonstige Aktivitäten eingesetzt	
a) Vom Bund oder Fördereinrichtungen des Bundes .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Von Ländern, Fördereinrichtungen der Länder oder Gemeinden .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Von der EU im Rahmen des Programms Horizon 2020 für Forschung und Innovation..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Von anderen Förderprogrammen der EU .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**7.3 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 Steueranreize oder Steuerfreibeträge für folgende Zwecke in Anspruch genommen?**

	Ja	Nein
a) Steuererleichterung für F&E oder andere Innovationsaktivitäten (z.B. Forschungsprämie) .....	<input type="checkbox"/>	<input type="checkbox"/>
b) Steuerfreibeträge oder Prämien für sonstige Aktivitäten .....	<input type="checkbox"/>	<input type="checkbox"/>

**8.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 mit anderen Unternehmen oder Einrichtungen bei folgenden Aktivitäten kooperiert?**

Kooperation ist die aktive Teilnahme Ihres Unternehmens zusammen mit anderen Unternehmen oder Organisationen an gemeinsamen Aktivitäten. Es ist nicht notwendig, dass beide Partner unmittelbar wirtschaftlichen Vorteil aus der Zusammenarbeit ziehen. Reine Auftragsvergabe, bei der keine aktive Zusammenarbeit stattfindet, wird nicht als Kooperation betrachtet.

	Ja	Nein
a) Forschung und experimentelle Entwicklung (F&E).....	<input type="checkbox"/>	<input type="checkbox"/>
b) Andere Innovationsaktivitäten (ohne F&E).....	<input type="checkbox"/>	<input type="checkbox"/>
c) Sonstige Aktivitäten (nicht unter a) und b) berücksichtigt).....	<input type="checkbox"/>	<input type="checkbox"/>

→ Falls Sie zumindest eine der beiden Fragen 8.1 a) oder 8.1 b) mit „Ja“ beantwortet haben, bitte weiter mit Frage 8.2, ansonsten weiter mit Frage 9.1.

**8.2 Um welche Kooperationspartner für Innovationsaktivitäten oder Forschung und experimentelle Entwicklung (F&E) handelte es sich dabei und woher kamen diese?**  
(Bitte alle zutreffenden Antworten ankreuzen!)

	Österreich	EU-/EFTA-Staaten <sup>3)</sup>	Andere
a) Andere Unternehmen innerhalb der Unternehmensgruppe .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Unternehmen außerhalb der Unternehmensgruppe:			
i) Beratungsfirmen, gewerbliche Laboratorien oder private Forschungseinrichtungen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Zulieferunternehmen von Ausrüstungen, Rohstoffen, Vorprodukten oder Software .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Auftraggeber oder Kunden aus dem privaten Sektor .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Mitbewerber .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Sonstige Unternehmen (nicht unter i - iv enthalten) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Universitäten, Fachhochschulen oder andere höhere Bildungseinrichtungen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Sonstige staatliche oder öffentliche Forschungseinrichtungen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Auftraggeber oder Kunden aus dem öffentlichen Sektor <sup>4)</sup> .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Private gemeinnützige Einrichtungen/Non-Profit Organisationen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**9.1 Wie wichtig waren in den drei Jahren von 2020 bis 2022 die folgenden Innovationshemmnisse für Ihr Unternehmen?**

Bitte bewerten Sie, inwiefern diese Hemmnisse die Durchführung von Innovationsaktivitäten erschwert haben bzw. inwiefern sie von vornherein hinderlich für Ihre Innovationsentscheidungen waren.

	Grad der Wichtigkeit			Nicht wichtig
	Groß	Mittel	Gering	
a) Fehlende Geldmittel für Innovationen im eigenen Unternehmen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Mangelnde Finanzierung durch Kredite oder außerbörsliches Eigenkapital (z.B. Risikokapital) ..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Schwierigkeit, staatliche Zuschüsse oder Beihilfen für Innovationen zu bekommen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Innovationskosten zu hoch .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Mangel an qualifizierten Mitarbeiterinnen und Mitarbeitern im eigenen Unternehmen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Mangel an Partnern für die Zusammenarbeit .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Mangel an Zugang zu externem Wissen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Unsichere Marktnachfrage für Ihre Ideen für Innovationen.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Zu hoher Wettbewerb im Markt .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Andere Prioritäten innerhalb des Unternehmens .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

**10. KLIMAWANDEL**

**10.1 Wie wichtig waren in den drei Jahren von 2020 bis 2022 die folgenden mit dem Klimawandel zusammenhängenden Faktoren für Ihr Unternehmen?**

	Grad der Wichtigkeit			Nicht wichtig
	Groß	Mittel	Gering	
a) Staatliche Klimapolitik und damit zusammenhängende Maßnahmen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Steigende Kundennachfrage nach Produkten und Dienstleistungen zur Minderung des Klimawandels oder zur Anpassung an seine Folgen (z.B. Produkte mit reduzierter CO <sub>2</sub> -Bilanz).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Steigende Kosten oder Faktorpreise infolge des Klimawandels (z.B. höhere Versicherungsgebühren, höhere Preise für Wasser, notwendige Anpassungen von Geschäftsprozessen oder Geschäftseinrichtungen).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Auswirkungen von Wetterextremen (z.B. Schadensfälle oder Störungen bei z.B. Transport und Logistik) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**11. „ÖKO-INNOVATIONEN“ (Innovationen mit positiven Auswirkungen auf die Umwelt)**

Innovationen mit positiven Auswirkungen auf die Umwelt sind neue oder verbesserte Produkte, Dienstleistungen oder Geschäftsprozesse des Unternehmens, die, verglichen mit früheren Produkten oder Geschäftsprozessen des Unternehmens positive oder weniger negative Auswirkungen auf die Umwelt haben. Sie müssen möglichen Nutzern verfügbar gemacht worden sein oder im Unternehmen genutzt werden. Die positive Auswirkung auf die Umwelt kann die Hauptzielsetzung der Innovation sein, aber auch das Nebenprodukt einer anderen Zielsetzung der Innovation. Die positive (oder weniger negative) Auswirkung auf die Umwelt kann während der Produktion der Ware oder der Erbringung der Dienstleistung entstehen oder bei der Nutzung durch den Endverbraucher. Endverbraucher sind Personen (Konsumentinnen und Konsumenten), andere Unternehmen, staatliche Einrichtungen etc.

**11.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eine Innovation eingeführt, die eine der folgenden positiven Auswirkungen auf die Umwelt hatte, und wenn ja, war deren Beitrag zum Umweltschutz eher bedeutend oder unbedeutend?**

	Ja		Nein
	bedeutend	aber unbedeutend	
<b>Positive Auswirkungen auf die Umwelt, die in Ihrem Unternehmen entstanden sind:</b>			
a) Senkung des Material- oder Wassereinsatzes je Produktionseinheit .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Senkung des Energieverbrauchs oder des „CO <sub>2</sub> -Fußabdrucks“ (Reduktion der CO <sub>2</sub> -Emission) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Verringerung der Boden-, Wasser- oder Luftverschmutzung oder der Lärmbelästigung .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Ersetzung von Materialien mit umweltschonenderen oder weniger gefährlichen Ersatzstoffen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Ersetzung von fossilen durch erneuerbare Energiequellen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Wiederverwertung von Abfall, Wasser oder anderen Materialien (zur Nutzung im eigenen Unternehmen oder für den Weiterverkauf) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Positive Auswirkungen auf die Umwelt, die während des Verbrauchs oder der Nutzung des Produkts oder der Dienstleistung beim Endverbraucher aufgetreten sind:</b>			
g) Senkung des Energieverbrauchs oder des „CO <sub>2</sub> -Fußabdrucks“ .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Verringerung der Boden-, Wasser- oder Luftverschmutzung oder der Lärmbelästigung .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Verbessertes Recycling des gebrauchten Produkts .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Verlängerte Produktlebensdauer durch langlebigere, dauerhaftere Produkte .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 12. KÜNSTLICHE INTELLIGENZ

Unter Künstlicher Intelligenz (KI) versteht man Technologien, die „intelligentes“ Verhalten nachahmen und einen gewissen Grad an Eigenständigkeit aufweisen, um bestimmte Aufgaben zu erledigen (z.B. Machine Learning, Deep Learning, Text-, Sprach- oder Bilderkennung). KI-Technologien können sein:

- rein Software-basierte Systeme (z.B. Chatbots, virtuelle Assistenten, Gesichtserkennungssoftware, Übersetzungssoftware, Datenanalyse basierend auf Machine Learning) oder
- autonome Systeme, die Software und Geräte (z.B. Roboter in Lagerverwaltung oder Produktionsprozessen, autonome Drohnen, autonome Fahrzeuge) umfassen.

**12.1 Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 auf Künstlicher Intelligenz (KI) basierende Technologien genutzt?** .....

Ja	Nein
<input type="checkbox"/>	<input type="checkbox"/>

↓  
Ende der Erhebung.

**12.2 Welche der folgenden auf Künstlicher Intelligenz (KI) basierenden Technologien hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 genutzt?**

- |   |                          |                          |
|---|--------------------------|--------------------------|
| a) KI-Technologien, um natürliche Sprache zu erkennen, zu analysieren oder zu generieren (z.B. Analyse von geschriebenem Text – Text Mining; Spracherkennung und -verarbeitung gesprochener Sprache – Natural Language Processing (NLP); Sprachgenerierung in geschriebener oder gesprochener Form – Natural Language Generation (NLG)) ... | Ja                       | Nein                     |
|   | <input type="checkbox"/> | <input type="checkbox"/> |
| b) KI-Technologien, um Objekte oder Menschen auf Basis von Mustern in Bildern zu identifizieren (Bildererkennung oder -verarbeitung) .....  | <input type="checkbox"/> | <input type="checkbox"/> |
| c) KI-Technologien, um Daten automatisiert zu analysieren (z.B. Machine Learning, Deep Learning).....   | <input type="checkbox"/> | <input type="checkbox"/> |
| d) KI-Technologien, um Prozesse oder Arbeitsschritte zu automatisieren bzw. Entscheidungshilfen zu erstellen (z.B. Software-basierte Robot Process Automation (RPA)) .....  | <input type="checkbox"/> | <input type="checkbox"/> |
| e) KI-Technologien, welche es Maschinen oder Fahrzeugen ermöglichen, sich selbsttätig fortzubewegen und auf Veränderungen der Umwelt zu reagieren (z.B. autonome Roboter, selbstfahrende Fahrzeuge, autonome Drohnen).....  | <input type="checkbox"/> | <input type="checkbox"/> |

**12.3 Für welche der folgenden Zwecke hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 auf Künstlicher Intelligenz (KI) basierende Technologien genutzt?**

- |  |                          |                          |
|--|--------------------------|--------------------------|
| a) Organisation betriebswirtschaftlicher Prozesse oder Management/Führung des Unternehmens (z.B. virtuelle Assistenten basierend auf Spracherkennung oder Machine Learning; automatisierte Termin- oder Einsatzplanung basierend auf Machine Learning; Datenanalyse oder Entscheidungshilfen, Verkaufs- oder Geschäftsvorhersagen sowie Risikomanagement basierend auf Machine Learning) ..... | Ja                       | Nein                     |
|  | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Produktionsprozesse (z.B. vorhersagende Wartungsprognosen basierend auf Machine Learning; Produkt- oder Mängelerkennung basierend auf Bilderkennung; autonome Drohnen; autonome Roboter in der Produktion) .....  | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Logistik (z.B. autonome Roboter in der Lagerverwaltung; Streckenoptimierung basierend auf Machine Learning; autonome Drohnen) .....   | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Marketing und Verkauf (z.B. auf KI-Technologien basierende Chatbots im Kundendienst; Analysen von Kundendaten, Marktanalysen oder personalisierte Werbung sowie Preisoptimierung basierend auf Machine Learning) .....  | <input type="checkbox"/> | <input type="checkbox"/> |
| e) IKT-Sicherheit (z.B. Gesichtserkennung zur Authentifizierung; Vorbeugung und Erkennung von Sicherheitsvorfällen im Bereich Informations- und Kommunikationstechnologie (IKT) basierend auf Machine Learning).....   | <input type="checkbox"/> | <input type="checkbox"/> |

**12.4 Wer hat diese auf Künstlicher Intelligenz (KI) basierenden Technologien entwickelt?**

- |  |                          |                          |
|--|--------------------------|--------------------------|
| a) Ihr Unternehmen selbst .....  | Ja                       | Nein                     |
|  | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Ihr Unternehmen zusammen mit anderen Unternehmen oder Einrichtungen <sup>5)</sup> .....   | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Ihr Unternehmen durch Anpassung oder Veränderung von Technologien, die ursprünglich von anderen Unternehmen oder Einrichtungen <sup>5)</sup> entwickelt wurden..... | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Andere Unternehmen oder Einrichtungen <sup>5)</sup> .....   | <input type="checkbox"/> | <input type="checkbox"/> |

**→ ENDE DER BEFRAGUNG, VIELEN DANK FÜR IHRE TEILNAHME AN DER ERHEBUNG!**

## A.4 Appendix - Interview Guideline

Start des Interviews	
<b>Introduction</b>	Brief introduction of the research objective and explanation of the interview process (CIS questionnaire & interview).
<b>CIS</b>	Respondents are asked to read the CIS questionnaire and answer all questions according to the instructions in the questionnaire, with the exception of the turnover estimates. Respondents are encouraged to note down any questions, ambiguities and comments while answering the questionnaire.
<i>As soon as the interviewees have gone through the CIS questionnaire, the interview starts.</i>	
<b>Uncertainties</b>	Are there any comprehension problems or ambiguities in the wording of questions in the questionnaire? If so, which ones and why?
<b>Uncertainties</b>	Are there any questions in the questionnaire that are not relevant to your industry? If so, which ones and why?
<b>Hidden Innovation</b>	Has your company introduced improvements or new products/services/processes that you did not include in the questionnaire? Which questions do you think could be included/adapted so that innovations in your industry would be better reported?
<b>Innovationsprocesses</b>	How do you generally work on innovations? Are innovations anchored in your company's plans or strategies, are there dedicated procedures or processes, routines, a certain systematic approach or are they more ad hoc?
<b>Innovationsprocesses</b>	How does innovation generally arise in your company? Where do you generally get your inspiration from? (e.g. customers, employees, competitors, suppliers, technological developments, market pressure, stakeholder initiatives, etc.)?
<b>Top Management Involvement</b>	To what extent are you informed about innovations? Is the management level involved to a certain extent?
<b>Closing</b>	Is there anything else you would like to mention or aspects of innovation in your company that we have not yet discussed?

## A.5 Appendix- Hospitality-appropriate CIS

1. Unternehmensinformationen	
<b>1.1. Was ist ihr Hauptwirtschaftszweig?</b> Gastronomie Beherbergungswesen	<i>Eines auswählen</i> <input type="checkbox"/> <input type="checkbox"/>
<b>1.2. Wann wurde ihr Unternehmen gegründet?</b> In 2020 oder später Zwischen 2010 und 2019 In 2009 oder davor	<i>Eines auswählen</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>1.3. Wie viele Mitarbeiter:innen waren durchschnittlich im Jahr 2022 bei ihnen im Unternehmen beschäftigt?</b> Anzahl <input style="width: 80px;" type="text"/>	
<b>1.4. War ihr Unternehmen im Jahr 2022 Teil einer Unternehmensgruppe (z.B. als Mutter-, Tochtergesellschaft)?</b> <small>(Eine Unternehmensgruppe besteht aus zwei oder mehr Unternehmen in gemeinsamer Eigentümerschaft. Die Konzernzentrale ist ebenfalls Teil der Gruppe.)</small> Ja <input type="checkbox"/> Nein <input type="checkbox"/> <i>Falls "Nein", bitte weiter mit Frage 2.1.</i>	
a) Falls "Ja": Wo befindet sich der Hauptsitz ihrer Unternehmensgruppe? In Österreich <input type="checkbox"/> Im Ausland <input type="checkbox"/> In welchem Land? <input style="width: 100px;" type="text"/>	

<b>Innovation</b>
<p>Innovationen sind neue oder verbesserte Produkte, Dienstleistungen oder Geschäftsprozesse, die sich merklich von den bisherigen Produkten, Dienstleistungen oder Geschäftsprozessen des Unternehmens unterscheiden und die auf dem Markt oder im Unternehmen eingeführt wurden.</p>
<b>Produkt-/Dienstleistungsinnovationen</b>
<p>Eine Produkt-/Dienstleistungsinnovation ist ein neues oder verbessertes Produkt oder Dienstleistung. Die Innovation muss neu für Ihr Unternehmen sein, es muss sich dabei nicht notwendigerweise um eine Markneuheit handeln. Innovationen unterscheiden sich hinsichtlich ihrer Merkmale (z.B. integrierte Software, Benutzerfreundlichkeit, Design, Komponenten oder Teilsysteme) merklich von dem bisherigen Angebot. Ausgeschlossen sind: Änderung rein ästhetischer Natur</p>
<p><b>2.1. Hat ihr Unternehmen in den drei Jahren von 2020 bis 2022 eine der folgenden Innovationen eingeführt?</b></p> <p>a) Neue oder verbesserte Produkte</p> <p style="text-align: center;">Ja <input type="checkbox"/>                      Nein <input type="checkbox"/></p> <p>b) Neue oder verbesserte Dienstleistungen</p> <p style="text-align: center;">Ja <input type="checkbox"/>                      Nein <input type="checkbox"/></p>
<p><b>2.2. Gab es unter Ihren Produkt-/Dienstleistungsinnovation in den drei Jahren von 2020 bis 2022 solche, die neu für den Markt (Markneuheiten) waren?</b></p> <p style="font-size: small;">Ihr Unternehmen hat ein neues oder verbessertes Produkt oder eine neue oder verbesserte Dienstleistung früher als die Mitbewerber auf Ihrem Markt eingeführt (dabei ist unerheblich, ob das Produkt oder die Dienstleistung auf anderen Märkten bereits angeboten wurde oder nicht).</p> <p style="text-align: center;">Ja <input type="checkbox"/>                      Nein <input type="checkbox"/></p>
<p><b>2.3. Gab es unter Ihren Produkt-/Dienstleistungsinnovation in den drei Jahren von 2020 bis 2022 solche, die nur neu für Ihr Unternehmen, aber nicht für Ihren Markt waren?</b></p> <p style="font-size: small;">Das von Ihrem Unternehmen eingeführte neue oder verbesserte Produkt oder die neue oder verbesserte Dienstleistung wurde auf Ihrem Markt bereits von den Mitbewerbern angeboten.</p> <p style="text-align: center;">Ja <input type="checkbox"/>                      Nein <input type="checkbox"/></p>
<p><b>2.4. Wer hat diese Produkt-/Dienstleistungsinnovationen entwickelt?</b></p> <p style="text-align: right; font-size: small;"><i>Alle Zutreffenden auswählen</i></p> <p>a) Ihr Unternehmen selbst <input type="checkbox"/></p> <p>b) Ihr Unternehmen zusammen mit anderen Unternehmen oder Organisationen <input type="checkbox"/></p> <p>c) Andere Unternehmen oder Organisationen* <input type="checkbox"/></p> <p>d) Ihr Unternehmen durch Anpassung oder Veränderung von Produkten oder Dienstleistungen, die ursprünglich von anderen Unternehmen oder Einrichtungen entwickelt wurden. <input type="checkbox"/></p> <p style="font-size: x-small;">* Andere Unternehmen einschließlich Unternehmen Ihrer eigenen Unternehmensgruppe (Tochterunternehmen, Schwesterunternehmen, Konzernzentrale); Universitäten, Forschungseinrichtungen, Non-Profit-Einrichtungen etc.</p>

## Geschäftsprozessinnovationen

Eine Geschäftsprozessinnovation ist die Einführung eines neuen oder verbesserten Geschäftsprozesses, der sich merklich von denjenigen Geschäftsprozessen unterscheidet, die das Unternehmen bisher verwendet hat. Die Innovation muss neu für Ihr Unternehmen sein, es muss sich dabei nicht notwendigerweise um eine Neuheit in Ihrem Markt handeln.

### 3.1. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eine der folgenden Arten von neuen oder verbesserten Geschäftsprozessen eingeführt, die sich merklich von den bisher verwendeten unterscheiden?

a) Neue oder verbesserte Methoden zur Entwicklung oder zur Erbringung von Dienstleistungen

Ja  Nein

b) Neue oder verbesserte Vertriebsmethoden

Ja  Nein

c) Neue oder verbesserte Methoden der Informationsverarbeitung oder Kommunikation

Ja  Nein

d) Neue oder verbesserte Methoden in Buchführung oder Verwaltung

Ja  Nein

e) Neue oder verbesserte Methoden zur Organisation von Geschäftsabläufen oder Außenbeziehungen mit Dritten

Ja  Nein

f) Neue oder verbesserte Methoden der Arbeitsorganisation, Entscheidungsfindung oder des Personalmanagements

Ja  Nein

g) Neue oder verbesserte Marketingmethoden für Produktwerbung, Preisgestaltung, Produktplatzierung oder After-Sales-Services

Ja  Nein

### 3.2. Wer hat diese Geschäftsprozessinnovationen entwickelt?

*Alle Zutreffenden auswählen*

a) Ihr Unternehmen selbst

b) Ihr Unternehmen zusammen mit anderen Unternehmen oder Organisationen

c) Andere Unternehmen oder Organisationen\*

d) Ihr Unternehmen durch Anpassung oder Veränderung von Produkten oder Dienstleistungen, die ursprünglich von anderen Unternehmen oder Einrichtungen entwickelt wurden.

e) andere

\* Andere Unternehmen einschließlich Unternehmen Ihrer eigenen Unternehmensgruppe (Tochterunternehmen, Schwesterunternehmen, Konzernzentrale); Universitäten, Forschungseinrichtungen, Non-Profit-Einrichtungen etc.

<b>Ökoinnovationen (Innovationen mit positiven Auswirkungen auf die Umwelt)</b>	
<p>Innovationen mit positiven Auswirkungen auf die Umwelt sind neue oder verbesserte Produkte, Dienstleistungen oder Geschäftsprozesse des Unternehmens, die, verglichen mit früheren Produkten oder Geschäftsprozessen des Unternehmens positive oder weniger negative Auswirkungen auf die Umwelt haben. Die positive Auswirkung auf die Umwelt kann die Hauptzielsetzung der Innovation sein, aber auch das Nebenprodukt einer anderen Zielsetzung der Innovation. Die positive (oder weniger negative) Auswirkung auf die Umwelt kann während der Erbringung der Dienstleistung entstehen oder bei der Nutzung durch Endverbraucher:innen.</p>	
<p><b>4.1. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 eine Innovation eingeführt, die eine der folgenden positiven Auswirkungen auf die Umwelt hatte?</b></p>	
<p><b>Positive Auswirkungen auf die Umwelt, die in Ihrem Unternehmen entstanden sind:</b></p>	
	<i>Alle Zutreffenden auswählen</i>
a) Senkung des Material- oder Wassereinsatzes je Produktionseinheit	<input type="checkbox"/>
b) Senkung des Energieverbrauchs oder des „CO2-Fußabdrucks“ (Reduktion der CO2-Emission)	<input type="checkbox"/>
c) Verringerung der Boden-, Licht-, Wasser- oder Luftverschmutzung oder der Lärmbelästigung	<input type="checkbox"/>
d) Ersetzung von Materialien mit umweltschonenderen oder weniger gefährlichen Ersatzstoffen	<input type="checkbox"/>
e) Ersetzung von fossilen durch erneuerbare Energiequellen	<input type="checkbox"/>
f) Wiederverwertung von Abfall, Wasser oder anderen Materialien (zur Nutzung im eigenen Unternehmen oder für den Weiterverkauf)	<input type="checkbox"/>
g) Schutz der biologischen Vielfalt (Biodiversität)	<input type="checkbox"/>
h) andere	<input type="checkbox"/>
<p><b>Positive Auswirkungen auf die Umwelt, die während des Verbrauchs oder der Nutzung des Produkts oder der Dienstleistung bei Endverbraucher:innen aufgetreten sind:</b></p>	
	<i>Alle Zutreffenden auswählen</i>
i) Senkung des Energieverbrauchs oder des „CO2-Fußabdrucks“	<input type="checkbox"/>
j) Verringerung der Boden-, Licht-, Wasser- oder Luftverschmutzung oder der Lärmbelästigung	<input type="checkbox"/>
k) Verbessertes Recycling des gebrauchten Produkts	<input type="checkbox"/>
l) Verlängerte Produktlebensdauer durch langlebigere, dauerhaftere Produkte	<input type="checkbox"/>
m) Schutz der biologischen Vielfalt (Biodiversität)	<input type="checkbox"/>
n) andere	<input type="checkbox"/>

Noch laufende, abgebrochene und abgeschlossene Innovationsaktivitäten		
<b>5.1. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 Innovationsaktivitäten durchgeführt, die</b>		
	Ja	Nein
a) vorzeitig vor Beendigung abgebrochen wurden?	<input type="checkbox"/>	<input type="checkbox"/>
b) zum Jahresende 2022 noch liefen und noch nicht abgeschlossen waren?	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
c) zwischen 2020 und 2022 abgeschlossen wurden, aber zu keiner Innovation geführt haben?	<input type="checkbox"/>	<input type="checkbox"/>
Personalmanagement		
<b>6.1. Hat ihr Unternehmen in den drei Jahren von 2020 bis 2022 folgende Aktivitäten im Personalmanagement getätigt?</b>		
<i>Alle Zutreffenden auswählen</i>		
a) Geplante Job-Rotation der Mitarbeiter:innen in verschiedenen Funktionsbereichen	<input type="checkbox"/>	
b) Regelmäßige Brainstorming-Sitzungen für die Mitarbeiter:innen, um über mögliche Verbesserungen innerhalb des Unternehmens nachzudenken	<input type="checkbox"/>	
c) Funktionsübergreifende Arbeitsgruppen oder Teams (die sich aus verschiedenen Arbeitsbereichen oder Funktionen zusammensetzen)	<input type="checkbox"/>	
d) systematische Sammlung von Ideen der Mitarbeiter:innen	<input type="checkbox"/>	
e) aktive Einbindung der Mitarbeiter:innen in die Entwicklung neuer Produkte und/oder Dienstleistungen	<input type="checkbox"/>	
f) aktive Einbindung der Mitarbeiter:innen in die Entwicklung neuer Geschäftsprozesse	<input type="checkbox"/>	
Kooperationen		
<b>7.1. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 mit anderen Unternehmen oder Organisationen bei Innovationsaktivitäten kooperiert?</b>		
<small>Kooperation ist die aktive Teilnahme Ihres Unternehmens zusammen mit anderen Unternehmen oder Organisationen an gemeinsamen Aktivitäten. Reine Auftragsvergabe, bei der keine aktive Zusammenarbeit stattfindet, wird nicht als Kooperation betrachtet.</small>		
Ja <input type="checkbox"/>	Nein <input type="checkbox"/>	
<b>7.2. Um welche Kooperationspartner für Innovationsaktivitäten handelte es sich dabei?</b>		
<i>Alle Zutreffenden auswählen</i>		
a) Private Unternehmen (innerhalb der Unternehmensgruppe)	<input type="checkbox"/>	
b) Private Unternehmen (außerhalb der Unternehmensgruppe)	<input type="checkbox"/>	
c) Consultants, private Forschungsunternehmen	<input type="checkbox"/>	
d) Lieferanten, Zulieferer	<input type="checkbox"/>	
e) Kunden	<input type="checkbox"/>	
f) Konkurrenz-Unternehmen	<input type="checkbox"/>	
g) Univeristäten, Fachhochschulen	<input type="checkbox"/>	
h)Regierung, öffentliche Forschungseinrichtungen	<input type="checkbox"/>	
i) NGOs	<input type="checkbox"/>	
j) andere	<input type="checkbox"/>	

Finanzierung und Förderungen				
<b>8.1. Hat sich Ihr Unternehmen in den drei Jahren von 2020 bis 2022 um folgende Finanzierungsmittel bemüht und bei Erfolg diese Mittel ganz oder teilweise für Innovationsaktivitäten eingesetzt?</b>				
	Um Finanzierung bemüht			
	Ja Finanzierung erhalten und eingesetzt für		Ja, aber nicht erhalten	Nein
	Innovation	andere Aktivitäten		
a) Eigenkapital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Kreditfinanzierung (Mittel, die zurückbezahlt werden müssen)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) andere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>8.2. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 von folgenden Einrichtungen öffentliche Förderungen erhalten und bei Erfolg diese Mittel ganz oder teilweise für Innovationsaktivitäten eingesetzt?</b>				
<small>Unter öffentlichen Förderungen sind Zuschüsse, Darlehen, Zinsstützungen und Kreditbürgschaften der öffentlichen Hand zu verstehen. Entgelte für Aufträge von öffentlichen Auftraggebern gelten nicht als öffentliche Förderungen.</small>				
	Ja öffentliche Förderungen erhalten und eingesetzt für		Nein	
	Innovation	andere Aktivitäten		
a) Vom Bund oder Fördereinrichtungen des Bundes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b) Von Ländern, Fördereinrichtungen der Länder oder Gemeinden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c) Von Förderprogrammen der EU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d) andere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>8.3. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 Steueranreize oder Steuerfreibeträge für folgende Zwecke in Anspruch genommen?</b>				
		Ja	Nein	
a) Steuererleichterung für Innovationsaktivitäten (z.B. Forschungsprämie)		<input type="checkbox"/>	<input type="checkbox"/>	
b) Steuerfreibeträge oder Prämien für Innovationsaktivitäten		<input type="checkbox"/>	<input type="checkbox"/>	
c) Steuererleichterungen, Steuerfreibeträge oder Prämien für andere Aktivitäten		<input type="checkbox"/>	<input type="checkbox"/>	
Schutzmaßnahmen, Schutzrechte				
<b>8.1. Hat Ihr Unternehmen in den drei Jahren von 2020 bis 2022 folgende Schutzmaßnahmen getroffen?</b>				
<i>Alle Zutreffenden auswählen</i>				
a) Ein Patent angemeldet		<input type="checkbox"/>		
b) Ein Gebrauchsmuster angemeldet		<input type="checkbox"/>		
c) Ein Muster oder Geschmacksmuster angemeldet		<input type="checkbox"/>		
d) Eine Marke angemeldet		<input type="checkbox"/>		
e) Ein Urheberrecht geltend gemacht (Copyright)		<input type="checkbox"/>		
f) Maßnahmen zum Schutz vertraulicher Geschäftsinformationen (Geschäftsgeheimnis)		<input type="checkbox"/>		
g) andere		<input type="checkbox"/>		
Innovationshemmnisse				
<b>9.1. Welcher der folgenden Gründe beschreibt, warum Ihr Unternehmen in den drei Jahren von 2020 bis 2022 nicht mehr bzw. keine Innovationsaktivitäten durchgeführt hat?</b>				
<i>Alle Zutreffenden auswählen</i>				
a) Mangel an finanziellen Ressourcen		<input type="checkbox"/>		
b) Mangel an Krediten oder privatem Kapital		<input type="checkbox"/>		
c) Schwierigkeiten bei der Erlangung öffentlicher Zuschüsse oder Subventionen		<input type="checkbox"/>		
d) Zu hohe Kosten		<input type="checkbox"/>		
e) Mangel an qualifizierten Mitarbeitern in Ihrem Unternehmen		<input type="checkbox"/>		
f) Fehlende Kooperationspartnern		<input type="checkbox"/>		
g) Fehlender Zugang zu externem Wissen		<input type="checkbox"/>		
h) Ungewisse Marktnachfrage für Ihre Ideen		<input type="checkbox"/>		
i) Zu viel Wettbewerb auf Ihrem Markt		<input type="checkbox"/>		
j) Unterschiedliche Prioritäten innerhalb Ihres Unternehmens		<input type="checkbox"/>		
k) andere		<input type="checkbox"/>		
l) Kein Bedarf für Innovationen		<input type="checkbox"/>		



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## 5 POSTFACE

The aim of the dissertation is to gain a better understanding of the dynamics underlying innovation in the field of tourism and hospitality. The motivation for this research stems from the fact that tourism innovation research remains fragmented across disciplines and is challenged due to the unique characteristics of tourism and hospitality services, as well as data limitations (Hjalager, 2010; Molina-Castillo et al., 2023; Pikkemaat et al., 2019).

Despite these limitations, extant literature has shown that innovative organizations respond to environmental changes and market threats more effectively, leading to competitive advantages and superior performance (Han et al., 1998; Martínez-Román et al., 2015; Mattsson & Orfila-Sintes, 2014; Oly Ndubisi & Agarwal, 2014). Identifying organizational factors that drive innovation in the tourism and hospitality space is therefore crucial for future development in the face of dooming global curses (Hjalager, 2010; Pikkemaat et al., 2019). In addition, given the networked nature of the tourism product, regional factors and destination configurations are critical for innovation in tourism (Asheim & Gertler, 2009; Luongo et al., 2023). Collaboration activities at the destination level enhance the knowledge and information transfer between stakeholders, which can increase the destination's competitiveness and lead to innovation (Camisón et al., 2017). These scholarly findings motivate that research at hand investigates innovation in tourism and hospitality at two distinct levels, namely at the destination and organizational level. Four studies were utilized to answer the research question guiding this dissertation, specifically *“What factors impact innovation in tourism and hospitality at the destination and organization level?”*.

Study 1 investigates how network orchestration, shared dynamic capabilities, and collaborative innovation within tourism destinations contribute to sustainability. It identifies that shared dynamic capabilities and social capital influence the radicalness of innovations, with bridging capital and exploration capabilities linked to incremental innovations and exploitation capabilities tied to radical innovations. The research highlights the crucial role of network orchestrators in promoting collaboration, information sharing, and resource sharing among stakeholders, emphasizing how orchestration fosters sustainable growth and collaborative innovation.

Focusing on community-based tourism, study 2 identifies drivers and barriers to social innovations at the micro, meso, and macro levels. It emphasizes the role of local community participation, social entrepreneurial elements, and pioneers in driving social innovation. The research highlights that excessive commercialization of tourism can hinder social innovations, and it underscores the importance of contextual factors, such as economic dependence on tourism and the prevalence of small and family-owned businesses, in fostering or impeding social innovations.

By examining how different leadership styles influence the development of dynamic capabilities within hospitality organizations, ultimately affecting innovation, study 3 investigated innovation at the organizational level. It finds that empowered and transformational leadership styles significantly promote innovation by impacting dynamic capabilities such as sensing, seizing, and transforming. The research highlights the distinct effects of various leadership styles on innovation outcomes and underscores the importance of leadership in driving organizational transformation and adaptability.

Addressing the issue of measuring innovation in the hospitality industry, study 4 evaluates the appropriateness of the European Union's Community Innovation Survey (CIS) for hospitality. It identifies the survey's limitations in capturing service-specific innovation metrics and proposes an adapted survey instrument tailored to the hospitality sector. The research highlights the need for better metrics to understand, manage, and address innovation in hospitality, aligning with industry patterns in artificial intelligence and sustainable practices.

Together, these studies provide a more comprehensive understanding of the factors impacting innovation in tourism and hospitality at both the destination and organizational levels. They highlight the critical roles of destination network configurations, network orchestrators, leadership behaviors, community participation, and the role of individuals in fostering and sustaining innovation in tourism and hospitality. Adding to this, this research also emphasizes the importance of appropriate measurement tools in assessing innovation in tourism. The collective insights emphasize the need for contextual understanding and tailored approaches to promote innovation for sustainable tourism development.

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