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Academic Research Paper

Relational Governance in Fragmented Tourism Destinations: Brokerage and the Role of Family Firms

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Abstract

Purpose – Tourism destinations are frequently characterized by fragmented structures composed of numerous small and medium-sized firms that must cooperate despite the absence of formal governance mechanisms or dominant coordinating actors. While brokerage theory explains how certain actors bridge disconnected groups, it primarily conceptualizes brokerage as a structural network position and pays limited attention to the relational resources that sustain its capacity. Likewise, studies on destination governance have acknowledged the importance of relational governance but have only partially explored how family firms contribute to informal coordination processes. This study integrates brokerage theory, relational governance, and family business research to examine how brokerage contributes to coordination in fragmented tourism destinations and how kinship ties reinforce its ability as a mechanism of relational governance in contexts lacking formal coordinating institutions. *Design/methodology/approach* – The study adopts a longitudinal case study design focusing on the tourism destination of San Vito Lo Capo (Southern Italy), a destination characterized by endogenous development, a predominance of locally embedded family firms, and the absence of a dominant destination management organization. Social Network Analysis (SNA) is used to reconstruct the evolution of interorganizational relationships by analyzing both commercial and kinship networks over time. Network indicators, including density, cohesion, modularity, community structure, and brokerage positions, are employed to examine changes in network structure and the relationship between commercial and family-based brokerage. Rather than testing causal relationships, the analysis investigates whether the observed evolution of network structures is consistent with the interpretation of brokerage as a mechanism of relational governance reinforced by kinship ties. *Originality/value* – The findings reveal a progressive increase in the overlap between commercial and kinship networks, together with a stronger association between commercial and family brokerage roles. Building on previous research, particularly Ruggieri et al. (2022), the study provides longitudinal empirical support for understanding brokerage as a mechanism of relational governance. Its originality lies in the two-wave network design, the specific measurement of brokerage, and the joint analysis of commercial and inter-firm kinship networks. *Practical implications* – The findings suggest that family firms may play a strategic governance role in destinations where formal coordinating institutions are weak or absent by strengthening brokerage capacity through trust, reputation, and long-term social embeddedness. Destination managers and policymakers should therefore recognize and engage locally embedded brokers when promoting collaborative governance initiatives. At the same time, governance strategies should balance the coordinating benefits of strong relational embeddedness with the risks of network closure and excluding actors not embedded in established social and family networks.

Keywords: coordination; fragmented supply; brokerage; local tourism networks; kinship ties

JEL Codes: L14; D85; Z32

1. Introduction

The success of a tourist destination depends not only on the attractions present in the territory but also on coordination among the tourism enterprises operating within it. Cooper (2008) already stated that the type of tourism attracted by a destination is determined by the quality and the set of attractions, superstructures and infrastructures present there; consequently, the role of planning and management of the entire tourism product of the destination is fundamental in order to reach target markets and offer a satisfactory tourist experience.

The different experiences developed over time (Chi & Qu, 2009; Tremblay, 1998) have highlighted how the mere presence of one or more attractions in a territory (artificial, natural, or cultural characteristics) does not satisfy tourist demand without the necessary coordination among the enterprises that are involved, in different capacities, in the production of the various goods and services that constitute the tourism product (Tremblay, 1998; Laesser et al., 2025).

This coordination activity can be effectively carried out by an authority external to the market (for example, the local government) (Van Niekerk, 2014) or by tour operators that spontaneously emerge within the locality and that are able to coordinate the existing entities (Messori & Volo, 2025) through different contractual forms and by positioning themselves at the center of the network of relationships that gradually take shape.

Furthermore, some tourist destinations develop without the will of the local government or the presence of a tour operator or a large hotel chain (Brouder et al., 2017). In these contexts, operator coordination emerges spontaneously through interactions among firms, often small, united by an interest in enhancing the territory's attractions.

In these contexts, actors within the same ecosystem share an atmosphere of trust and mutual understanding. The result achieved is the full expression of the potential of the territory in which the tourism product is formed. However, the risks of free-riding behavior are always present, and this often leads operators to refrain from collaborating and from sharing the information acquired over time, fearing a lack of reciprocity (Baggio & Cooper, 2010). This could lead to the decline of the tourism destination.

Some tourist destinations have found a solution to the free-rider problem by recognizing in certain firms within the territory a coordinating role. These, thanks to their specific knowledge and networking capabilities, can create bridges between companies or groups of companies present in a tourist destination. They perform broker functions and thus occupy a strategic position based on their reputational and informational advantages (Burt, 2018), often associated with the trust that the system has granted them over time.

A mediation system thus outlined is essential, especially in those destinations characterized by a fragmented tourism offer (Scott et al., 2008) that requires coordination in order to respond optimally to tourist demand and to ensure the competitiveness of the destination.

Although the literature has extensively analyzed the structure of tourism networks and the importance of collaboration among enterprises, less attention has been devoted to the social foundations that can facilitate the emergence of mediation roles within destinations. In particular, the role of family relationships and kinship ties in fostering trust and mediation among competing enterprises represents an aspect still little explored in tourism studies.

This work aims to contribute to filling this gap by analyzing the emergence of intermediary enterprises in a tourist destination that has developed predominantly through endogenous dynamics. In particular, the study examines the case of the tourism destination of San Vito Lo Capo, in southern

Italy, which has experienced a prolonged phase of growth both in terms of tourist flows and with regard to the number and size of enterprises operating in the sector. This development has been largely supported by local resources and actors, reflecting a shared strategy of tourism valorization of the territory.

Through the use of tools derived from network analysis, the study examines the relational structure of the destination and identifies the actors who occupy mediating positions within the local tourism network. In particular, the research addresses the following questions:

RQ1. How does brokerage contribute to coordination in fragmented tourism destinations lacking formal governance structures?

RQ2. How are kinship-based ties crossing organizational boundaries associated with the emergence and consolidation of commercial brokerage roles in fragmented tourism destinations?

This study examines whether brokerage positions in the destination's commercial network are associated with brokerage positions in its inter-firm kinship network. In doing so, it investigates whether kinship relationships among the owners of distinct firms constitute a relational structure that may support the mediation of commercial relationships.

The analysis of the relational dynamics of the destination under examination could help to understand the local mechanisms and cooperation networks that have facilitated this rapid development and provide valuable insights to policymakers for similar destinations that might replicate this model in other territorial contexts.

The paper is organized as follows. The next section presents a review of the relevant literature on coordination within destinations and the role of mediation. This is followed by a presentation of the methodology and the results of the empirical analysis. Finally, the last section discusses the main conclusions of the study, highlighting its theoretical and managerial implications, as well as its limitations and possible directions for future research.

2. THEORETICAL BACKGROUND

2.1 Fragmented tourism destinations and relational governance

Tourism destinations are complex systems composed of multiple independent actors whose activities must be coordinated to produce an integrated tourism experience (Candela & Figini, 2010; Scott et al., 2008). Accommodation, restaurants, transport operators, cultural attractions, and other tourism firms jointly contribute to the destination's competitiveness, although they often pursue individual objectives and operate without hierarchical relationships. As a result, destination performance depends not only on the quality of individual firms but also on the ability to coordinate among interdependent actors (Valeri & Baggio, 2021).

This coordination problem is particularly evident in fragmented tourism destinations, where numerous small and medium-sized firms dominate the tourism supply (Scott et al., 2008; Baggio & Cooper, 2010; Valeri & Baggio, 2021). Unlike destinations coordinated by large tourism corporations or destination management organizations (DMOs), fragmented destinations lack dominant actors who can direct collective strategies or enforce cooperative behavior (Reinhold et al., 2023). The

coexistence of competition and interdependence therefore creates coordination problems, increasing the risk of fragmented decision-making, duplicated initiatives, and free-riding behavior. Individual firms may benefit from collective destination promotion but have limited incentives to invest in cooperative activities, making coordination problematic (Ostrom, 2009).

The tourism literature has traditionally addressed these challenges by emphasizing the role of formal governance mechanisms (Laesser et al., 2025; Messori & Volo, 2025). Public authorities, destination management organizations, and public-private partnerships have been considered the primary actors responsible for coordinating tourism development, promoting collective marketing initiatives, and facilitating cooperation among local stakeholders (Valeri & Baggio, 2021). These governance arrangements provide institutional frameworks capable of reducing transaction costs, supporting information exchange, and aligning the interests of heterogeneous actors (Williamson, 1996; Beritelli et al., 2007; Volgger & Pechlaner, 2014). However, many tourism destinations, particularly those characterized by endogenous development and a predominance of locally owned firms, operate in the absence of strong formal coordinating institutions. In these contexts, destination development often results from the cumulative interactions of locally embedded actors rather than from centrally planned governance structures (Brouder et al., 2017; Baggio & Cooper, 2010; Scott et al., 2008).

The growing recognition of these limitations has encouraged scholars to adopt a broader understanding of destination governance (Valeri & Baggio, 2021). Rather than viewing governance exclusively as a formal institutional arrangement, recent studies increasingly emphasize its relational dimension. Relational governance refers to coordination mechanisms that emerge through repeated interactions, mutual trust, reputation, shared norms, and long-term social relationships among organizations (Ring & Van de Ven, 1994; Dyer & Singh, 1998; Poppo & Zenger, 2002; Cao & Lumineau, 2015). These informal mechanisms reduce uncertainty, facilitate cooperation, and enable collective action without relying exclusively on formal contracts or hierarchical authority. Consequently, governance becomes an emergent property of the network of relationships connecting destination actors rather than solely the outcome of institutional design (Ruggieri et al., 2022; Valeri & Baggio, 2021; Scott et al., 2008).

From this perspective, the relational structure of tourism destinations becomes central to understanding how coordination develops over time (Messori & Volo, 2025; Brouder et al., 2017; Casanueva et al., 2016). Social network research has demonstrated that patterns of interaction among firms influence information exchange, knowledge diffusion, innovation, and collaborative behaviour. Network structure determines not only who exchanges resources with whom but also how coordination capacities are distributed across the destination. Nevertheless, although network studies have extensively described the structural characteristics of tourism destinations (Baggio, 2020; Baggio, 2011; Cooper, 2008), they have devoted less attention to the specific relational mechanisms through which coordination is sustained when formal governance arrangements are weak or absent.

Building on previous research that interprets brokerage as a relational governance mechanism (Ruggieri et al., 2022), this study examines how this mechanism operates over time and how it may be reinforced by inter-firm kinship ties. Understanding how brokerage emerges and how it is reinforced by locally embedded social relationships therefore provides an important step towards explaining governance in fragmented tourism destinations.

2.2 Brokerage as a mechanism of relational governance

The relational perspective on destination governance raises an important question: how is coordination achieved when no formal institution possesses sufficient authority to organize interactions among tourism firms? One possible answer is provided by brokerage theory, which explains how certain actors facilitate connections among otherwise weakly connected or disconnected parts of a network. Rather than relying on hierarchical authority, brokers coordinate by creating bridges through which information, resources, and opportunities circulate across organizational boundaries (Burt, 2018, 2017; Gould & Fernandez, 1989).

Brokerage has traditionally been conceptualized within social network theory as a structural position. Burt's theory (2018) of structural holes argues that actors occupying brokerage positions benefit from connecting otherwise disconnected groups, thereby gaining privileged access to information and strategic advantages. Because brokers span gaps between different parts of a network, they can access diverse knowledge, reduce information asymmetries, and influence the flow of resources among actors. Consequently, brokerage has often been associated with innovation, competitive advantage, and organizational performance (Zaheer & Bell, 2005).

Although this structural interpretation has generated substantial insights, its application to tourism destinations requires further consideration. Tourism destinations differ from many organizational settings because they feature high interdependence among legally independent firms. Producing tourism experiences depends on complementary services provided by multiple organizations, making coordination a prerequisite for destination competitiveness (Baggio, 2020, 2011; Cooper, 2008). In such contexts, brokerage extends beyond the informational advantages enjoyed by individual actors. Brokerage also performs an important coordinating function by facilitating interactions among firms whose activities are mutually dependent but not formally integrated (Burt, 2018).

This distinction is particularly relevant in fragmented tourism destinations. Where no dominant organization coordinates the destination, brokers reduce relational fragmentation by facilitating communication, connecting different business communities, and enabling cooperation among firms that would otherwise remain loosely connected. Their importance therefore derives not only from their structural location within the network but also from their capacity to sustain repeated interactions that facilitate collective action (Burt, 2018; Ruggieri et al., 2022). Brokerage thus becomes a relational mechanism through which coordination emerges without hierarchical governance arrangements (Casanueva et al., 2016).

From this perspective, brokerage should not be interpreted exclusively as an individual source of competitive advantage but also as a governance function performed within networks. Firms in brokerage positions help maintain destination cohesion by facilitating the circulation of commercial relationships across communities and reducing the coordination problems associated with fragmented tourism supply. Their role therefore aligns with the broader concept of relational governance, in which coordination emerges through ongoing social interactions rather than formal institutional authority.

This interpretation also has methodological implications. Conventional brokerage measures, such as betweenness centrality or structural holes, primarily identify actors occupying structurally advantageous positions within the network topology (Burt, 2018; Borgatti, 2005; Freeman, 1978). While these indicators capture positional advantages, they do not necessarily reflect the coordinating activities carried out through actual commercial interactions. In fragmented tourism destinations, however, governance depends less on occupying central positions than on mediating concrete exchanges among interdependent firms. For this reason, the present study conceptualizes brokerage as the effective mediation of commercial relationships rather than merely as a structural property of network configuration. In this way, brokerage can be conceptualized as a mechanism of relational governance.

However, brokerage alone cannot fully explain why some firms are better than others at sustaining coordination over time. Brokerage depends not only on network position but also on the relational conditions that allow intermediary actors to be recognized as legitimate coordinators by other firms. Understanding these social foundations requires consideration of the relational resources embedded in family firms and kinship ties, which may reinforce brokerage by supporting trust, reputation, and long-term cooperation within local tourism networks.

2.3 Family firms, inter-firm kinship, and relational resources

Although brokerage explains how coordination may emerge through intermediary actors, it does not fully explain why some firms may be better positioned than others to perform this role over time. Occupying a brokerage position may create opportunities for mediation, but effective coordination also depends on other actors' willingness to exchange information, cooperate, and rely on intermediaries when managing commercial relationships. Consequently, brokerage depends not only on network structure but also on the relational resources available to actors in intermediary positions. The literature on family firms provides useful insights into these relational foundations. Family firms differ from non-family firms because ownership, management, and family relationships frequently overlap, generating organizational characteristics that extend beyond exclusively economic objectives (Adjei et al., 2025; De Massis & Foss, 2018; Khavul et al., 2009; Yu et al., 2013). Long-term orientation, reputational concerns, shared values, and strong interpersonal relationships may contribute to the accumulation of social capital that influences internal governance and external stakeholder relationships. These characteristics can support stable and enduring relationships under conditions of uncertainty (Miller & Le Breton-Miller, 2005; Le Breton-Miller & Miller, 2006; De Massis & Foss, 2018).

However, it is important to distinguish among the analytical levels involved in this argument. A family firm is an organizational-level concept, generally referring to an enterprise in which a family exercises ownership, control, or significant influence over management. A kinship tie, by contrast, is an individual-level social relationship between persons connected through family bonds. Kinship acquires inter-organizational relevance when related individuals are affiliated with different legally independent firms, whether as owners, managers, or employees. In this study, an inter-firm kinship tie refers to a reported family relationship between the respondent representing one tourism firm and an owner or employee affiliated with another tourism firm. When these ties are projected onto the firms with which the related individuals are affiliated, their aggregation constitutes an inter-firm

kinship network at the destination level. Family-firm status and inter-firm kinship are therefore related but analytically distinct phenomena: the former is an organizational attribute, whereas the latter is a relationship crossing organizational boundaries.

Among the relational resources discussed in the family-firm literature, those associated with kinship deserve particular attention. Kinship may involve repeated social interactions, shared identities, reciprocal obligations, and reputational mechanisms that extend beyond formal contractual arrangements. Because family relationships are embedded in long-term social structures, they may reduce behavioral uncertainty and facilitate the development of interpersonal trust (Arregle et al., 2007; Pearson et al., 2008; Rodríguez-Aceves et al., 2023; Cobben et al., 2023; De Groot et al., 2022). Rather than replacing market transactions, these relational mechanisms can provide informal safeguards that support cooperation where formal monitoring is costly or ineffective. In this sense, kinship may constitute a source of relational capital that affects interactions within local business networks (Dawson, 2012; De Groot et al., 2022; Chaudhary et al., 2021).

The literature on family firms is used in this study to provide a theoretical basis for understanding these relational properties of kinship, rather than as evidence that family ownership and inter-firm kinship are equivalent or that kinship necessarily produces brokerage. Trust, reciprocity, reputational accountability, and long-term embeddedness originate in interpersonal relationships but may have organizational consequences when those relationships cross firm boundaries. Kinship-based relationships linking individuals affiliated with different firms may therefore create relational channels through which information circulates, expectations of reciprocity develop, and repeated commercial interactions are supported.

Within fragmented tourism destinations, these kinship-based inter-organizational relationships may be particularly relevant to brokerage. Firms do not become coordinators simply because they are family-owned, and the existence of a family relationship does not in itself generate collective action. Rather, when brokerage positions in commercial networks overlap with positions in inter-firm kinship networks, the relational properties associated with kinship may provide conditions supporting the mediation of commercial relationships. Trust, reputation, reciprocity, and long-term embeddedness may increase the perceived reliability of actors occupying brokerage positions and reduce uncertainty surrounding repeated exchanges (Ghini et al., 2024; Anderson et al., 2016; Chaudhary et al., 2021; Cobben et al., 2023).

This perspective differs from interpretations that consider family firms themselves to be alternative governance institutions. The argument advanced here is more specific. Family ownership alone does not generate coordination, and the mere presence of family firms does not guarantee collective action. Moreover, inter-firm kinship is not treated as equivalent to family-firm status. Instead, the study considers whether kinship relationships crossing organizational boundaries constitute a relational structure associated with commercial brokerage. Family relationships may provide relational conditions favorable to brokerage, but whether these conditions correspond to brokerage positions remains an empirical question (Raisi et al., 2020; Melenez-Roman, 2025).

The potential relevance of kinship-based relationships may be especially pronounced in destinations that have developed through endogenous processes and are characterized by strong local embeddedness. In such contexts, family and other personal relationships may overlap with commercial exchanges over extended periods. This continuity can contribute to reputational accountability and reciprocal expectations extending beyond individual business transactions. Firms embedded in inter-firm kinship networks may therefore have access to relational resources that can

support mediation among otherwise weakly connected firms. However, the presence of such ties does not necessarily imply access to organizational decision-making, particularly when the related person in the other firm is an employee rather than an owner or manager.

Building on these considerations, this study conceptualizes inter-firm kinship ties as potential carriers of relational resources that may be associated with brokerage in fragmented tourism destinations. By supporting trust, reputational accountability, reciprocal expectations, and long-term relational continuity, kinship may create conditions favorable to the coordinating role of brokerage actors where formal governance institutions are weak or absent. This argument does not presume that kinship produces brokerage. Rather, the empirical analysis examines whether brokerage positions in the commercial network are associated with brokerage positions in the inter-firm kinship network and whether this association changes over time.

3. Data and methods

3.1 Empirical context

This study focuses on the tourism firms operating in the municipality of San Vito Lo Capo, a geographically isolated yet vibrant tourism hub in north-western Sicily. Despite its relatively small municipal territory, San Vito Lo Capo has become one of the most developed tourism destinations. Over time, the destination has experienced a significant evolution in its tourist offerings and in the number of visitors without any public intervention for tourism development.

One key element of the local tourism system is the predominance of "non-traditional" services in the tourism supply. These are mainly private houses, villas, and lodges run by families and owned by residents.

The tourism supply is characterized by small and micro firms. These firms, most of which are family-run, have played a central role in both the initial development and the subsequent consolidation of San Vito Lo Capo as a tourism destination. The development model is bottom-up, driven by local cooperation among family firms rather than by external regional or national tourism policies.

This research focuses exclusively on the relationships among firms within the tourism destination of San Vito Lo Capo, excluding ties with firms located outside this territorial context. This methodological choice is based on the assumption that the structure, dynamics, and development trajectory of a destination are determined primarily by interactions among locally rooted actors. Local tourism firms represent not only the core of the destination's productive system but also the expression of its specific social, cultural, and economic context, in which families have played and continue to play a fundamental role in business management, in the transmission of skills, and in the maintenance of social and productive ties.

Focusing on local firms thus allows for capturing the endogenous processes of cooperation and competition that sustain the evolution of the tourism destination and the role played over time by family-owned firms. The inclusion of external enterprises could, on the contrary, obscure these local dynamics and introduce factors not directly attributable to the territorial context under study. In this way, it is possible to more accurately assess the contribution of family firms to the development and consolidation processes of the tourism destination.

3.2 Data collection

The empirical analysis adopts a whole-network approach and includes all tourism firms operating in the municipality of San Vito Lo Capo. The reference population was identified using the official registers of the Chamber of Commerce and comprised all firms directly involved in tourism activities within the destination.

Data were collected in two survey waves, corresponding to 2006 and 2016, allowing the evolution of the destination network to be analyzed over a ten-year period. The unit of analysis is the tourism firm, while the respondents were the owners or managers of the firms, who were considered the most knowledgeable informants regarding their firms' business relationships. Both waves referred to the same geographically defined population of tourism firms operating within the destination, although the composition and size of that population changed over time as firms entered or exited the local tourism system. The study should therefore be understood as a repeated whole-network analysis of the same destination rather than as a balanced panel composed of exactly the same firms in both years.

The survey was administered using a structured questionnaire based on the roster method, a widely adopted procedure in whole-network studies. Respondents received the complete list of tourism firms operating within the destination and were asked to identify those with which they maintained formal or informal commercial relationships. Using a predefined roster reduces recall bias and improves the completeness and reliability of relational data compared with free-recall procedures. The questionnaire also included questions to identify kinship relationships among business owners.

In 2006, the reference population consisted of 94 tourism enterprises, of which 71 completed the questionnaire (response rate = 75.5%). Fifteen firms declined to participate, seven could not be contacted, and one had ceased operations. Because social network analysis requires complete relational matrices, we integrated relational information for non-responding firms whenever interviewed respondents nominated them. This procedure allowed the reconstruction of relational information for nine additional enterprises, resulting in a final network of 80 firms.

In 2016, the reference population increased to 108 enterprises. Eighty-two firms completed the survey (response rate = 75.9%). Using the same reconstruction procedure, we obtained relational information for an additional 12 enterprises, yielding a final network of 94 firms.

3.3 Construction of commercial and kinship networks

The survey data were transformed into two relational networks representing the commercial and kinship relationships among tourism firms operating within the destination. In both cases, the enterprise constituted the unit of analysis and the relationships were represented through adjacency matrices in which both rows and columns corresponded to the firms included in the reference population.

The commercial network was constructed from respondents' answers to the roster questionnaire. Each respondent received the complete list of tourism firms operating in San Vito Lo Capo and was asked to identify those with which the firm maintained commercial relationships, whether formal or informal. A commercial tie was therefore defined as a business relationship between two tourism firms.

The commercial relationships collected through the questionnaire were represented in two

complementary forms, depending on the objective of the analysis. For the analysis of the overall network structure, including density, cohesion, modularity, and community detection, commercial ties were represented through a binary symmetric adjacency matrix, where a value of 1 indicated the existence of a commercial relationship between two firms regardless of which firm reported it. Thus, a tie was considered to exist whenever it was acknowledged by at least one of the two firms involved.

To analyse brokerage, however, the original direction of commercial relationships was preserved. A directed adjacency matrix was therefore constructed from the survey responses and used exclusively for the identification of brokerage positions. This distinction reflects the different objectives of the analyses: while the structural properties of the destination depend on the existence of relationships, brokerage concerns the mediation of commercial exchanges and therefore requires information on the direction of relational flows.

A second binary adjacency matrix was constructed to represent kinship relationships among business owners. The questionnaire elicited personal relationships that crossed organizational boundaries. Respondents were asked to identify the accommodation establishments in which they had a personal relationship with either the owner or an employee and to classify each relationship as close kinship (P1: parent, child, or spouse), extended kinship (P2: cousin, aunt or uncle, grandparent, or in-law), other kinship (P3), friendship (A), or acquaintance (C). For the construction of the inter-firm kinship network, only relationships classified as P1, P2, or P3 were included, whereas friendship and acquaintance ties were excluded. Because the tourism firm constitutes the node of the analysis, individual-level kinship ties were projected onto the organizational level. A tie between two firms was recorded when the respondent representing one firm reported a P1, P2, or P3 relationship with an owner or employee affiliated with the other firm. The resulting matrix therefore represents a kinship-based inter-firm network and does not classify firms according to family ownership or family control. The resulting kinship network was analyzed separately and subsequently compared with the commercial network to examine the relationship between family embeddedness and brokerage positions.

Because the study adopts a whole-network approach, it requires complete relational matrices to obtain reliable estimates of network properties. For this reason, we recovered relational information for non-responding firms whenever participating respondents nominated them. This procedure is commonly adopted in whole-network studies because relational ties are dyadic properties that can be observed even when only one actor reports the relationship. No relationships were inferred in the absence of empirical evidence. Although this procedure substantially reduced the loss of relational information, some relationships involving non-responding firms may nevertheless have remained unobserved. This limitation should be considered when interpreting the findings. In practical terms, when a responding firm nominated a non-responding firm, the reported tie was retained because it constituted an observed relationship. However, no additional ties involving the non-responding firm were created unless another participating firm explicitly reported them. The procedure should therefore not be interpreted as statistical imputation, but as the retention of observed dyadic information provided by respondents.

The commercial and kinship matrices constructed for 2006 and 2016 constitute the basis for all subsequent analyses of network structure, community detection, and brokerage.

3.4 Social network analysis

Social Network Analysis represents a destination as a network in which firms are the nodes and the relationships among them are the ties. It therefore makes it possible to examine both how individual firms are connected and how the network as a whole is organized (Scott, 2024).

At the network level, the distribution of ties indicates whether relationships are relatively dispersed or concentrated around a limited number of central actors. Repeated communication and information exchange may facilitate the development of shared expectations, values, and institutional norms (DiMaggio & Powell, 1983; Scott & Meyer, 1983). Firms connecting otherwise weakly connected groups may therefore serve as brokers by facilitating the circulation of information and relationships across the network.

Network relationships also influence firms' access to information, opportunities, influence, and power. Measures of distance indicate how easily actors can reach one another, while measures of cohesion describe the overall level of connectedness within the network. Because trust, social norms, and behavioral expectations evolve through repeated interactions, these relational structures may also change over time (Andrighetto et al., 2024).

3.4.1 The Modularity Index Q

Complex systems and networks are often characterized by some sub-structures that arise spontaneously from their self-organizing properties. These sub-structures, called modules or communities, consist of groupings of nodes that are more connected to each other than to other parts of the network.

A quality indicator usually assesses this subdivision, the modularity index Q, which renders the extent to which the network modules are well-defined and identifiable and measures the difference between the proportion of edges within the communities and those existing in the whole network (Clauset et al., 2004; Girvan & Newman, 2002).

Formally, Q is given by

$$Q = \sum_{s=1}^{N_M} \left[\frac{m_s}{m} - \left(\frac{2m_s}{2m} \right)^2 \right] \quad (1)$$

Where N_M is the number of communities, m_s is the total number of links in each community, and m is the total number of links in the network.

We employ a probabilistic optimization technique to identify community structures. This technique partitions the network by maximizing the modularity index Q. Numerous approaches to this task have been proposed in the literature (Souravlas et al., 2021; Javed et al., 2018; Fortunato & Hric, 2016; Fortunato, 2010). Our analysis uses the Leiden method (Traag et al., 2019), a modern, computationally efficient solution.

The Leiden method extends the earlier Louvain algorithm (Blondel et al., 2008), which looks for modularity improvements through a greedy, two-phase procedure. In the first phase, each node is initially assigned to a singleton community. Then, nodes are iteratively reassigned to the neighboring community that yields the greatest increase in Q. Once no further improvements are possible, the second phase collapses each community into a single supernode. Internal edges are converted into

self-loops, each weighted by its original value, and external edges are converted into weighted connections among supernodes. These two phases repeat until Q can no longer be increased. In addition, the Leiden algorithm introduces a refinement mechanism that addresses a limitation of the original Louvain procedure: the potential formation of weakly connected communities. This is achieved through an intermediate validation step in which each cluster found is examined as an isolated sub graph. Communities lacking sufficient internal cohesion are split, ensuring every resulting partition is well-connected and locally optimal before aggregation proceeds.

The Leiden algorithm is versatile and works well with diverse network types, including unweighted and weighted variants, symmetric and directed topologies, as well as single-layer and multiplex structures, while staying computational efficient and delivering robust partitioning outcomes (Anuar et al., 2021). The same methodology has been usefully applied in previous studies, including Platania, et al. (2025).

3.4.2 Network and broker statistics metrics

To analyze the evolution of the destination network, a set of standard structural indicators was employed. Network order (number of nodes) and the number of ties describe the size of the network, while density measures the overall level of connectivity among tourism firms. Additional indicators, including cohesion and modularity, were used to assess changes in the internal organization of the network and the emergence of cohesive communities over time. Together, these measures provide information on the extent to which the destination evolved towards a more integrated or fragmented relational structure (Scott, 2024). The indicators used in the analysis are summarized in Table 1.

Table 1 Network statistics

<i>Metric</i>	<i>Formula</i>	<i>Description</i>
<i>Order</i>	N	<i>Total number of nodes</i>
<i>Size</i>	M	<i>Total number of links</i>
<i>Density</i>	$\frac{M}{N(N-1)/2}$	<i>The number of ties present to the maximum possible number of lines. In the formula, M is the number of links, and N is the number of actors in the network (nodes). Density was calculated on the binary symmetric representation of the network.</i>
<i>Geodesic distance</i>	$f_{ij}(t)$	<i>The length in terms of the number of links of the shortest path connecting two actors</i>
<i>Average distance</i>	$\frac{f_{ij}(t)}{n}$	<i>The average geodesic distance</i>
<i>Distance-based cohesion</i>	$\frac{\sum_{i \neq j} \frac{1}{f_{ij}(t)}}{n(n-1)}$	<i>An index based on the distance between two actors. It varies between 0 and 1, where larger values indicate greater cohesiveness; $1/f_{ij}(t)$ is set to 0 when no path exists between the two nodes considered</i>

Because the theoretical focus of this study is on brokerage as a mechanism of relational governance, particular attention was devoted to identifying firms that effectively mediate commercial relationships among actors that are not directly connected. Although brokerage is frequently measured through indicators such as betweenness centrality or Burt's structural holes, these measures primarily capture structural positions within the network. Betweenness centrality identifies actors located on shortest paths between other nodes, while structural holes assess the informational advantages associated with bridging disconnected parts of the network. Both measures are particularly appropriate when the objective is to analyze the strategic position of actors within the overall network topology.

Consistent with the objectives of this study, brokerage is conceptualized as the capacity of firms to facilitate coordination through the mediation of formal and informal commercial relationships rather than simply occupying structurally advantageous positions within the network. In fragmented tourism destinations, coordination depends less on network centrality than on the ability of certain firms to intermediate commercial relationships between actors that would otherwise not be directly connected. Accordingly, brokerage was calculated as the ability of a focal firm to mediate commercial interactions between two neighboring firms.

Formally, a firm c is considered to perform a brokerage role between firms a and b :

$$B_c = \sum_{a \neq c} \sum_{\substack{b \neq c \\ b \neq a}} F[Z_{ac} = 1, Z_{cb} = 1, Z_{ab} = 0] \quad (2)$$

where Z is the directed binary adjacency matrix. Firm c is identified as a broker in the ordered triad $a \rightarrow c \rightarrow b$ when $Z_{ac} = 1$, $Z_{cb} = 1$, and $Z_{ab} = 0$. The brokerage score B_c counts the ordered triads in which firm c connects two firms that are not directly linked in the relevant direction. Brokerage was calculated using the directed commercial network described in Section 3.3, whereas all other structural indicators were computed on the symmetric network representation.

The proposed measure identifies brokerage as a relational mediation role rather than merely a structural position. A firm is recognized as a broker when it forms the intermediate node in an indirect commercial connection between two firms for which the corresponding direct link is absent. Consequently, the indicator captures the coordinating role performed by firms within the destination's commercial network, which is consistent with the theoretical interpretation of brokerage adopted in this study.

This measure is particularly appropriate for fragmented tourism destinations characterized by the absence of formal coordinating institutions. In such contexts, governance emerges through repeated interactions among locally embedded firms rather than through hierarchical control. By identifying firms that mediate actual commercial exchanges, the proposed brokerage measure captures the relational mechanisms through which coordination is sustained within the destination. This makes it especially suitable for investigating brokerage as an informal mechanism of relational governance and for examining how kinship ties reinforce the coordinating role of family firms.

To examine the association between brokerage positions in the commercial and inter-firm kinship networks, Pearson's correlation coefficient was calculated separately for 2006 and 2016. Formally, Pearson's correlation coefficient (r_{XY}) is defined as:

$$r_{XY} = \frac{\sigma_{XY}}{\sigma_X \sigma_Y}$$

where the covariance σ_{XY} denotes the covariance between the brokerage values in the commercial and kinship networks and σ_X and σ_Y are the corresponding standard deviations.

The statistical significance of each correlation coefficient was assessed using a two-tailed test of the null hypothesis $H_0: \rho = 0$, against the alternative hypothesis $H_1: \rho \neq 0$. The test statistic was calculated as:

$$t = r \sqrt{\frac{n-2}{1-r^2}}$$

with $n - 2$ degrees of freedom, where n is the number of firms with matched brokerage scores in the two networks. The analysis included 80 paired observations in 2006 and 94 paired observations in 2016. Two-tailed p -values were calculated using a significance threshold of $\alpha = 0.05$.

A positive correlation indicates that firms with higher brokerage scores in the inter-firm kinship

network also tend to have higher brokerage scores in the commercial network. Conversely, a low or statistically non-significant correlation indicates limited evidence of a linear association between the two brokerage measures. Statistical significance is interpreted as evidence of an association between the two sets of brokerage scores and does not establish a causal effect of inter-firm kinship on commercial brokerage.

4. Results

4.1 Evolution of the destination network

Between 2006 and 2016, the tourism destination of San Vito Lo Capo experienced substantial changes in its relational structure. As shown in Table 2, the order of the commercial network increased from 80 to 94 firms, reflecting the expansion of the observed destination network. Over the same period, the number of commercial ties increased from 357 to 662, corresponding to an increase of approximately 85.4%. Commercial network density also rose from 0.113 to 0.151. Since density controls for the number of possible ties associated with network order, this increase indicates that commercial relationships expanded at a faster rate than the number of firms. Thus, the growth of the destination was accompanied not only by the inclusion of additional firms but also by a more interconnected structure of commercial relationships.

Table 2 Commercial and kinship network metrics in the San Vito Lo Capo tourism system(calculated on the symmetric undirected version of the network)

Indicators	2006		2016	
	Commercial network	Inter-firm kinship network	Commercial network	Inter-firm kinship network
<i>Order</i>	80	80	94	94
<i>Size</i>	357	65	662	303
<i>Density</i>	0.113	0.021	0.151	0.069
<i>Average distance</i>	1.88	3.60	2.05	2.33
<i>Distance-based cohesion</i>	0.58	0.084	0.54	0.31

Source: Our elaboration on the Survey – OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE

The inter-firm kinship network exhibited an even more pronounced change. Its order increased from 80 firms in 2006 to 94 firms in 2016, while the number of inter-firm kinship ties increased from 65 to 303, representing an increase of approximately 366.2%. Network density rose from 0.021 to 0.069, meaning that the proportion of observed kinship ties relative to all possible ties was more than three times higher in 2016 than in 2006. These results indicate that kinship-based relationships crossing organizational boundaries became considerably more prevalent within the destination network.

Taken together, the results show that both the commercial and inter-firm kinship networks expanded and became denser between 2006 and 2016, although the relative increase was substantially greater in the kinship network. This parallel development is consistent with an increasing presence of both commercial and family-based relational structures within the destination. However, these network-level statistics do not demonstrate that kinship relationships produced commercial coordination or brokerage. Instead, they show that the commercial network expanded alongside a

marked increase in kinship-based inter-organizational embeddedness. This pattern provides the structural context for examining whether brokerage positions in the commercial network were associated with brokerage positions in the inter-firm kinship network.

4.2 Commercial and kinship communities

The Leiden community detection analysis reveals a relatively stable commercial structure over the study period. As shown in Figures 4.1 and 5.1, the commercial network consisted of six communities in both 2006 and 2016. However, the average size of these communities increased from 13.3 to 15.7 firms, reflecting the destination's overall expansion while preserving its underlying modular structure.

Fig4.1 Commercial relation 2006

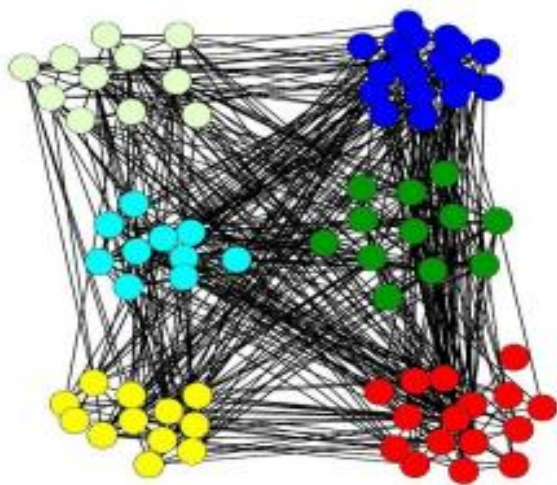
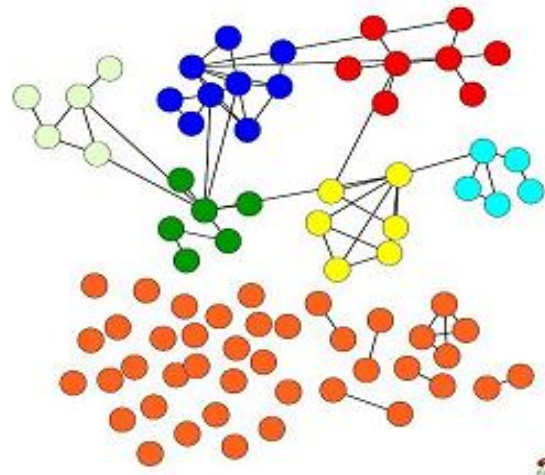


Fig4.2 Family relation 2006



Source: Our elaboration with a Python script using the Leiden algorithm on the Survey database from the OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE (calculated on the symmetric undirected version of the network)

Fig5.1 Commercial relation 2016

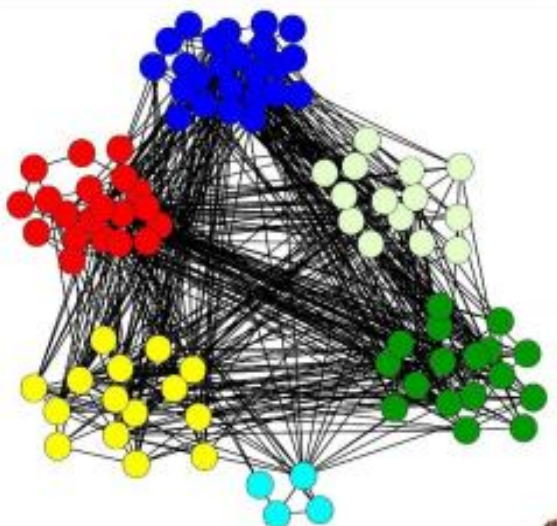
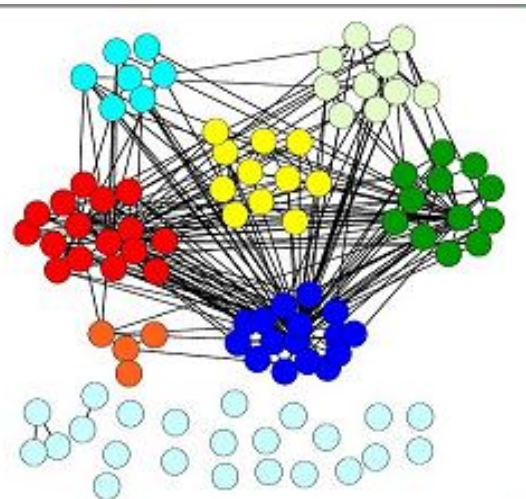


Fig5.2 Family relation 2016



Source: Our elaboration with a Python script using the Leiden algorithm on the Survey database from the OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE (calculated on the symmetric undirected version of the network)

The most significant change concerns the role of family relationships within these commercial communities. In 2006, family firms represented approximately 48.8% of the firms belonging to each commercial community, whereas by 2016 this proportion had increased to 80.9%. Moreover, the family network itself became more articulated, with the number of family communities increasing from six to seven and their average size growing from 6.5 to 10.9 firms.

Taken together, these findings indicate that family relationships became increasingly embedded within the commercial organization of the destination. Rather than altering the overall community structure, kinship ties progressively overlapped with commercial communities, suggesting that family embeddedness became an increasingly important relational resource supporting interactions among tourism firms. This increasing overlap between family and commercial communities suggests that family firms progressively occupied positions that facilitated coordination across the destination without altering its underlying network architecture.

4.3 Brokerage and the role of family relationships

The structural characteristics of the commercial network indicate the presence of conditions favorable to brokerage. Despite its relatively low density, the network maintained a relatively high level of cohesion (0.58 in 2006 and 0.54 in 2016), while the average geodesic distance remained low (1.88 and 2.05 respectively) (see Table 2). Together, these indicators suggest that coordination depended on a limited number of firms capable of connecting otherwise weakly connected groups.

Brokerage scores calculated from the directed commercial network (Tables 3 and 4) identify the firms that most frequently mediated commercial exchanges among other enterprises. These firms occupied key coordinating positions within the destination by facilitating interactions across different communities rather than simply maintaining numerous direct relationships. Their role was not simply to connect disconnected actors but to facilitate the circulation of commercial relationships across otherwise loosely connected parts of the destination network.

Table 3 Brokerage scores 2006 (Commercial)

adv 3	501
hac 3	259
res 10	259
hac 29	238
res 14	224

Source: Our elaboration with UCINET on the Survey database from the OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE

Table 4 Brokerage scores 2016 (Commercial)

tra 8	550
res 13	430
hac 17	422
hac 12	178
tra 1	150

Source: Our elaboration with UCINET on the Survey database from the OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE

A similar analysis was conducted for the kinship network (Tables 5 and 6). Although family relationships initially displayed relatively low cohesion (0.084 in 2006), the substantial expansion of the kinship network by 2016 resulted in higher cohesion and shorter average distances among family firms. This evolution indicates that family relationships became progressively more interconnected, thereby strengthening the relational context within which brokerage could operate.

Table 5 Brokerage scores 2006 (family)

hac 3	52
res 1	34
hac 1	28
hac 14	20
hac 28	20

Source: Our elaboration with UCINET on the Survey database from the OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE

Table 6 Brokerage scores 2016 (family)

tra 8	1,938
res 4	1,842
hac 3	1,596
aac 19	1,338
aac 3	556

Source: Our elaboration with UCINET on the Survey database from the OBSERVATORY OF TOURISM FOR EUROPEAN ISLANDS - OTIE

Finally, Pearson's correlation analysis showed a positive and statistically significant association between commercial and inter-firm kinship brokerage scores in both observation years (Table 7).

Table 7 Pearson correlations between commercial and inter-firm kinship brokerage scores, 2006 and 2016

Year	n	Pearson Index (r)	degrees of freedom	t-statistic	two-tailed p-value
2006	80	0.272	78	2.500	<0.05
2016	94	0.421	92	4.451	< 0.001

In 2006, the association was positive but relatively modest, $r(78) = 0.272$, $p = 0.015$, two-tailed. In 2016, the correlation was stronger and highly statistically significant, $r(92) = 0.421$, $p < 0.001$, two-tailed. These results indicate that firms occupying brokerage positions in the inter-firm kinship network also tended to occupy brokerage positions in the commercial network. The stronger coefficient observed in 2016 is consistent with greater alignment between the two relational structures over time, although the correlations do not establish a causal effect of kinship on commercial brokerage.

5. Conclusion

This study examined how coordination emerges in fragmented tourism destinations characterized by numerous small tourism firms and the absence of formal coordinating institutions. By integrating brokerage theory, relational governance, and family business research, the study investigated whether brokerage can be interpreted as a mechanism of relational governance and whether kinship ties reinforce this coordinating function within local tourism networks.

The empirical findings support both research questions. First, the analysis shows that coordination within the destination is not associated with an increasingly dense commercial network, but with a limited number of firms occupying brokerage positions that connect otherwise weakly connected actors. As the destination expanded over time, commercial relationships remained relatively selective, suggesting that coordination depended on intermediary firms that could facilitate interactions across different parts of the network. These findings support the interpretation of brokerage as an informal mechanism through which coordination can emerge in fragmented tourism destinations lacking dominant governance actors. Second, the study shows that family relationships became progressively more embedded within the destination's relational structure. Although the commercial community structure remained relatively stable, the density of kinship ties increased substantially, and the association between commercial brokerage and kinship brokerage became stronger over time. These findings suggest that family ties constitute relational resources that reinforce brokerage by supporting repeated interactions, reputation, and long-term relational embeddedness. In this sense, kinship appears to strengthen brokerage as a coordinating mechanism rather than representing an alternative form of governance. If we consider the effects of the close connection between broker-provided governance and kinship ties, together with the persistent selectivity of business relationships, we can identify a risk of network closure and, consequently, constraints on the network's potential contribution to the destination's evolution and development. Restricting broker firms' operational scope exclusively to businesses embedded in kinship relations marginalizes other firms, reduces overall coordination among destination activities, and lowers the quality of visitors' experiences. Under the existing conditions, the first possible evolutionary trajectory is one that has already partially emerged during the period under investigation. This trajectory entails the gradual expansion of the kinship network over time, accompanied by an increase in the number of firms involved. In this way, the subset of kinship-based relationships may consolidate and expand, including through the creation of new firms. However, this is unlikely to ensure the destination's full development.

A second, more realistic trajectory would involve extending brokerage activities to firms outside the kinship network, provided that trust-based relationships comparable to those connecting kin-related firms can also be established with these external businesses, albeit under different conditions and through different mechanisms. In this respect, the experience of Italian industrial districts may offer valuable insights into the conditions under which trust-based relationships can be generated by factors and processes not necessarily rooted in kinship ties.

The theoretical contribution of this study lies in extending and providing longitudinal empirical support for the interpretation of brokerage as a mechanism of relational governance developed in previous research, particularly Ruggieri et al. (2022). The study advances this perspective by showing that brokerage is socially embedded and may be reinforced by inter-firm kinship ties that provide relational stability, reputational safeguards, and shared norms. Its distinctive contribution therefore lies in combining a mediation-based brokerage measure with a longitudinal analysis of commercial and

kinship networks. The study also contributes to the family-firm literature by highlighting a governance function that has received limited attention in tourism research. Family firms do not merely participate in the tourism economy as individual business units; they may also play strategic coordinating roles within destination networks. Their contribution extends beyond providing tourism services to facilitating collaboration among otherwise loosely connected firms. This perspective enriches existing research on family firms by emphasizing their role in shaping the relational architecture of tourism destinations.

From a managerial perspective, the findings suggest that governance in fragmented tourism destinations should not be viewed exclusively as the outcome of formal destination management organizations or public institutions. In contexts where formal coordinating structures are weak or absent, policymakers and destination managers should recognize the role of locally embedded brokerage actors in facilitating collaboration, information exchange, and collective action. Supporting these actors may strengthen destination coordination while preserving the locally rooted character of tourism development. However, overreliance on brokers embedded in established kinship networks may reinforce network closure and exclude firms not part of these relationships. Policymakers should therefore combine locally embedded brokers with inclusive, transparent mechanisms that encourage participation and collaboration across the wider destination network.

Several limitations should be acknowledged. First, the study focuses on a single tourism destination characterized by endogenous development, strong local embeddedness, and a predominance of family firms. The context-specific nature of the case limits the generalisability of the findings. Comparative studies involving destinations with different institutional, territorial, and governance characteristics are therefore needed to assess the transferability of the observed relationships. Second, the empirical analysis relies on two observation periods and on the association between network measures. Consequently, the findings should be interpreted as evidence of relational association rather than causality. Future studies could adopt more fine-grained longitudinal designs or explanatory network models to investigate the mechanisms linking kinship, brokerage, and destination governance more directly.

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Conflict of interest

The author declares no conflicts of interest in this paper.

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