A networking approach to analyzing religious tourism businesses
The case of Al-Atabat Al-Aliyat in Iraq
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Abstract
Purpose – Within a religious tourism destination, the study of business networks can be used to improve understanding of the interactions taking place within or among businesses, by exploring the informal and formal connections linking them together. Hence, the purpose of this study is to map and analyze strategic business networks operating in a religious destination.

Design/methodology/approach – This research explores the networks of stakeholders associated with a religious context in an intensive single case study on Al-Atabat Al-Aliyat in Iraq through qualitative analysis. Multiple methods of data collection were used to build strategic networks promoting religious tourism in the Middle-East region. Key analysis practices include content analysis and social network analysis (SNA). The identified interrelationships between stakeholders were analyzed by using UCINet, an SNA tool.

Findings – The study reveals three different types of cooperation networks in the case of Al-Atabat Al-Aliyat, namely, a 67-actor continuous network, a 69-actor non-Arbaeen network and an 89-actor Arbaeen network. The results also pinpoint the need for more collaborative activities on the different levels of cooperation in the networks.

Practical implications – This paper provides important guidelines on how to manage the interrelationships within tourism networks in a religious destination such as Iraq. The findings highlight the acute need for establishing strategic and effective networks of stakeholders in Al-Atabat Al-Aliyat. Non-tangible, long-term and quantitative benefits can be found for tourism businesses investing time and money in religious networks in Iraq.

Originality/value – The research contributes to religious tourism literature, filling the gaps about how the interrelationships among the actors involved in a business network can evolve over time and influence the success of a certain religious destination.

Keywords Network analysis, Business network, Strategic networks, Religious tourism

Paper type Case study

1. Introduction
Religious tourism contains the visit of religious ceremonies and conferences, above all the visit of local, regional, national and international religious destinations (Rinschede, 1992). Religious tourism focuses on the visiting of religious sites, monuments or destinations with

The authors are grateful to the associate editor and the anonymous reviewers for their invaluable guidance and insightful comments. This paper is based on the fourth chapter of PhD dissertation of the fourth author under the title of “Modelling Dynamics of Religious Tourism Networks: A Future-Oriented Approach” at the Faculty of Management, University of Tehran, Iran.
the primary aim of engaging with or intensifying a specific faith (Heidari et al., 2017). The demand for religious tourism requires, in addition to visiting holy places, walking along religious itineraries and experiencing ancient pilgrimage routes, even satisfying emotional and intellectual needs, in search of culture, authenticity and spirituality (Jafari and Scott, 2014). The complexity and importance of this growing type of travel have attracted the attention of academics, tourism industry and policymakers. In recent years, religious travel and tourism has developed into a much larger and more segmented market. Religious travel can be the primary reason for a trip but it can also be part of a trip and provide a destination with additional attractions (Jalilvand, 2018). Researchers asserted that the exponential growth of modern tourism is linked to the traditional religious experience of pilgrimage (Heidari et al., 2018). It is estimated that the world over 25 per cent of the traveling activities are faith-based tourism. According to the World Tourism Organization (WTO) (2017), some 27 per cent of all international tourists reported traveling for reasons such as religious reasons and pilgrimage purposes. It has been estimated that between 300 and 330 million visitors travel to the most prominent religious destinations every year, totaling approximately 600 million international and national religious journeys to Christian, Muslim, Hindu, Buddhist and Jewish pilgrimage places in the world (Heidari et al., 2018). For example, huge numbers of religious tourists (Muslim and non-Muslim) visit Al-Atabat Al-Aliyat, Iraq every year. In 2017, the country attracted 1,226,000 international tourist arrivals. By 2028, international tourist arrivals have been forecasted to total 2,679,000, generating expenditure of IQD 5,857.5bn. Further, travel and tourism’s share of total national investment will rise from 3.7 per cent in 2018 to 4.5 per cent in 2028 (World Travel and Tourism Council, 2018).

Religious tourism generates benefits for all its stakeholders. On the one hand, religious entities can achieve a greater amount of donations and charity. On the other hand, the tourists motivated by faith participants in the resident trade by purchasing some souvenirs or leaving some votive offering, which helps the reputation of certain local craft activities. A religious tourist is more faithful to the destinations than the traditional tourists with different motivations to faith, returning to the destination in a shorter period of time. In addition, the growing number of tourists increases the revenues and benefits obtained by the businesses dedicated to tourism and hospitality services in a certain religious site (Heidari et al., 2016).

Stakeholder networking theory (SNT) helps map both the stakeholders and the non-human entities that influence the success of businesses on a religious site. SNT asserts that what matters are not actors’ identities or the categories they fit, but rather their interrelations and the stakes they hold (Luoma-aho and Paloviita, 2010). SNT provides a wider understanding of religious tourism business networks (RTBN) and their formation, as it emphasizes the importance of constant negotiation and inscription and acknowledges non-human entities as important parts of the business environment. Then, RTBN is a value-creating, intentional or strategic network of firms and facilities set up to serve the specific needs and desires of religious tourists, which consists of actors engaged in activities and controls resources in relation to other actors (Lemmetyinen, 2010). A stakeholder power in RTBN can be understood by the density of stakeholders and the firm’s centrality within the relevant business networks (Rowley, 1997). Hence, the networked view of firms, suppliers, distributors and customers maybe even more useful for envisioning a firm’s core competencies than the traditional (dyadic) stakeholder approach (Lindfelt and Törnroos, 2006).

Despite the pervasiveness of religious tourism throughout the world, relatively little attention has been devoted to it by tourism scholars (Heidari et al., 2018; Jalilvand, 2018).
Recently, academics, governments and tourism firms have taken notice of the increasing numbers of religiously motivated travelers or at least the increase in visitation to sacred sites (Heidari et al., 2017; Heidari et al., 2016). To start a serious academic debate in the literature regarding business networks in religious tourism, this study maps and analyzes the existing RTBNs within Al-Atabat Al-Aliyat on the development of religious tourism in Iraq as a single case study.

Religious tourism is the most popular type of tourism in Iraq, with tens of millions of tourists from several countries visiting Holy cities and places in Iraq every year. Iraqi state media reported 22 million foreign religious tourists passed through Iraq for the 2015 pilgrimage, making it the greatest annual gathering of people in the country. Numbers have been rising year on year and 2019 was greater. Iraq receives some $3.7bn annually in tourism revenues, according to the World Travel and Tourism Council. With spending on the war on the Islamic state and crashing oil prices, Iraq’s economy is increasingly struggling and many ministries are strapped for cash. A pilgrim tax was proposed for all international religious tourists. Because of the free market system in Iraq, many of the private firms operating in Iraq are foreign-based. For example, the tour operators, the hotels and etc., are managed by Iranian business and non-business organizations, particularly in the mega-event of Arbaeen. The Arbaeen pilgrimage really highlights the brotherhood and giving nature of Iraqis. Throughout the March, people offer food, water and shelter completely free. About 90 per cent of tourism in Iraq is religious tourism for the Shia holy sites. Events such as Ashura and Arbaeen are important to Shia Muslims. More intelligent economic policies would help ground an infrastructure in which Iraq can benefit from the expanding religious tourism industry. As a result, the complex relationships between different stakeholders in Iraq seem worthy of investigation.

Taking into account such potentials of religious tourism in Iraq and the need for further research, this study investigates the relevance of inter-organizational relations for providing religious tourism services and analyzes the strategic type of networked relationships in Iraq. Hence, the research questions are as follows: what are the major networks providing tourism and pilgrimage services in Iraq? How do the networks differ from each other in terms of the special characteristics including structure and actors? What kind of strategic relationship can be seen among the network’s members? As a result, the aim of the authors was also to open up debate in what connections may exist in among various stakeholders engaged in religious tourism and pilgrimage of the country.

The question of how working in strategic RTBNs could be efficiently coordinated is one that would greatly enhance our understanding of network actors’ management in Iraq as an important religious destination for Muslims. To the best of our knowledge, this research is the first to map and analyze the structure of multiple stakeholder networks in a religious site. To show a good flow throughout this research, the structure of this paper is as follows. Section 2 describes the related literature. Section 3 explains the case study context, Al-Atabat Al-Aliyat. Section 4 illustrates the materials and methods. Section 5 provides the results of the analysis. Section 6 presents the topics of conclusions. Sections 7 and 8 describe implications and limitations, respectively.

2. Literature review
This section provides related literature that leads to the development of the current study and the architecture required to make it happen. It should be mentioned that as few studies exist on the tourism business networks in the context of religious destinations (Heidari et al., 2018, 2017, 2016), we will provide separate literature reviews of the research streams on tourism business networks and strategic relationships among religious tourism businesses.
2.1 Tourism business network

A business network can be considered as a set of interconnected relationships, in which each exchange relationship is between businesses that are conceptualized as collective actors (Aureli and Forlani, 2016). Relationships and interdependence between different actors in a destination have become important issues and are discussed and debated in business networks research (Heidari et al., 2018; Mei et al., 2017). For example, Mei et al. (2017) suggested that building relationships and sharing knowledge among participants as part of networking and collaboration are difficult. They concluded that the lack of willingness, involvement and trust are critical factors that affect the success of a well-intentioned network-based food tourism project. Albrecht (2013) also indicated that substantial progress has been made in the investigation of private sector networks.

In a systematic mapping study, Heidari et al. (2018) identified and reviewed 225 primary studies on tourism business networks. They found that:

- business networks and network configuration are the dominant research focuses;
- the number of publications has declined between 2012 and 2014; and
- interview and case studies are the most used research methods. In four case studies, Aureli and Forlani (2016) revealed that network brand management is a key activity in tourism business networks and the network brand relates to the place brand and the brands of individual network members.

Oskam and Boswijk (2016) contextualized the evolution of networked hospitality and sought to synthesize the sum of its impacts, thus enabling businesses and local governments to define positions and strategies.

Strobl and Kronenberg (2016) analyzed the dynamics of entrepreneurial networks along the enterprise life cycle of hospitality enterprises and concluded that the networks of hospitality entrepreneurs shift from local ties to industry-specific actor groups to local and non-local ties to actor groups inside and outside the industry. Meriläinen and Lemmetyinen (2011) focused on managing networks within destinations or destination network management. They suggested that managing is a value-creating activity embedded within a network and that there are two approaches to network management as follows: strategic management and the coordination of cooperation among the actors involved.

In a study of 354 hospitality firms acting in the Molise Region (Italy), Presenza and Cipollina (2010) analyzed the variety of relations existing in tourism networks. They confirmed the importance of intensifying relationships between tourism companies themselves and between them and policymakers. They also argued that public stakeholders are more important for both management and marketing activities than the private sector. Using a network analysis methodology, Timur and Getz (2008) demonstrated that destination management organizations (DMO), hotels and attractions stakeholders have the most crucial roles in achieving inter-stakeholder collaboration for sustainable destination development. Camprubi et al. (2008) suggested that the lack of collaborative links among internal and external actors in tourism networks would affect the coherence of the supplied tourist products and the satisfaction with the tourist experience.

The literature on tourism business networks is relatively rich so that theories such as network theory and stakeholder theory have been used by the researchers (Andersson, 2016; Hazra et al., 2014; Baggio, 2014; Kimbu and Ngoasong, 2013; Sallent et al., 2011; Presenza and Cipollina, 2010; Baggio and Cooper, 2010) to address the relationships between businesses operating in the tourism industry. Stakeholder theory describes the relationship between a business and its external environment and the behavior of the business in that
environment. According to stakeholder theory, different stakeholders interact with the firm and this interaction is reciprocal (Mainardes et al., 2011). In the tourism industry, each business (such as tour operators, travel agencies, hotels and so on) interacts with numerous businesses that affect it or the business affects them. Stakeholders in the tourism industry strive to influence the decision-making processes of other organizations involved in the industry to match their needs and priorities. Formal and informal relationships between stakeholders can be analyzed in the form of a network or diagram. Network analysis indicates that stakeholders with multiple relationships are considered important actors by other stakeholders (Ackermann and Eden, 2011).

Complex systems such as the tourism system can be described as networks of interacting elements. These interactions result in behaviors that are not visible at the level of individual elements and exhibit the characteristics of a complex system. Tourism business networks can be considered as a type of exchange networks consisting of businesses that trade with each other as a unit of business analysis. These networks are reinforced by their relationships and social networks. Therefore, the analysis of social networks has strong theoretical foundations. There is an extensive literature on collaboration in tourism networks in various areas such as the complexity of tourism networks (Rodolfo, 2014; Guo et al., 2015), marketing alliances (Fernandes et al., 2016; Viren et al., 2015; Zach and Racherla, 2011; Lemmetyinen and Go, 2009), tourism policy and sustainability (Farkaki, 2015; Kimbu and Ngoasong, 2013; Timur and Getz, 2008; Capriello and Rotherham, 2008; Gupta, 1999), tourism distribution channels (Tran et al., 2016), rural tourism development (Mendonça et al., 2015; Tolstad, 2014; Lee et al., 2013; Petrou et al., 2007), sport tourism network (Wasche, 2015; Wasche and Wol, 2013; Sallent et al., 2011; Wasche and Wol, 2010) and learning and knowledge sharing in tourism networks (DelChiappa and Baggio, 2015; van der Zee and Vanneste, 2015; Albrecht, 2012; Ye et al., 2012; Baggio and Cooper, 2010). Despite this wide range of studies on tourism networks, few studies have provided a systematic framework to analyze religious networks.

2.2 Strategic relationships among religious tourism businesses
Religious or faith-based tourism is one of the oldest forms of tourism. Faith-based travel may occur for life cycle events, for missionary work, for reasons of humanitarian interest and/or as part of religious conventions and conclaves (Jalilvand and Samiei, 2012a). Although we do not like to think of religion as being connected to the business, the reality is that religion is a major business with a great deal impact on the tourism industry. World religious travel has become one of the fastest growing segments in the travel market. Religious tourism destinations are turning into booming businesses. As a result, religious tourism sites have enjoyed bringing in considerable revenue with this great business (Jalilvand and Samiei, 2012b). In this huge religious tourism market, businesses could not be seen as independent entities acting on their own interests in the market and to develop their activities, they need to interact with other enterprises (Heidari et al., 2016). In this regard, Heidari et al. (2017) analyzed the existing literature on the interrelationships of tourism businesses in the context of religious tourism. They identified three different categories of business relationships in the religious destinations, labeled as competition, cooperation and coopetition.

The competition was defined as a process of rivalry between interacting actors for scarce resources and produce similar products or services that satisfy the same religious tourist needs (Heidari et al., 2017). For example, in a comparative study on tourism supply chains with quantity competition, Huang et al. (2012) found that member enterprises in one sector can benefit from intensified competition in a complementary sector in the same
layer and that the upstream enterprises in the tourism supply chain prefer package holiday product differentiation strategies. Cooperation refers to a relationship among individuals, groups and agents interact through the sharing of complementary resources or leveraging these for the purpose of mutual benefit (Heidari et al., 2016). In their study of the cooperation contract between tourism hotels and third party websites, Guo et al. (2013) revealed that the hotels should do some sales effort to attract tourists when their occupancy rates are low; and the website will gain significant income through the cooperation with hotels with high room capacity and low occupancy rate.

Finally, coopetition refers to the simultaneous presence of both cooperation and competition (Heidari et al., 2017). Mariani (2016), for example, identified eight key drivers of formalization of coordination mechanisms in inter-network coopetition including leadership; focus on strategic thinking; brokerage and pivotal attitude; power asymmetry; maturity and distance of the marketing approach; past experience working together; maturity of network management approach; as well as cultural, functional and organizational similarities. Kylanen and Mariani (2012) also asserted that cooperation and coopetition among tourism businesses often shift from a prevalently short-term basis to a long term one when public and private stakeholders understand the benefits accruing to cooperation in terms of enhancement of the brand image of the destination and attraction of a higher number of visitors, by leveraging the destination’s multi-faceted assets.

3. Religious tourism in Iraq
Al-Atabat Al-Aliyat is an important religious destination in the Middle East region (Figure 1). It refers to the holy shrines of Shia Imams in Iraq including Najaf, Karbala,
Kadhimiya and Samarra. In total, 6 of 11 Imams of the Twelver sect were buried in the four cities and that naturally made them vibrant religious centers (Jalilvand, 2018). Najaf is one of the holiest Shi’a cities and the center of Shiite political power in Iraq. The shrine of Imam Ali (a) has been located in this city and the Islamic seminary of Najaf is one of the most important Shia seminaries. Kufa, which is the site of several Shia shrines and mosques, has been located 10 km away from the city and is now integrated into the city. Karbala is the place of occurring the battle of Ashura and all the martyrs of the battle are buried there. The most important shrines and graves of the city are the holy shrines of Imam al-Husayn (a), which is also known as al-Hair al-Husayni, and the shrine of Abu l-Fadl al-Abbas (a). The grave of Ali Akbar (a) and other Martyrs of Karbala have been located in the shrine of Imam al-Husayn. Kadhimiya city is the place where Imam al-Kazem (a), the seventh Imam of Shia and Imam al-Jawad (a), the ninth Imam of Shia are buried. Finally, two other Imams of Shia are buried in Samarra: the tenth Imam of Shia, Imam al-Hadi (a) and the 11th Imam of Shia, Imam al-Askari (a).

Shias are around 20 per cent of the Muslim population in the world. Most Shias (estimated between 68 and 80 per cent) live in four countries, namely, Iran, Pakistan, India and Iraq. The number of Shia Muslims is projected to be between 219 and 285 million in 2030 (Pew Research Center, 2009). Millions of Shīites want to visit Iraq on pilgrimage. Hence, religious tourism can be a priority for the country. It will also improve security in the country while containing the perpetrators of violence. Religious tourism not only caters to Shīites and Sunnis but also Iraq has a variety of holy Islamic, Christian and Judaic sites. Iran has 80 million Shias, and it has been estimated that more than a third of the world’s Shia Muslims live in Iran. In recent years, pilgrim traffic from Iran and the Persian Gulf has grown immensely with safer shipping to Iraq. More than 1.2 million Iranian pilgrims travel to Iraq over the land and air borders every year. Consequently, the management of Al-Atabat Al-Aliyat was delegated to Hajj and Pilgrimage organization as a subset of Iran’s Ministry of Culture and Islamic Guidance. In fact, Atabat’s management has become one of the major priorities of Iran’s government to serve Iranian religious tourists and pilgrims. Therefore, Hajj and Pilgrimage organizations play the role of DMO in Iraq. All these parameters make Al-Atabat Al-Aliyat an interesting case to better understand the role of strategic networking for religious tourism businesses.

4. Materials and methods

4.1 Research design

A case study method was used for the purpose of exploratory research. If research question focus mainly on “what” question such as “what kind of business networks can be mapped in the Al-Atabat Al-Aliyat as a religious destination?,” an exploratory case study can be used as the research method. Further, single-case studies are a common design for doing case study research (Yin, 2014). Further, a single embedded case study was considered as the research strategy because we identified three different networks in the case entitled “continuous network,” “non-Arbaeen network” and “Arbaeen network.” This occurs when, within a single case, attention is also given to subunits (Yin, 2014). In fact, even though a case study is about a single religious destination, namely, Al-Atabat Al-Aliyat, the analysis includes structures of various networks operating in the destination. Overall, the following two main method steps have been followed (Figure 2):

Step 1. Network mapping: using case study methodology, the step tries to identify the major actors operating in the networks of destination. The first step is case selection. As mentioned before, Al-Atabat Al-Aliyat was chosen as the studied case. Four criteria were set to select the most suitable case for this study:
(1) the case should be a known religious destination;
(2) the case should be considered as an important and interesting destination for visitors in the Middle-East region;
(3) the case must include tourism business networks; and
(4) the case must attract a large number of religious tourists annually.

The boundaries of a network are not always easily defined, particularly when membership is not official or geographically confined (Newig et al., 2010). We established the network’s limit to organizations working actively in the case area, namely, four cities of Najaf, Karbala, Kadhimiya and Samarra. Data was collected from multiple sources, including secondary data and primary data (Yin, 2014). Secondary data was achieved from the documents and websites of five core organizations including Hajj and Pilgrimage organization as DMO (www.haj.ir), Shamsa (http://shamsa.ir), Beseh (http://hajj.ir), Labbayk (www.labbayk.ir) and Hajj Medical Center (http://hmciran.net). Primary data was collected through semi-structured interviews. A list of top-level managers in the five mentioned organizations was chosen based on their experience and managerial background associated with pilgrimage in Al-Atabat Al-Aliyat. The aim of the semi-structured interview with the top-level managers was to recognize and identify the network actors providing a wide range of services to pilgrims and religious tourists. The interview was conducted in October and November 2017. Further, the identity of the managers interviewed has been protected and they will simply be referred to as “interviewee.” The results of both secondary data (organizational documents) and primary data (interview) were then coded using a content analysis where the actors are coded as the network members.

Step 2. networks analysis of the case: along with identifying actors that were part of the case networks, the results of interviews and documents in the early stage were applied to design a social network analysis (SNA) questionnaire. The pen and paper questionnaire was composed of two major sections. The first section aimed at collecting general demographic characteristics about the respondents involved in the networks, with questions on their age, gender and education. The second section was designed to gather data on the quality of relationships among network members. In fact, to generate the interaction network, respondents were asked to answer the question: “please see the following list of actors operating in the Al-Atabat Al-Aliyat. Choose the names of organizations that you typically interact with during serving the pilgrims and religious tourists.” Participants were encouraged to select other members as they could recall interacting within the list form and insert them in the blank spaces provided on the paper sheet. Further, they were asked to include other actors missed from the list form. To analyze the structure of networks, the
relationships between these actors were identified by the participants in terms of the strength and direction of the ties. The strength of ties between collaborating actors was measured through the intensity of the interaction (frequency of formal and informal contacts/meetings in a year). The questionnaire was administered between December 2017 and January 2018. Data was imported as an adjacency matrix in Excel format, and further, it imported into the SNA software UCINET 6.528, to visualize the identified case networks and to estimate social network indexes. The aim of the SNA was to develop an ego-network of the actors involved in the religious tourism industry in Iraq (Figure 3).

4.2 Participants
A total of 12 in-depth interviews were conducted with top-level managers of 5 core organizations to elicit key actors in the networks and types of strategic relationships among them that could then be applied in a quantitative study of network structures. The content of these interviews was analyzed manually. The interviews last from 40 to 80 min. As mentioned, the questionnaire was then applied to identify the final list of actors and their

Figure 3. Methodological framework of the case study analysis
interrelationships. Respondents were recognized using a snowballing approach. An initial set of participants in 10 key organizations involved in the networks were identified. They were asked to name all key informants who they have experience with the case context. The exercise was repeated with participants identified in this initial round, and so on until we reached saturation. In sum, 35 individuals participated in the network survey lasting between 1.5 to 2h. Respondents ranged from 30 to 60 years of age (Mean age = 43, 100 per cent male). Further, respondents reported an average of nine years of involvement in Al-Atabat Al-Aliyat, ranging from 3 to 30 years. Additionally, all participants stated that they have a college/university degree.

4.3 Social network analysis
Network analysis can manifest the relationships and structure of networks between actors. Network analysis, as a powerful strategy for searching social structures on the basis of “relationships,” is applied in numerous areas such as investigation of inter-firm shareholding network and community structure, management, sociology and economics (Carrington, 2011). SNA was then applied as the methodological tool to map the relationships and quantify participation between interdependent actors in the destination. The social network indexes relevant for this analysis are as following:

4.3.1 Network density. The index is the degree of interconnectedness in certain networks that can be estimated as the number of connections compared to the total possible number of connections. The higher density value, the stronger coordination between actors. The formula for density is:

\[
\text{Density} = \frac{L}{\frac{N(N-1)}{2}}
\]

Here L refers to the number of arrows in the network. Values ranged from 0 to 1, in which 0 shows no connections and 1 indicates the connectedness of all actors (Bodin et al., 2006).

4.3.2 Transitivity index. Transitivity of a relationship means that when there is a tie from i to j, and also from j to h, then there is also a tie from i to h. Transitivity depends on triads, subgraphs formed by three nodes (Jalilvand, 2018). The transitivity index defined as the ratio:

\[
\text{Transitivity Index} = \frac{\text{Transitive triads}}{\text{Potentially transitive triads}}
\]

Here \#A means the number of elements in the set A. The index also is sometimes called a clustering index. It is between 0 and 1; this is 1 for a transitive graph. For random graphs, the expected value of the transitivity index is close to the graph density. For actual social networks, values between 0.3 and 0.6 are quite usual.

4.3.3 Reciprocity index. Reciprocity arises when pairs of actors have a bidirectional response link (i.e. they respond to each other). Wang et al. (2013) defined dyadic reciprocity index as the degree of communicative imbalance in a two-way relationship between two actors but which incorporates information on the larger system of relationships in which the dyad is embedded. As a simple definition of reciprocity, \( r \), is quantified as the ratio of the number of bidirectional links, \( L_{\rightarrow\leftarrow} \), to the total number of links, \( L \) (one bidirectional link is counted as two separate directed links):
For the extreme cases, \( r = 0 \) shows an absolute directed network where all links are unidirectional, and \( r = \) indicates a complete undirected network where all links are reciprocal.

### 4.3.4 Average geodesic distance

The average geodesic distance in a certain network is considered as the average length of all shortest paths (geodesics) between all pairs of connected vertices in the corresponding graph. In fact, the distance between all actors gets at the idea of how close actors are together. The distance between in large networks are often much shorter than in random graphs of the same size. In an undirected or strongly connected directed network, the formula used to compute average graph distance is:

\[
-d = \frac{\sum_{u \neq v} \{d(u,v), \; \forall u,v \in V\}}{n(n-1)}
\]

Here the denominator is the sum of all pairs of vertices \((u \text{ and } v \text{ indicates nodes}).\) In connected networks of \( n \) actors, the least upper bound of the average distance is \( n + 1/3.\)

### 4.3.5 Diameter

The index is the maximum eccentricity of any vertex in the corresponding graph \( G(V, E) \), that is the maximum distance between any two connected nodes.

\[
D = \max\{d(u, v), \; \forall u, v \in V\}
\]

### 4.3.6 Clustering coefficient

A clustering coefficient depicts the degree to which the actors of network tend to cluster together. The overall network clustering coefficient is simply the average of the densities of the neighborhoods of all of the actors. The global clustering coefficient (called transitivity) is based on triplets of actors to give an indication of the overall clustering in the whole network. In a directed network, the clustering coefficient can be calculated with the formula (Watts and Strogatz, 1998):

\[
C_i = \frac{\text{number of triangles connected to vertex } i}{\text{number of triples centered to vertex } i}
\]

A triplet includes three connected nodes. A triangle, therefore, consists of three closed triplets, one centered on each of the nodes. For vertices with degree 0 or 1, for which both numerator and denominator are zero, we put \( C_i = 0.\) Then, the clustering coefficient for the whole network is the average:

\[
C = \frac{1}{n} \sum_{i} C_i
\]

\( C \) lies in the range \( 0 \leq C \leq 1.\) Further, in assessing the degree of clustering, it is usually wise to compare the cluster coefficient to the overall density.

### 4.3.7 Component

A component that a vertex belongs to is the set of vertices that could be reached from it by paths running along edges of the graph (Newman, 2010). Strong components indicate maximal strongly connected sub-networks.
4.3.8 Betweenness centrality. The betweenness centrality of a vertex \( i \) is the number of geodesic paths between other vertices that run through \( i \) (Newman, 2010). Betweenness follows a power law for many networks and can be viewed as a measure of network resilience. It expresses the degree to which a few actors control the relationships of other actors in the network. The betweenness centrality of node \( i \) is calculated by the formula:

\[
C_b(i) = \sum_{s \neq i \neq t} \frac{\sigma_{st}(i)}{\sigma_{st}}
\]

Where \( \sigma_{st} \) indicates the total number of shortest paths and \( \sigma_{st}(i) \) denotes the number of shortest paths passing through \( i \). The higher betweenness centralization score, the greater centralization. It shows a relatively few numbers of gatekeepers dominate a certain network.

4.3.9 Degree centrality. The index focuses on the number of edges connected to a vertex. A directed graph has both an out-degree and an in-degree for each vertex, which are the numbers of out-going and in-coming edges, respectively (Newman, 2010). Mathematically, in directed graphs, the degree centrality is the total number of arcs (out-edges) starting from \( u \) (out-degree).

4.3.10 Eigenvector centrality. The index is a measure of a vertex influence in the network. Relative scores are assigned to all vertexes in the network based on the concept that connections to high-scoring vertexes contribute more to the score of the vertex in question than equal connections to low-scoring vertexes. A high eigenvector score means that a vertex is connected to many vertexes who themselves have high scores. Each vertex \( i \) is assigned a weight \( x_i > 0 \), which is defined to be proportional to the sum of the weights of all vertices that point to \( i \):

\[
x_i = \lambda^{-1} \sum_j A_{ij}x_j
\]

For some \( \lambda > 0 \) or in matrix form: \( Ax = \lambda x \) where \( A \) is the (asymmetric) adjacency matrix of the graph, whose elements are \( A_{ij} \) and \( x \) is the vector whose elements are the \( x_i \). It means that the weights we want are an eigenvector of the adjacency matrix with eigenvalue \( \lambda \) and, the network is connected (there are no separate components).

5. Results
5.1 Network mapping

The data of interviews were manually coded to identify the actors of recognized networks and to extract the type of strategic relationships among the network members. They were encouraged to answer two main questions as follows: “what are the participating actors in the networks?” and “what kind of relationships (cooperation, competition and coopetition) do you have with other actors of religious network?” The content of the interviewees’ conversations under each of the questions was then extracted and qualitatively analyzed to explore the related codes. In response to the first question, three sets of actors were recognized, applying a content analysis method. In fact, the interviewees were asked to recall all other actors with whom they had any type of relationship (over the past three years) and add them to the list. Through this methodology, we obtained:

- a network of 67 actors named as “continuous network;”
- a network of 69 actors named as “non-Arbaeen network;” and
- a network of 89 actors named as “Arbaeen network.”
For the second question, the interviewees indicated whether their corresponding organizations have a pre-defined type of relationship with other actors.

All interviewees discussed a “cooperative relationship” with other network members. Cooperation takes place when two or more actors (businesses) have purposes that are mutually dependent. Interestingly, the interviewees indicated various forms and ways of cooperation for every actor, namely, vertical and horizontal, formal and informal, centralized and decentralized, etc. They believed that it is needed to assess the benefits and contributions when to cooperate. The motivations for establishing new business relations in the form of cooperative networks were both internal and external. External motivations were made by the business environment, pilgrims and religious tourists' increasing demand and intensifying competition among the tourism businesses in the destination. The internal motivation for cooperation in the networks is mostly dependent on ideological issues. The majority of organizations involved in the networks are governmental ones. The main purpose of these organizations is to provide high-quality services for the pilgrims and religious tourists according to the DMO policies that originated from faith-based ideas. Therefore, the need for cooperating relationships among the actors in Al-Atabat Al-Aliyat is especially prevalent among all organizations as an important priority.

5.2 Networks visualization
The network links among recognized actors were divided into two categories as follows: weak ties and strong ties. Weak ties show the low interactions between the actors. Strong ties show the high levels of interactions between the actors. The weak ties have been illustrated with thin links and strong ties have been indicated by thick links. Therefore, the number of interactions was taken as the value of the link between actors to visualize the relationship between these actors. The thicker the link, the greater the cohesion between the network actors. The visualization of tie strength indicates the intensity of the relationship. The visualization of networks was conducted by “Net Draw” software.

5.2.1 Network 1: continuous network. There were 67 nodes/actors with 177 linkages among them. The overall density of the “continuous network” is 0.040, which indicates weak correlations. The clustering coefficient of the network was 0.1455. The average geodesic distance is 2.250. It means that the distance between any two actors is relatively short; each actor can easily get another actor. The transitivity of the network was also 0.1016 in which shows the low frequency of triangles. A reciprocity rate of 0.2920 was achieved for the network, indicating all the actors in the directed network are not mutually linked. The components of the network were estimated at 41, indicating how well connected a network is. There was a single giant component, which contains 26 vertices, which indicates that the members of the network as a whole have relatively good interactions with each other. The diameter or the longest path length between actors was 4. Network centralization indexes indicate how centralized the network degree is.

There are four common indexes for centralization: degree (in-degree and out-degree) centrality, betweenness centrality and eigenvector centrality. Calculated out-degree centralization (38.174) and in-degree centralization (87.439) show high scores. A higher score shows that the network is influenced by only a few actors and a lower score depicts that the actors within the network have a similar number of ties. These high indexes prove the high concentration of the network. These high indexes also reflect an enormous variability of actor centrality, which means, there is a great difference between the smallest and largest actor level indexes in a centrality degree. Eigenvector centrality value of 69.17 shows that rapid communications are viable between the linked actors. Betweenness centralization index is used to examine the actors' ability to control resources in the network. Network
betweenness centralization is 26.03, which reflects the low ability of actors to control the resources flows in the network. All the indexes have been provided in Table I (Figure 4).

5.2.2 Network 2: non-Arbaeen network. A total of 69 actors participated in this network with 227 connections among them. The network density is 0.048, which depicts weak interrelationships among participators. The clustering coefficient was calculated as 0.2047. The average distance was 2.128, meaning the relatively short distance between any two actors. The transitivity index of the non-Arbaeen network was estimated at 0.1023, showing a low frequency of triangles. The reciprocity index of the network is 0.2825, suggesting all the actors are not mutually linked. When a network is fixed over time, organizations do not necessarily indicate enhanced mutual cooperation. The components were 43, along with a giant component containing 27 actors, indicating relatively good interactions between actors. The diameter or the longest path length between network members is 4. Out-degree centralization (38.174) and in-degree centralization (87.439) were at a high level, indicating only a few actors influence the network. Eigenvector centrality was also 58.36, showing relatively rapid communications between the organizations. Betweenness centrality of 20.89 reflects the low ability of actors to control over various resources (Table II). In sum, both networks, namely, “non-Arbaeen network” and “continuous network” were similar in the majority of indices (Figure 5).

5.2.3 Network 3: Arbaeen network. We analyzed 89 actors in a weakly connected network with 249 ties, and the distribution of centricity of each actor is illustrated in Figure 6. Network density is the most basic measure in network analysis. SNA gives a density of 0.032, which indicated very weak correlations. It should be noted that a completely linked network has a density of 1. The transitivity coefficient of the cooperation network is 0.1013. This means that, on average, the chance that two organizations that share a resource together is almost one-tenth. The reciprocity of the directed network obtained 0.3105. This value is more than the values of two before-mentioned networks. Reciprocity is attributed to assortative connectivity between cooperative actors. In practice, strong reciprocal relationships are rarely achieved. The average geodesic distance was computed for the cooperation network. It was estimated at 2.041, indicating a short distance between any two organizations. A short distance has the obvious advantage of having a few intermediate organizations to bother. The diameter of the “Arbaeen network,” as the longest of all the geodesics in the network, is 5.

<table>
<thead>
<tr>
<th>Network-level measure (overall graph)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of nodes</td>
<td>67</td>
</tr>
<tr>
<td>Number of ties/links/relationships</td>
<td>177</td>
</tr>
<tr>
<td>Density</td>
<td>0.040</td>
</tr>
<tr>
<td>Transitivity</td>
<td>0.1016</td>
</tr>
<tr>
<td>Reciprocity</td>
<td>0.2920</td>
</tr>
<tr>
<td>Average geodesic distance</td>
<td>2.250</td>
</tr>
<tr>
<td>Diameter</td>
<td>4</td>
</tr>
<tr>
<td>Components</td>
<td>41</td>
</tr>
<tr>
<td>Clustering coefficient</td>
<td>0.1455</td>
</tr>
<tr>
<td>Network centralization, eigenvector (%)</td>
<td>69.17</td>
</tr>
<tr>
<td>Network centralization, out-degree (%)</td>
<td>38.174</td>
</tr>
<tr>
<td>Network centralization, in-degree (%)</td>
<td>87.439</td>
</tr>
<tr>
<td>Network centralization, betweenness (%)</td>
<td>26.03</td>
</tr>
</tbody>
</table>

Table I. The characteristics of “continuous network”
The components of the network are 51 with a giant component of 39 organizations. The clustering coefficient of the Arbaeen network was 0.0082. It means that actors in the network would not tend to cluster together. The network centralization eigenvector value of 99.04 indicates that the rapid flow of resources is possible between the well-connected members. A high eigenvector score means that an actor is linked to many actors who themselves have high scores. We also calculated two separate measures of degree centrality, namely, out-degree and in-degree. The values were 4.928 and 10.055, respectively (Table III). The calculated values were significantly lower than the two previous networks; that is, there are more powerful actors in the network. Within the networks, actors vary in their influence.
and power. Some actors might have various and specific roles and objectives in the networks. Finally, betweenness centrality was 21.53. It means that the actors scarcely prefer to make linkages by selecting one of the shortest paths.

6. Conclusions
An embedded single case study method was used to map and analyze the strategic networks in a religious destination, namely, Al-Atabat Alaliyat. The case study was based on the interrelationships between tourism businesses in Iraq. Although there was found a few works using network analysis in tourism research, this study has revealed that there is a lack of empirical literature on the application of network analysis in RTBN. Moreover, there is still a lack of literature in the research of pilgrimage and religious tourism within Islamic destinations, particularly in the Middle-East region. Hence, this paper has attempted to fill the gaps in applying network analysis in RTBN.

Further, it contributes to the study of type of relationships among tourism businesses in the religious destinations, particularly Muslim hosts. It can also help to better understand how to shape a tourism network in a religious destination and that might inform actions that could be taken to strengthen the network. It further helps to achieve information about the type, strength and quality of relationships in RTBN. In Step 1, actors/agents involved in the formal networks in Al-Atabat Alaliyat were identified. Step 2 (undertaken with Step 1) involved collecting information that would enable us to design a questionnaire to capture data indicative of relationship strength and quality in the religious networks Al-Atabat

Figure 5. Non-Arbaeen network of Al-Atabat Al-Aliyat based on the tie strength
Alaliyat managed by Hajj Organization as DMO. The next step was to analyze the survey data using SNA, and the fourth was to relate findings to policies in Al-Atabat AlAliyat.

This research investigated the link type between actors/organizations. It was found that cooperative relationships are structured among the network’s members. In fact, a high level of cooperation between organizations was originated for the duration of serving the pilgrims and religious tourists in Al-Atabat Al-Aliyat. In addition, this study revealed three different networks with unique relations between the entities operating in the Al-Atabat Al-Aliyat, namely, a network of 67 actors named as “continuous network”; a network of 69 actors named as “non-Arbaeen network” and a network of 89 actors named as “Arbaeen network.”
In general, the three networks showed little connection between participating actors. Additionally, “Hajj,” “Beseh,” “Shamsa” and “Labbayk” had a high level of centrality measures. Centrality measures recognize the most prominent organizations/actors, those who are extensively participated in the relationships with other members of the network. The measures show one type of “importance” of actors in the network. In fact, these are the key players. The four actors share a close relationship with other actors in the networks. As one can see from Figures 4-6, the degree centrality, betweenness and eigenvector of these actors are similar. In terms of betweenness centrality, the four organizations act as gatekeepers controlling the flow of resources between the actors that they link. They are by far the most powerful actors depicted in the figures. In terms of degree centrality, “Hajj,” “Beseh,” “Shamsa” and “Labbayk” had the highest scores among other actors, indicating lots of ties coming in and lots of ties coming out of the actors. The networks revealed weak connections, low cohesion degree in the network population. The RTBN had low density and high in-degree and out-degree centralization.

7. Implications

7.1 Theoretical

This research has several implications for theory on RTBN. First, the analysis of RTBN in this research was conducted by SNA. The number of publications in the past few years is growing, which means that SNA is entering tourism research late in the day. This points to a great potential of the methodology and the significant path has yet to follow, particularly in religious and pilgrimage studies. SNA is present across a broad spectrum, suggesting that the seeds of future SNA in religious tourism research are extensively scattered throughout various disciplines in application to various problems of religious destinations. However, the ties between religious destinations (related by routes) and the ties between stakeholders at a particular religious destination are prominent. Second, this study provided a joint analysis of businesses and religious destinations. These two units of analysis of religious tourism studies are interrelated. In fact, the analysis of stakeholders that highlight vertical, horizontal and crossed ties between agents/actors, patterns of ties between religious destinations and tourism resources, the generation of social capital in RTBN clusters and the co-evolution of businesses and religious destinations can progress through the use of SNA. Third, the basic field of application of SNA in religious tourism covers all of the cooperative processes that appear at various levels (between people, between firms, between business and non-business organizations, between destinations, etc.). Although previously mentioned studies have investigated this issue, there is still an enormous field of work to be conducted on the intense ties between business cooperation and strategies, the adaptation of tourism markets, economic development, etc.

Given the dynamic and complex attributes of the tourism industry and its intense, constant and unpredictable changes, it is necessary for tourism businesses and institutions in religious destinations to develop adaptive capabilities to be encountered with that context and to adapt quickly to it. Understanding the dynamics of the ties in RTBN would mean that the agents/actors should achieve those adaptive/dynamic capabilities. SNA allows dynamic analyzes of the ties and facilitate satisfactory positioning in the RTBN. The concept of the lifecycle, that is a valuable instrument of dynamic development of products and branches on the market, can be used to address the dynamics and most important stages of religious tourism networks (Zehrer and Raich, 2010). According to Zehrer and Raich (2010), the characteristics of networks actively influence the design, management and development of
networks during their lifecycle. It is true for RTBN and can be explored in the context of religious sites (Figure 7).

7.2 Managerial
This study underlined policy implications arising from the analysis of how various businesses in a religious destination are working together in a collective effort, namely, RTBN. The potential contribution of insights offered by SNA for the strategic development of religious tourism networks was explored, and the results achieved from the SNA to the way policies are implemented in Al-Atabat Al-Aliyat in Iraq. Accordingly, network development in a religious site can be viewed as a good in and of itself. From this perspective, the present exercise may be seen less as an evaluation of network effectiveness than as a step toward strategic network development in religious destinations. In terms of policy implications, it is suggested that investments should be directed toward projects where there is already a strong and well-connected network in religious destinations. Our study’s findings indicated that there are cooperative relationships among the three network members. However, as the density index of the networks was not high, there is a need for a more cooperative relationship to provide more value for religious tourists in Atabat Al-Aliyat.

Cooperation is important in the business networks, while competition and rivalry may be witnessed in clusters. RTBN can only be formed by non-business organizations such as DMOs in the religious destinations, while clusters can be formed by other institutions such as universities or research institutions and professional organizations such as business-organizations in the tourism value chain. It should be noted that cooperation in a RTBN is based on the trust among network actors. In fact, trust and cooperation are basic factors of improved performance and competitiveness of the networks, particularly Arbaeen network because of the spiritual interests of the actors in the macro event of Arbaeen.

Source: Zehrer and Raich (2010)
Further, the economy of non-Arbaeen network that characterizes economically developed Atabat Al-Aliyat is built on trust, and it can be demonstrated that the networks and clusters developed in the Atabat Al-Aliyat are only based on trust between Iranian and Iraqi actors. In addition, the cooperation of these actors in multiple regions of Iraq and Iran can establish cooperation at a macro-regional level. Cluster is an effective instrument in regional networking. The religious tourism clusters are geographically cooperative contracts between business and non-business organizations, which includes all the firms and institutions that are capable of increasing the added value created in the value chain of religious tourism. A religious tourism cluster can be considered as voluntary cooperation of firms and organizations belonging to a certain product or service category, generated to obtain common goals and the networks are based on civil law contracts. According to its operational area, a cluster organizes products or services for its members mainly in quality development, which is critical to competitiveness.

8. Limitations and directions for future research

This study has encountered several limitations that hint at opportunities for future research. First, we used a sample of top managers of five core organizations for the interviews and 35 individuals for the surveys in the selected network in Iraq. It might limit the generalizability of the findings. A related suggestion for future research is to map and analyze the value chain that participated in a religious tourism network in other religious sites such as Mecca in Hajj or Miracle of Fatima in Portugal.

A second limitation concerns the fact that we studied static business networks with directional, weighted ties. In other words, we observed networks at one point in time, and relationships between businesses were measured dichotomously. Hence, we would require a longitudinal design to assess the dynamics of religious business networks. It can provide new insights on the intentionality of business networks dynamics, e.g. whether business networks dynamics are deliberately driven by actors, mode of network dynamics, e.g. how to evaluate the interplay of forces of change and stability and level of business network dynamics; e.g. whether dynamics are caused by network actors or environmental forces or how environmental forces can change the structure of networks. Finally, the data collection procedures to develop and analyze the case networks were egocentric, i.e. to a large extent emphasizes the cofounders’ view of business network development. As a result, business network dynamics might be better identified if historical research methods were used. For example, if the business networks are studied during the change in the macro-environment (e.g. a political crisis in Iraq), we can identify how cofounders affect business network dynamics.

References


Pew Research Center (2009), Mapping the global Muslim population: a report on the size and distribution of the world’s Muslim population, October 2009, Pew Research Center.


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