FACTORS OF GLOBAL CONNECTIVITY IN ANTALYA'S TOURISM

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Abstract: It is clear that some tourism clusters are more successful than others. While the endogenous characteristics of successful clusters have in the past been well documented, recent literature has rather focused upon the importance of the global integration of clusters and the increased global connectivity of the companies within them. Using global connectivity indicators, this paper explores the importance of global links to companies in 10 tourism clusters in the Antalya metropolitan region; and defines the particular factors that are most influential by drawing upon econometric data garnered from interview results. The findings of the case study firstly revealed that the clusters containing more globally connected companies experienced faster growth in terms of employment than those that are less globally connected; while the econometric models have shown that the level of global connectivity of a company is related to its size, its vertical relations with different types of firms, and its horizontal relations with similar firms within the same cluster. While these findings on the whole verify past debates in literature, the empirical study offers contradicting evidence that being in a large cluster may not affect a firm's global connectivity, and is not necessarily related to its creative capacity. **Keywords:** global connectivity indicators, tourism clusters, complementary networks, horizontal networks, associational networks, company size. © 2011 Elsevier Ltd. All rights reserved.

INTRODUCTION

Local development literature has undergone a substantial change in focus since the 80s, with emphasis now being on the crucial role of clusters in providing for a geographic concentration of interconnected companies and specialized organisations in particular fields that both compete and collaborate (Porter, 1998). Clusters are assumed to provide the basic elements that support the performance of a firm—creating an environment in which information flows, institutions, infrastructures

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and competences are localized; however previous literature has focused largely on manufacturing and technology-based industries, while the tourism sector has been largely ignored. Only a handful of recent studies (e.g. Canina, Enz, & Harrison, 2005; Hall, 2005; Michael, 2003; Nordin, 2003; Novelli, Schmitz, & Spencer, 2006; Saxena, 2005; Tinsley & Lynch, 2001 and Jackson & Murphy, 2006) deal with the cluster formations for the tourism sector. Pavlovich (2003) claims that groups of tourism organisations tend to cluster together to form a destination context in the global market. Creating a competitive destination is the core common goal for tourism companies, which encourages them to join together (Jamal & Getz, 1995; Tinsley & Lynch, 2001). Besides, tourism companies try to get benefit from the different advantages of networking (Bramwell & Sharman, 1999; Selin & Chavez, 1995).

Networking at different levels can bring certain benefits: firstly, networks help to decrease transaction costs and allow an exploitation of the economies of scale and scope in various activities (Tremblay, 2000), since they spread the risk and enable access to complementary resources (Kumar & Van Dissel, 1996). Secondly, as the sharing of ideas among the participants of a network results in a richer understanding and learning of issues, and leads to more innovative activities (Camagni, 1991; Roberts & Bradley, 1991; Roome, 2001; Tödtling & Kaufmann, 1999). Networks also allow companies to access knowledge, resources, markets and technologies (Inkpen & Tsang, 2005) and facilitate knowledge transfer between members of the networks (Argote & Ingram, 2000).

The literature gives a specific emphasis on global networks indicating that 'not only local networks but also global networks make important contributions to the competitiveness of clusters'. In particular, global networks and integration provide companies with the opportunity to access information on rapidly-changing technologies (Camagni, 1991), and thus benefit from external information, allow the generation of new ideas for marketable products, bring benefit from the synergies of the global environment and prevent the technological lock-in of a cluster (Glasmeier, 1991; Kautonen, 1996).

Global network relationships are particularly important for the tourism sector, as groups of organisations cluster together to form a destination context (Pavlovich, 2003). Therefore, the tourism sector offers an ideal opportunity to evaluate the contributions of networking and connections to companies at different geographical levels, given that tourism requires strong linkages with other tourism agents due to its reliance on complementary relations.

This paper attempts to answer two main questions related to the tourism sector: ''Is the global connectivity of a tourism company influential in the performance of tourism clusters?'', and if so, ''What are the significant factors defining the global connectivity of tourism companies of these clusters?'' In providing an answer to these questions, this paper will add to the existing tourism literature by offering an insight into the determinants global connections in tourism companies through a multivariate analysis.

THE IMPORTANCE OF NETWORKING FOR CLUSTERS

Since the beginning of the 80s, clusters have been seen as playing an important role in the stimulation of networking through the use of externalities created in the agglomerated area (Amin 2000; Cooke, 1997; Porter, 1990; Scott, 1995). Networks are a core feature of clusters, with many network relations existing between firms located in a specific area (Van den Berg et al., 2001) that broaden at a local level in a cluster space.

After the 90s an important factor was identified in the performance of clusters, being the local relations and networking between small- and medium-sized firms (Cooke, 1998a), and their effectiveness in the transfer of knowledge (Antonelli, 1999). Discussions in this field have concluded that the existence of trust and strong local network relations provide a suitable environment for joint action (Schmitz, 1999; Schmitz & Nadvi, 1999). Networks that stimulate learning, and thereby technology and knowledge transfer, help to create a suitable ground for innovation (Argote & Ingram, 2000; Camagni, 1991; Roberts & Bradley, 1991; Roome, 2001; Tödtling & Kaufmann, 1999). Spatial, organisational, institutional and technical proximity gained in importance in the constitution of joint actions (Maskell & Malmberg, 1999; Porter, 2000), and combining local tacit knowledge with global codified knowledge became vital for clusters seeking to become globally competitive.

There has been a recent increase in the criticism of models that focus solely on local interrelations, but rather the ability of places to anticipate and respond to changing external circumstances (Amin, 1999) and other opportunities provided by global networks, based on the need to find out what is happening in other regions and companies. There are claims in contemporary economic development literature that no region is able to achieve continuous growth if it relies only on endogenous resources and knowledge, and so global networks are claimed to have been vital in the competitiveness of clusters that have managed to avoid the 'lock-in effect' (Cooke, 1998b; Glasmeier, 1999; Harrison, 1994; Humphrey, 1995; Schmitz, 1999). If a company is to transfer technology and stay up-to-date in the global economy, it needs global networks (Eraydin, 2005; Eraydin and Fingleton, 2006). It would be fair to say, however, that the endogenous development models show that networks that connect clusters to global markets have not been adequately developed.

The Crucial Role of Global Networks and Connection for Tourism Clusters

Companies and regions actively engage in different geographical levels and types of networks in order to survive under the volatile and competitive global market conditions. Increasing the intensity of networks and connections at a global level would be beneficial to a company in reaching and maintaining global standards.

According to Selin and Chavez (1995), establishing inter-organisational relations is very important in the era of globalisation for the attainment of collective and organisational goals. Lazonick (1992), on the other hand, emphasises that in the performance of a cluster, a major role is played by the networking relations not only between similar organisations, but also between organisations and firms operating in different sectors.

Tourism clusters are an outcome of the co-location of complementary companies that may not necessarily be involved in the same sector, but benefit from being a member of a pre-existing network and the dynamics of partnership (Novelli et al., 2006). Tourism networks are different to industrial networks, in that they have unique structural characteristics. In covering complementary products of activities, such as accommodation, transport and catering, which co-exist alongside support activities and infrastructure, a complex system of connections and interrelationships are formed in tourism clusters (Pavlovich, 2003).

Within tourism, interrelationships are fashioned around mixes of diagonal and vertical relations (Poon, 1990) and form a partial industrialisation of tourism through loose liaisons of horizontal relations from across-industry groups (Leiper, 1990). Within this view, two main relational patterns can be defined for tourism: firstly, horizontal relations, comprising horizontal mergers within each of the component sectors of tourism (e.g. between different hotel companies, which is generally observed between hotels in the same cluster due to the advantage of proximity); and, secondly, complementary (vertical) relations, comprising mergers across these component sectors (e.g., between hotels and airlines) (Buhalis, 1998; Dussauge & Garrette, 1999; Lafferty & Van Fossen, 2001; Yarcan, 1994, 1996).

Complementarity and interdependence lead to a need for connections with different sectors in tourism, for example, by promoting a common image, reducing risks, sharing profits and creating a synergy, a competitive advantage may be transformed into a collaborative advantage (Huxham, 1996). Go and Govers (2000) claim that partnerships including private and public sector collaborations between destinations, are a prerequisite for maintaining the competitiveness of a destination. The World Travel and Tourism Council strongly advocates networks between the private and public sectors as the most effective means of achieving competitive travel and tourism development (WTTC, 2001).

It is also evident from the debates in tourism literature that networking, and especially increasing the levels and types of connectivity between companies, has become a major factor in the sustainment of a competitive advantage in a cluster. For tourism clusters in particular, besides the importance of place-dependent capacities of attractivity, relational capacities also play a key role in promoting competitiveness in the destination. For this reason, the types of networks between tourism companies that stimulate global connectivity are worthy of a more in-depth study.

Factors Defining the Level of Global Connectivity of Companies: Theory and Evidence

Factors influential in the global connectivity of a company are not clearly defined in tourism literature; however there are some studies in local development literature that offer some implicit clues as to the relationship between the global connectivity of a company and its defining variables, such as company size, creative capacity, different levels and types of relations, existence as part of a cluster and human capital.

There are also a number of indicators that may be defined as determinants of global connectivity in tourism literature, including: the presence of international enterprises in a place (Marquardt & Snyder, 1997), frequency of international travel to a place, employment of foreign labour, subsidiaries managed by foreign nationals, size of company and research and development (R&D) personnel (Lussier, Baider, & Corman, 1994). However, local development literature gives a more broad and rich explanation of the defining the factors influencing global connectivity.

The relationship between global connectivity (networking) and company size has been emphasised in several studies. It is generally stated that large firms are strong enough to develop global linkages and connections, while small firms generally lack the resources to keep abreast of developments, and thus act individually; and Tödtling and Kaufmann (1999) claim that this is because larger firms interact more with global value chains. A study by Eraydin and Fingleton (2006) reveals that large companies are tied closer to global networks, but have weaker connections to local networks than smaller firms. This theory is backed up by Lynch (2000), who claims that it is the stable mentality of small and medium sized enterprises (SMEs) that results in their resistance to external linkages.

Local development literature also discusses that the existence of human capital positively affects the competitiveness and networking level of industries. In fact, human capital is directly related with learning and knowledge, and therefore a skilled workforce is taken as a proxy for human capital. It can be assumed that a higher share of skilled manpower working in the sector may also positively contribute to the image of the destination and customer satisfaction, while also affecting the networking level. According to Morrison (1994), small hotels form loose partnerships to enable a coordination of their marketing resources, and are able to improve the quality of their human capital through shared training programmes. However it must not be ignored that in the tourism sector, not only skilled labour, but also unskilled labour is a vital asset.

Recently, the connection between creative capacity, innovation and global networking has also been emphasised (Arndt & Sternberg, 2000; Eraydin & Köroğlu, 2005; Keeble, 2000). In the case of tourism, innovation is based on an internationally distributed system of activities, and an international network of suppliers is a key characteristic of the most innovative firms (Simmie, 2004). For this reason,

geographically localised and clustered firms are likely to make only limited innovations in such a system. For tourism, it is found that innovative projects are positively related to the global networking of a company (Erkuş-Öztürk, 2010). Developing a creative capacity and creating diversified products in tourism services contributes to competitiveness. Investment in new creative products and services that are matched to the needs of the individual tourist may help to overcome seasonality constraints.

According to Pearce (1992) it is complementarity, size, market fragmentation and spatial separation that are the factors leading to the creation of networks between tourism companies, while the desire to reach common goals triggers the establishment of tourist organisations and organisational networks. Newly emerging non-governmental organizations (NGOs) and associations in tourism have become important for advertising the region similar as what destination marketing organization does and stimulating networks and connectivity in a cluster, and this can clearly be seen in the case of Betuyab (Tourism Investor's Association) in the Belek cluster of Antalya. This association and its members (hotels) collaborate with global institutions, advertise their destination, thus increasing their global connectivity in the global market. Networking between associations and hotels and other firms have shown a complementarity type of relation, which is particularly important for the tourism sector. The highest global connection and complementarity is observed between hotels and travel agents; and between tour operators and airline firms, and in this respect it can be stated that complementary networks contribute to the global connectivity of a tourism company. Although complementary relations are important in the tourism sector, horizontal relations can also refer to, and can be a factor of, the global connectivity of a tourism company if networks exist between local and global tour operators and travel agencies.

As has been revealed in previous literature, the size of the company, its creative capacity, clustering, different levels and types of relations (such as complementary, horizontal and associational) and the existence of human capital are all influential factors in the global connection of the company, and the following sections will examine these factors for the case of Antalya.

THE CASE STUDY AREA AND METHODOLOGY

Case Study Area: Antalya Metropolitan Region

The subject area of the case study, the Antalya metropolitan region, is located on the Mediterranean coast of Turkey, and is the leading tourism destination of the country, especially for foreign tourists. Over half of Antalya's income comes from agriculture and commerce, the greatest share of the latter being an outcome of the tourism sector, and it would be fair to say that tourism is the principal factor behind the development of the other commercial sectors (ATSO, 2009). Antalya hosts 9 million tourists every year, 35 percent of the total for Turkey,

meaning that tourism is the backbone of Antalya's economy. Antalya is popular not only among the indigenous population, but also among foreign visitors, who account for 48.9 percent of the total. Antalya also attracts 60 percent of all tourism investments in Turkey. The majority of foreign investments in Antalya come from Germany and Russia, which also send the highest numbers of tourists to the region (Erkuş-Öztürk, 2008).

In addition to its significance in the global tourism market, Antalya is also very important in terms of its rich associational tourism structure. It is not only nationally based provincial tourism associations that are active in Antalya to stimulate tourism development, but also nationally organised local government associations, nationally organised corporate company associations and self-help district-based local tourism associations. Tourism associations attempt to develop projects to solve the problems of the existing cluster, through which they aim to enhance projects and collaborations with private and public organisations at both local and global levels. These characteristics make Antalya a good case study area for exploring the role of global connections in the performance of tourism clusters.

The case study in this paper evaluates 10 tourism clusters in the Antalya metropolitan region. The leading coastal tourism clusters of Antalya are Kemer, Kaş, Central Antalya, Belek (Serik), Manavgat, Side and Alanya, and most of which specialize in different types of tourism activities. For instance, Belek is characterized by golf tourism, eco-tourism and high–quality 5-star and 7-star hotels. Side is the second most attractive cluster due to its rich ancient heritage and sea and sun-based tourism. Alanya is another major tourism cluster; an urbanized tourism cluster which is popular among European tourists and people seeking to purchase real estate. Moreover, having high-quality hotels and holiday villages that serve for sun-sea-sand tourism, Kemer, is a mass tourism area, with outstanding nature and the ancient towns of Olympos and Phaselis. Kaş is known for its attractive virgin nature mostly preferred by diving and sailing kind of sea facilities and of course tiny hotels. Limited space due to settling on a peninsula and a range of mountains forms a backdrop to Kaş, prevent the area from being spoilt and over developed. In each cluster, a questionnaire survey was distributed to hotels, travel agencies, tour operators, airline companies, car rental companies and tourism associations. To define the total number of different actors in tourism in Antalya prior to carrying out a random sampling, data was collected from the Ministry of Culture and Tourism, the Antalya Province Culture and Tourism Head Office, the Antalya Pensions Association and the Ministry of Industry and Trade between July–September 2005. This became the basis of the design of the research (Table 1).

The Research Design and Methodology

To address the lack of data on the levels and types of networking and relations between companies, a field study was conducted that

Table 1. Distribution of the Number of Tourism Units by Tourism Clusters

Crosstabulation Table	ALANYA	FİNİKE	KALE	KAŞ	KEMER	KUMLUCA	MANAVGAT	MERKEZ	SERİK	SİDE	Total	Number of samples
1StarHotel	12	0	1	6	10	3	0	4	1	0	37	4
2StarHotel	52	2	4	21	41	1	5	36	3	13	178	11
3StarHotel	87	0	0	5	44	1	8	34	2	20	201	13
4StarHotel	80	0	0	3	47	1	30	28	15	38	242	12
5StarHotel	27	1	0	0	50	0	21	25	51	36	211	14
Rent A Car	14	0	0	3	10	0	1	27	2	6	63	3
Associations	10	0	0	1	5	0	1	20	1	2	40	25
Airline Corporations	0	0	0	0	0	0	0	6	0	0	6	2
Boutique Hotel	0	0	0	4	5	0	0	29	0	3	41	3
Holiday Village	8	0	0	1	31	1	14	2	16	11	84	7
Tour Operators	3	0	0	0	3	0	0	17	1	24	48	12
Apart Pension	680	44	34	236	790	81	122	1,252	69	425	3,733	175
Travel Agencies	281	4	1	44	156	2	127	590	28	60	1,293	42
Total	1,254	51	40	324	1,192	90	329	2,070	189	638	6,177	323

Source: Data is gathered through different institutions related with tourism (Ministry of Culture and Tourism, Antalya Culture and Tourism Province Office, Ministry of Industry and Trade and Antalya Pension's Association in the period of 2005).

included interviews and a survey questionnaire in 10 tourism clusters in Antalya. The survey questionnaire was composed of different question types, covering dichotomous, open-ended and multiple choice questions, aimed at understanding the characteristics of the connections observed at different geographical levels. In addition, three and five likert scale questions were also applied to provide an understanding of the importance of the different types and levels of connections observed between different tourism companies.

A total of 6,177 tourism businesses from across the 10 clusters in Antalya were covered in this study. In the design of the study, 5 percent random sampling was used for each type of company and for each cluster to reach a 95 percent confidence level. In this context, a 5 percent sampling was implemented for hotels according to their distribution in each cluster, including 5, 4, 3, 2 and 1-star hotels, boutiques, tourism enterprises and holiday villages (HV). Also, a 5 percent sampling was implemented for travel agencies, of which there are around 1,293 in the entire Antalya region. However, a 30 percent sampling was implemented for tour operators and airline companies, since only 48 tour operators and six airline companies exist in the sample region. Of the total number of associations, 62 percent (25 associations) were interviewed, all of which were directly involved with tourism, or were related to tourism in some way (such as marketing and environmental associations) (Table 1).

The questionnaire survey was carried out in different phases. In the first phase, 115 companies were visited in March 2005 for face-to-face meetings. Phase two was carried out between April and June 2005, in which the remaining companies were surveyed by a specialist survey company that verified the consistency of the results of the interviews by using telephone back-calls. After evaluating the data, quantitative techniques, such as simple percentages, correlations and logistic regression analyses, were used to identify the role of global

connections and the factors influential in the global connections of companies.

EMPIRICAL FINDINGS FOR THE ANTALYA CASE

In this section, firstly the indicators of global connectivity are defined for tourism companies, and the tourism clusters are classified according to their growth performance, calculated from the rate of increase of employment. Then, the influencing factors in the global networking of a tourism company are tested using correlation values and regression techniques.

Defining the Indicators of Global Connectivity and Importance of Global Connectivity of Tourism Companies for its Cluster

In previous literature, in a bid to reveal the role of the global connectivity in tourism companies, a number of global connectivity indicators have been defined. These studies, which are rather limited in number, group factors affecting the global connectivity of tourism companies under three main headings: service to global markets; the existence of a global function and strategy; and foreign capital flows (Lussier et al., 1994).

The level of service to global markets is discussed in literature as the frequency of international travel to the region (Lussier et al., 1994) and the rate of flows of people across borders (Kobrin, 1991; Sun & Chen, 2006). Specifically, Tolosa (2003) put forward the ratio of foreign tourists as an indicator of the level of service to the global market.

The existence of a global function and strategy is measured in literature in terms of integration with cross-border organisations, multinational corporations (MNCs), intrafirm resource flows, inter-area product flows (Bartlett and Ghoshal,1987; Kobrin, 1991) and the presence of international enterprises (Marquardt & Snyder, 1997). In addition, indicators such as cross-cultural alliances, global alliances, participation in global associations (Lussier et al., 1994) and multinational corporations (MNCs) (Summers, 1999) are also presented as indicators of a global function and strategy.

Foreign capital flow is also assessed as an important global connection parameter. In this context, the role of global financing (Lussier et al., 1994) and global capital flows (Summers, 1999) are considered as indicators of foreign capital flow.

Using the indicators defined in the different studies presented in this study and the available data, the level of connectivity of the tourism companies is defined. The share of foreign tourist arrivals of each tourism company indicates its service to global markets; while the number of connections of tourism companies with global tour operators and travel agencies, and their relations with global associations and companies are used as a global connectivity indicator. For the third variable, foreign capital flows, whether a company has investments in another

Table 2. Correlation between Global Connectivity Indicators

		The share of foreign tourist arrivals in the total visitors of tourism companies	The number of relations with global tour operators/ travel agencies	The number of relations with global associations & companies
Companies with foreign tourist arrivals	Pearson Correlation	1	.244[**]	.130[*]
	Sig. (2-tailed)		.000	.017
	Sum of squares and cross-products	588.312	46.562	35.045
	Covariance	1.772	.140	.106
Relations with Global tour operators/ travel agencies	Pearson Correlation	.244[**]	1	.495[**]
	Sig. (2-tailed)	.000		.000
	Sum of Squares and Cross-products	46.562	61.808	43.225
	Covariance	.140	.186	.130
Relations with global associations & companies	Pearson Correlation	.130[*]	.495[**]	1
	Sig. (2-tailed)	.017	.000	
	Sum of Squares and Cross-products	35.045	43.225	123.189
	Covariance	.106	.130	.371

[**] Correlation is significant at the 0.01 level (2-tailed).; [*] Correlation is significant at the 0.05 level (2-tailed).

country is a further indication of its global connectivity, however for the companies in Antalya this figure is very low, and for this reason this variable is omitted from the analysis. Ultimately, these three indicators and their associations with each other were scrutinised using a correlation analysis (Table 2).

According to the correlation analysis, the indicator of connections with tour operators and travel agents abroad has high correlation coefficients with both the other two indicators, and so it is used to define the companies with high global connectivity and low global connectivity in the Antalya case. Companies with global connectivity are defined as those that work with global tour operators and agencies.

In order to ascertain whether the clusters with the highest numbers of companies with global connectivity are also the fastest growing ones or not, this section compares the distribution ratio of globally connected tourism companies with the clusters that have shown different levels of growth; and the results are presented in a cross-tabulation table. To identify the growth performance of tourism clusters in the absence of more detailed information, the numbers of employees in each tourism cluster in the 1992–2002 period are used.

It is evident that the clusters containing more globally connected companies have experienced faster growth in terms of employment than the less globally connected clusters. Table 3 verifies the main claim of this paper, being the relative importance of global connectivity to the performance of each cluster. These findings are testament to the

Table 3. Distribution of Companies in Different Cluster According to Their Global Connectivity

Clusters	Companies with global connections (%)	Companies without global connection (%)
ALANYA	20	25
(Fast growth[*])	(28%)	(72%)
ANTALYA CENTER	43	30
(Fast growth)	(40%)	(60%)
BELEK	5	1
(Fast growth)	(60%)	(40%)
KALE	0	0
(Slow growth)	(0%)	(100%)
FINIKE	0	0
(Slow growth)	(0%)	(100%)
KAS	0	3
(Slow growth)	(0%)	(100%)
KEMER	12	36
(Fast growth)	(16%)	(84%)
KUMLUCA	0	0
(Slow growth)	(0%)	(100%)
MANAVGAT	4	8
(Fast growth)	(21%)	(79%)
SIDE	12	7
(Fast growth)	(40%)	(60%)
Grand Total	96	227
	(30%)	(70%)

Note: The numbers in brackets are shares, the others are real numbers.
[*] Fast and slow growth clusters are defined by using the increase in percentages of employment (Emp2002−Emp1992) * 100/Emp1992) between the years of 1992 and 2002. According to the results of percentage of growth for each cluster, mean is calculated. Clusters whose growth percentage more than mean value is defined as fast growth clusters and whose less than mean value are defined as slow growth.

importance of global connectivity in local performance, which backs up the results of a number of empirical studies, such as the strong influence of global connections in shaping the local performance in wine producing (Lagendijk, 2004).

Evaluation of Variables on Global Connectivity of Tourism Companies

In this section of the paper, to identify the factors that are important in the global connection of a company an analysis of data from seven variables is presented. As can clearly be seen from the theoretical section, there is a strong association between global connectivity and the characteristics of tourism companies, namely company size, the share of skilled manpower in the workforce, its creative capacity, the

relationships of the company in complementary, horizontal and associational linkages, and the type of cluster in which the company is active.

One of the primary indicators of the global connection of a company is its size (in this paper, defined according to the number of employees). Figure 1 indicates the high correlation (Pearson correlation coefficient 0.560, significant at the 0.001 level) between company size and the global connectivity of the company. This is related with the strong global connections of the larger hotels in Antalya (such as four- and five-star hotels) with global tour operators to increase their occupancy rate. Therefore, this significant relation verifies the theoretical claims also for the tourism sector as a whole.

The ratio of skilled manpower (in tourism, evaluated as base manpower) is also an important factor in defining the global connectivity of a tourism company, as verified by available data (Pearson correlation coefficient 0.401, significant at the 0.001 level) (Figure 2). However, the base manpower in a tourism company also indicates a very high correlation (0.867) with the size of the tourism company, and so to avoid autocorrelation problems in the model the base manpower in the tourism company is excluded from the calculations.

The number of creative projects launched by tourism companies has been used as another factor to assess global connectivity in previous theoretical and empirical studies; however, creative projects are quite rare in tourism when compared to other sectors, and there is no data available on patent applications specific to tourism. Some of the larger tourism companies attempt soft innovations and creative projects in the form of new arrangements, modifications and improvements inside the company (Erkuş-Öztürk, 2010); and so the indication of creative
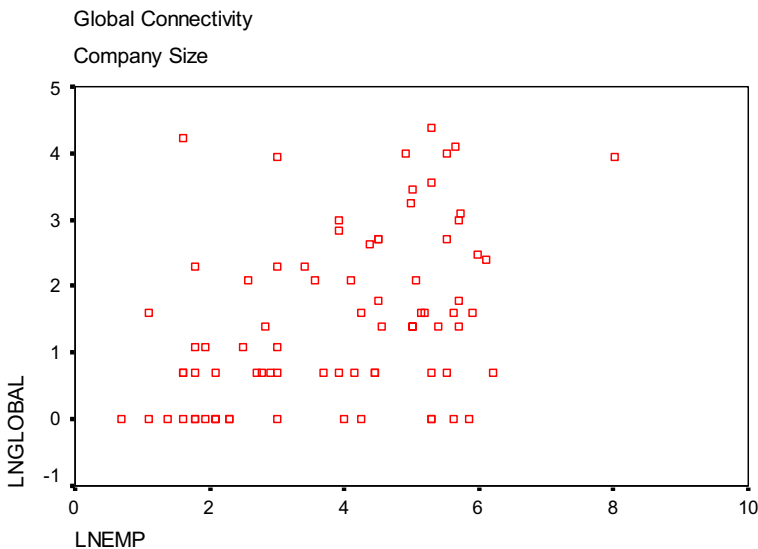

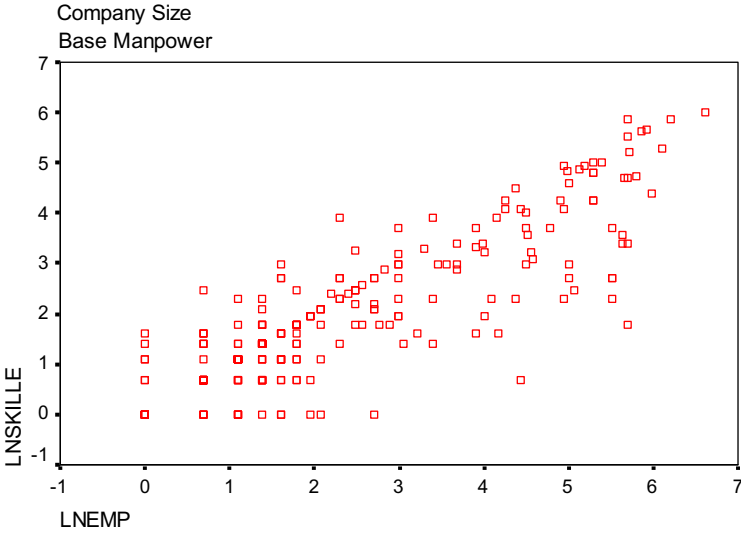Figure 1. **Total Employment by Global Connection**

Figure 2. The Share of Base Manpower by Size of Company

projects in a company can only be assessed from the application of new services, arrangements, modifications and improvements. For this reason, there is a low but significant correlation (Pearson correlation coefficient 0.255, significant at the 0.001 level) observed between creative capacity and the global connection of a tourism company.

The other significant factor in the global connectivity of a tourism company is taken as its linkages. The first type of linkages, being the complementary relations of the company, is seen as being correlated with its global connections. This is related to the characteristics of the tourism sector, which is important in terms of its complementary linkages with supplier firms. For instance, hotels have strong relations with global tour operators, travel agencies, airline companies and so on; and this is especially true for Antalya, which is well known for its mass tourism image in other countries. The data from the analysis verifies this strong relation, in that there is a correlation between globally connected companies and the companies which have high complementary relations (Pearson correlation coefficient 0.415, significant at the 0.001 level). (Figure 3)

The intensity of the global connections between larger hotels and global tourism operators is evidence of the association between complementary (vertical) relations and larger-sized companies. This relation can clearly be seen in Figure 4 and the correlation matrices (Pearson correlation coefficient 0.607, significant at the 0.001 level). As emphasised previously, larger hotels tend to develop strong connections with tour operators, travel agents and other tourism related actors, and all of these various linkages with other tourism related actors show the importance of complementary relations in tourism, especially for the larger and more globally connected companies.
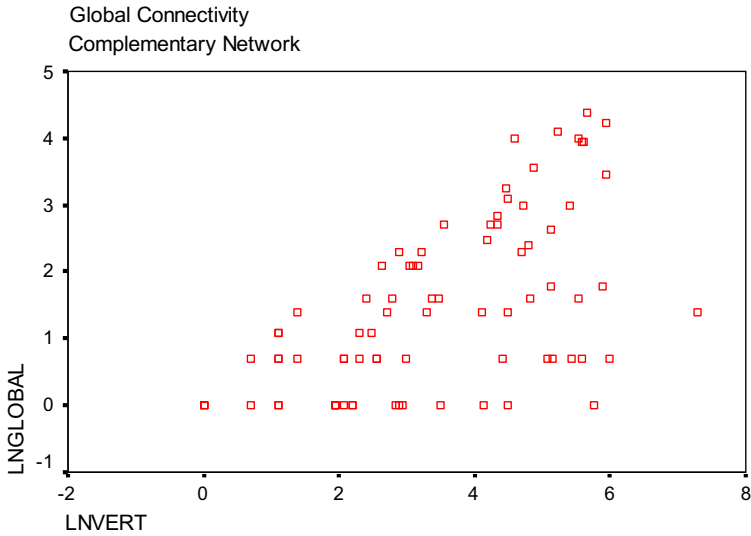
Global Connectivity
Complementary Network

Figure 3. The Number of Complementary Relations by Global Connection
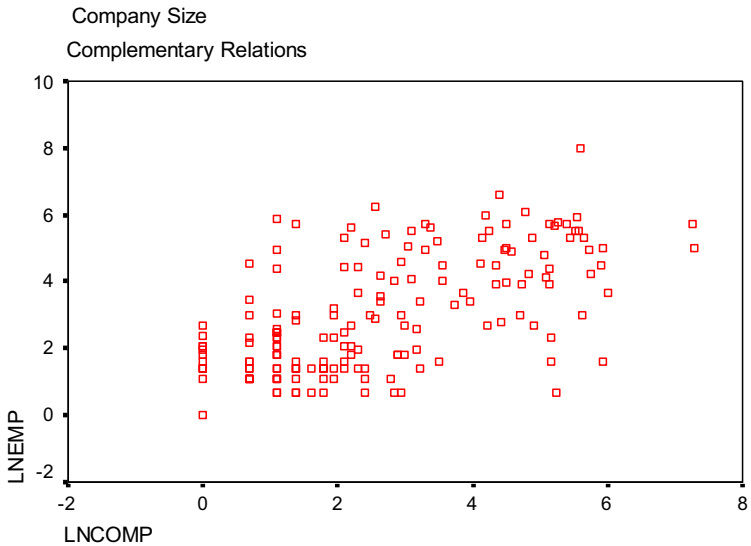
Company Size
Complementary Relations

Figure 4. The Number of Employees by Complementary Relation

The other factor indicating the global connection of a company is its horizontal relations with similar companies, for example, the relations between one hotel and another. Available data shows a correlation between the global connectivity of a company and its horizontal relations, although it is not very high (Pearson correlation coefficient 0.401, significant at the 0.001 level) (Figure 5). This is related with the relational
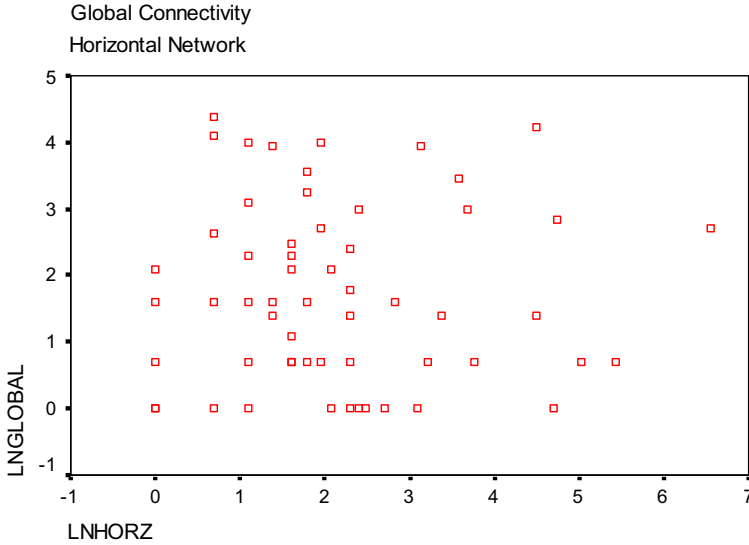
Figure 5. The Number of Horizontal Relations by Global Connection

pattern of companies that have more horizontal relations, as companies with strong horizontal relations also have strong local connections. Although globally connected companies, such as hotels, have more horizontal relations with other hotels, some other locally connected companies also have horizontal relations.

One other factor that is used to explain the global connection of a company is the existence of associational relations. As confirmed by the available data, there is a strong correlation between the associational linkages of a company and its global connection (Pearson correlation coefficient 0.551, significant at the 0.001 level). (According to survey data, it can be seen that globally connected companies, and especially the larger ones, have relations with tourism and tourism related associations).

Being part of a cluster, especially a larger cluster, is another factor that affects the global connection of a tourism company. Available data shows that there is a low but significant correlation between being part of a large cluster and global connectivity (Pearson correlation coefficient 0.132, significant at the 0.05 level). This is related with the variety of different sizes of companies in different sized clusters. While some of the smaller clusters contain small companies without global connections, such as Kumluca, other small clusters may contain only larger companies, like Belek, which increases the clusters global connectivity.

Factors Influential on Global Connectivity of a Tourism Company: The Binary Logistic Model

In this section, the factors that are important in the global connectivity of a tourism company are scrutinised for the Antalya case. A

multivariate analysis is used to identify the factors affecting the global connectivity of tourism companies that are also important for local tourism development. In this context, a binary logistic regression is employed as a model due to the fact that the major indicator of global connectivity is a dichotomous non-metric and categorical variable for tourism companies. The dependent variable is defined as the global connectivity of tourism companies: '0' denotes a tourism company without global connections, while '1' denotes a tourism company with global connections. In the model, variables that are related with global connectivity are defined according to the debates in local development literature, which discuss that company size, creativeness, vertical networking, horizontal networking, associational networks, human capital and the size of a cluster affects the level of network linkages of that tourism company. These variables are included in the model that was obtained through the survey questionnaire of 298 tourism companies in Antalya. Below, these variables and their usage in the logistic regression model are explained in detail (Table 4).

Different data types are used in the independent variables, such as categorical, continuous, dichotomous, non-metric and metric data. For some of the variables with very high values (such as company size, horizontal and complementary [vertical] relations), logarithmic values are calculated to normalise the data, and some of the more extraordinary results are removed from the model for the same reason.

Table 4. List of Variables Used in the Binary Logistic Regression Analysis

Concepts	Definitions in the analysis
Indicators of global connection	
Company Size	CSIZE: Number of employee each company have
Creative project development capacity	CREAT: Number of creative projects of each company & the existance of creative project
Complementary (Vertical) Relations	VERTREL: The number of vertical relation of each company have
Horizontal Relations	HORZREL: The number of horizontal relation of each company have
Associational Relations	ASSOCREL: The number of membership to associations
Size of Cluster (Attractivity)	SCLUS: Whether a tourism company exists in a big cluster or not (1-0)[*]

Note: Hotels, travel agencies, tour operators, airline companies and car rental companies are covered in the analysis, tourism associations and tour guides are excluded due to not representing company characteristics.

[*] Size of clusters are calculated by the proportion of tourism companies in a cluster to the total tourism companies in the whole region. According to the shares, clusters which have more than 10% share of tourism companies are taken as agglomerated clusters. Antalya Center, Alanya, Kemer, Side are taken as agglomerated clusters, others are taken as nonagglomerated clusters.

$$Yit = c + \delta ODO + \beta 1(logX1) + \beta 2(logX2) + \beta n(Xn) + \varepsilon$$
$$GlobalC = f(InCsize) + (Creat) + (InVertN) + (InHorztN)$$
$$\qquad + (AssocN) + (SizeclusterD) + \varepsilon$$

Findings show that the model (Table 5) constructed to define the global connectivity of a tourism company is significant at a 0.00 level, with an R-square value of 0.557. It can be seen that the size of the tourism company and the different types of relations in which it is engaged, such as complementary, horizontal and associational, contribute positively to the global connectivity of the company.

Vertical relations are positively related with the global connection of a tourism company in Antalya, providing links between different companies, such as hotels, travel agencies, tour operators and airlines. According to the survey results, hotels in Antalya generally build vertical connections with travel agencies and tour operators at both local, but especially global, levels; with travel agencies at a local level acting as representatives of global tour operators. This type of relational pattern clarifies the importance of vertical networking in developing the global connectivity of a tourism company.

The results show that horizontal relations also have a significant effect on the development of global connections. Generally, horizontal connections observed between tourism agents are a result of spatial proximity. For instance, hotels collaborate with other hotels at a local level using the externalities associated with clustering. Generally, they collaborate to deal with overbooking in their cluster or in the design of package tours with other hotels in other provinces. However, hotels that collaborate at a horizontal level generally develop linkages at a global level on the strength of their high complementary relations with global tour operators. The model results also reveal that the associational relations of a tourism company and its global connections are

Table 5. Model of Global Connection

Model	Model of global connection		
	Logistic Regression	Significance	Wald (t test)
Constant	−4.932	0	22.880
CSIZE[***]	.344	.053	3.755
CREAT[****]	−.004	.975	0 .001
LNVERTREL[***]	.573	.006	7.540
LNHORZREL[***]	.549	.045	4.001
ASSOCREL[*]	1.627	.046	3.988
SCLUS[**]	−2.547	.002	9.302
Nagelkerke R Square	0.557		
Significance F	0.005		

[*] Associational networks are categorized into 5 variables from 1 to 15 real numbers; [**] Size of cluster is taken as dichotomous variables; [***] Logaritmic values are taken for company size, vertical and horizontal networks; [****] Real number is taken for creative projects.

statistically significant and positive. This finding verifies the importance of associational relations, especially for tourism literature.

According to local development literature, large companies have a greater capacity to develop global connections. The model indicates that the size of a company positively affects its ability to form global connections at a statistically significant level. Another significant variable when defining the global connectedness of a tourism company is the size of the cluster in which it is active. Somewhat contradicting existing literature, this empirical study has revealed that being in a large cluster does necessarily mean that a company has good global connections in Antalya. This is related with the mixed characters of companies in the larger clusters and the stable character of the smaller clusters in Antalya. For instance, Alanya is the largest cluster in terms of the number of tourism companies; however it has a wide coverage of small- and medium-sized companies, which reduces its level of global connection; while on the other hand, Belek is one of the smallest tourism clusters in terms of the number of tourism companies, however it contains almost exclusively large four- and five-star hotels, which makes it more globally connected. Obviously, this finding should be evaluated very carefully, since clusters of different sizes in this analysis also have different characteristics and different paths of evolution. In the Belek case, the global connectivity of the cluster has been all but assured through deliberate government policies aimed at its success in the global tourism market.

It has been widely discussed in literature that companies try to develop creative products to remain competitive in the global market and to be more globally connected. In this context, it is implied that there must be a strong association between the creativeness of a tourism company and its global connectedness. Surprisingly, there is little evidence that the creative capacity of a company is linked to its global connectivity, although previous literature has claimed a contrasting view. Due to the low level of awareness of the positive contributions that may be gained from the development of creative services, it is only some of the larger groups of tourism companies that engage in creative projects.

Related with the variables of global connectedness, the model offers important indications of the variables that support the claims of local development literature. There is a clear indication that, in addition to the importance of company capacities (such as size), the creativeness, base manpower and variety in the relational capacities (complementary, associational, horizontal relations) of the company supports its global connectivity in the global market.

CONCLUDING REMARKS

In this paper we have focused on the increasing role of global connectivity in the performance of tourism clusters, and the factors that influence global connectivity. In this respect, this paper attempts to challenge previous tourism literature by discussing recent concepts,

and through the use of a quantitative technique, a multivariate analysis, to identify the factors defining global connection in tourism.

It was found that the fastest growing clusters in Antalya were those containing a higher share of tourism companies with global connections, and as such it can be stated that globally connected companies contribute to the growth of tourism clusters in Antalya. This result verifies previous debates discussing the importance of global connection in the local development of the tourism sector, in this case, for Antalya. Moreover, it can be understood that indicators such as company size (especially large companies) and the intensity of complementary, horizontal and associational relations, contribute positively to the global connectivity of a company. There is additional evidence that being resident in a large cluster in Antalya is related only marginally to a company's global connections, which are more dependent on the mixed characters of companies in the larger clusters and the stable character of the smaller clusters in terms of company size. This finding can further be explained from the fact that smaller clusters in Antalya allow for time for external focus, which are clearly supported by the governance networks that have been established between existing companies.

The higher the share of large companies in a cluster, the more intense the global networks and the global connectivity of that tourism cluster. To increase global connectivity in a cluster, small companies in particular should pay more attention to developing vertical and horizontal networks with other companies and organisations if they want to enjoy the benefits of networks and become more globally connected and competitive in the global market.

To promote tourism development, the creation of network-based strategies and projects should be stimulated between companies and related organisations; and institutional mechanisms that support networking relations between companies, such as tourism associations (destination marketing organisations and development organisations), should be in place.

The results of this study may be used to conduct further studies on global connectivity and local development. The discussions on the levels of connection between companies and clusters are mainly theoretical, and the empirical studies that define them are limited, so for this reason there is a need to carry out further case studies using quantitative techniques. Although the identification of networks through data collection can be a very difficult process, such studies are considered necessary in order to cover the whole sample case. ■

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