Comparative Analysis of Residents' Attitudes Toward Sustainable Tourism Development Using a Multi-Criteria Decision-Making Technique

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Abstract
The main purpose of this study was to comparatively examine the factors that affect the attitudes of different resident groups (local and foreign) toward sustainable tourism development. In the study, the cause and effect relationship between contextual factors that affect residents' attitudes toward sustainable tourism development have been analyzed using a multi-criteria decision-making technique for the first time. Moreover, the sub-criteria specifying the environmental, social, economic, and cultural impacts of sustainable tourism were analyzed with the DEMATEL technique. According to the study results, while seasonality was the most affecting factor for the locals, the environmental benefit was the most affecting factor for foreign residents. The factors most affected for the locals were environmental, cultural, and social benefits, and the most affected factors for foreign residents were cultural and social benefits. The results of the study provide important insights for destination planners.

Introduction

A mediator between economic growth and development, tourism has some benefits and costs. Tourism development has numerous effects on destinations and local people who treat tourists as residents (Nikjoo & Bakhshi, 2019). Residents face a development dilemma; they need to balance the advantages gained from tourism with the disadvantages of environmental and social costs (Telfer & Sharpley, 2008). It has been claimed that content residents support the sustainability of tourism (Séraphin et al., 2018), but on the contrary, support for tourism could potentially be withdrawn and result in hostile behavior (Doxey, 1975). Choi and Murray (2010) suggested that the support of local people is an important determinant for tourism.

As commonly stated, tourism brings both costs and benefits to local communities. If these communities realize that tourism development costs outweigh the benefits, they may threaten the future success of the industry by withdrawing their support for tourism (Rasoolimanesh, Ringle et al., 2017; Sharpley, 2014). Therefore, understanding local people's perceptions and attitudes toward tourism is regarded as a crucial component of tourism management and planning.

In existing literature, prominent approaches and models have come to the fore. Doxey's (1975) irridex model and Butler's (1980) life cycle model showed that locals develop mostly negative attitudes toward tourism as it develops and grows. Ap and Crompton (1993)

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described four different strategies regarding residents, from embracing tourism to withdrawing the destination in return for the tourism development level. Many studies have revealed several factors that may affect residents' attitudes toward the development of tourism, such as those by Haralambopoulos and Pizam (1996), Tosun (1999), Gursoy et al. (2002), Andriotis and Vaughan (2003), Harrill (2004), Jayawardena et al. (2008), Choi and Murray (2010), Woosnam (2012), Eusébio et al. (2018), and Gursoy et al. (2019). For instance, Andriotis and Vaughan (2003) classified these factors into three groups, namely the socio-demographic, internal, and external categories. Socio-demographic factors include gender, education, age, and property rights, internal factors include differences between local people and main tourist areas, residents' participation in tourism, personal gains or economic dependency, and period of residency, and external factors include the development level of a destination that accepts visitors, tourist types, and seasonality.

Haralambopoulos and Pizam (1996) also split the aforementioned factors into different categories such as employment and occupation type, population structure, social structure, consumption patterns, prostitution, crime, gambling, and cultural statements of residents. In his study, Tosun (1999) reviewed the participation characteristics of local people in tourism development by defining three types of participation, namely spontaneous participation, indulged participation, and coercive participation. Aside from these, other characteristics such as seasonality, population concentration, socio-economic factors, spatial factors, duration of residence, and social participation in the attitudes of local people toward tourism development were also mentioned in literature (Andriotis & Vaughan, 2003; Gursoy et al., 2010; Vargas-Sánchez et al., 2014).

Using the social exchange theory (SET), Ap (1990) recommended understanding the local people's attitudes toward tourism. SET was applied in later studies to discover the effects of local people's perceptions on their support and participation in the development of tourism (Rasoolimanesh et al., 2015; Rasoolimanesh, Roldán et al., 2017; Wang & Pfister, 2008). With reference to SET, if residents recognize that the benefits of tourism development exceed their costs, they will enter into an exchange process with tourists, and they will support the development of tourism in their regions. However, if negative effects are perceived, they may withdraw their support for tourism development (Rasoolimanesh, Roldán et al., 2017). In addition, Gursoy et al. (2002) researched the costs and benefits separately to observe the effects of variables in economic, cultural, social, and environmental impact structures on the support given to the development of tourism within the scope of the social exchange theory. However, current studies in relation to the SET have not yet analyzed the relationship between the cause and the effect of the factors that influence the attitudes of residents regarding sustainable tourism development and the variables used in the conceptualization of these factors. For this reason, the contribution of the analysis of residents' attitudes toward the sustainability of tourism to the effective management and planning of tourism is limited (Bramwell, 2010; Nowacki et al., 2018; Ruhanen, 2008; Simão & Môsso, 2013; Whitford & Ruhanen, 2010).

The vast majority of studies that have examined the attitudes of local people toward tourism development used quantitative methods (Nunkoo et al., 2013). The number of studies using qualitative and mixed methods is limited (Brunt & Courtney, 1999; Kişi, 2019; Lepp, 2007). Surveys were carried out in the form of large-scale questionnaires. On the other hand, the use of quantitative methods is intelligible, and commonly the purpose of these studies is to identify and analyze the relationship between the variables that affect the established perception of tourism, but in some cases they divide the residents by cluster analysis (Ayazlar & Ayazlar, 2016; Duran & Özkul, 2012; Hatipoglu et al., 2016; Oren, et al., 2001; Ozturk et al., 2015; Tosun, 2001).

In brief, the locals' perceptions of tourism are affected by pre-existing attitudes and beliefs about certain types of tourists and the nature of the social interaction resulting from tourists' prejudices about the local people. In this context, the research questions of the study are,

- What are residents' attitudes toward supporting sustainable tourism development when people of different nationalities settle in a tourist destination?
- Are there similarities and differences between the attitudes of foreign residents and locals toward tourism development?

The answers to these questions will also be sought in the current study. The factors affecting the attitudes of the study group toward sustainable tourism development, referred to as foreign residents in the selected destination, have not yet been studied. Accordingly, the aim of the current study is to analyze the cause and effect relationships between the factors that affect the attitudes of different groups of residents (i.e., local people and foreign residents) toward sustainable tourism development using multi-criteria decision-making techniques. In this context, and in accordance with the purpose of the research, the Decision Making Trial and Evaluation Laboratory (DEMATEL) technique was used, which is a multi-criteria decision-making (MCDM) technique. It is believed that the study will provide three basic benefits to the existing related literature.

- Considering the studies conducted with MCDM techniques on tourism development (e.g., Alptekin & Büyüközkan, 2011; Chuang et al., 2013; Lin, 2020; Liu et al., 2013; Michalena et al., 2009; Talebi et al., 2019), this study is the first to examine the cause and effect relationships between the factors affecting residents' attitudes toward sustainable tourism development using this technique.
- The study is a comparative analysis of the factors affecting the attitudes of two different groups from tourist destinations (local and foreign residents) toward sustainable tourism development.
- This research investigates the effect of seasonality on the support of destination residents for sustainable tourism development.

Initially in the research process, the literature explaining the attitudes of local people toward sustainable tourism development was scrutinized, and thereafter the factors affecting the local people's attitudes toward sustainable tourism development and their sub-criteria were determined in the context of the research by taking expert opinions via the focus group method. In the method section, it is explained how the study group was selected. The factors affecting the attitudes regarding sustainable tourism development of this group were analyzed using the DEMATEL method. The results of this study may expand the current literature on sustainable tourism development via multi-criteria decision-making and the social exchange theory. Moreover, the antecedents and target variables in the present study will help future studies to analyze the attitudes of local people.

Literature Review

The sustainable development of tourism requires a steady and harmonious relationship between tourists, residents, and tourism service providers. The context in which the relationship between tourists and the local community occurs diversifies almost unlimitedly the development stage, tourism type and scale, the expectations of tourists, and the target society's characteristics and structure (Pearce, 1998). The majority of the studies, which have intensified in the last 30 years and focused on developed countries in North America, Australia, New Zealand, and England, are related to determining the variables affecting local people's attitudes toward tourism development (Nunkoo & Gursoy, 2012). The number of studies investigating the cause and effect relationships of factors affecting the attitudes of

local people living outside tourism centers and the cities' attitudes toward sustainable tourism development in destinations exposed to mass tourism are scarce (Al Rwajfah, 2020; Demirović et al., 2018; Riengchantr, 2018; Simão & Môsso, 2013; Tovar & Lockwood, 2008).

Researchers have proposed different models and perspectives to investigate the resident communities' reactions to tourism. Doxey's Irritation Index Model (or Irridex) is a four-step model that explains the responses of local people to tourism development. According to the model, the reactions of local people toward tourism have a homogeneous character and the attitudes and perceptions of local people change with experience. In the tourism life cycle model developed by Butler (1980), it is emphasized that there are several stages (discovery, participation, development, consolidation, stagnation, and rejuvenation) in the tourism evolution of a particular destination. Regarding this model, local people may have positive attitudes toward tourism in the early stages of a destination life cycle. However, negative economic, social, and environmental impacts can have an adverse effect on local people's attitudes toward tourism.

The changing nature of encounters between residents and tourists has been explained by theoretical frameworks in which perceptions of local people are studied. The social change theory proposed by Ap (1990) provides a potentially fruitful conceptual framework for such research. The SET tries to explain the interaction process between individuals or groups and the exchange of symbolic or physical resources. In other words, it sees the interaction between groups as a form of action demonstrating that residents and tourists go through a negotiation or exchange process in the context of tourism with the ultimate aim of optimizing the benefits for each party (Sharpley, 2014).

In related literature, there are many factors clarifying the attitudes of destination residents toward sustainable tourism development, the most prominent being economic benefit. Economic benefit has a significant impact on residents' attitudes toward tourism and is the primary deciding factor on whether tourism enhances or improves the local economy (Bahaee et al., 2014) and creates job or other economic opportunities (Andereck & Nyaupane, 2011). Beyond that, tourism creates more opportunities for establishing a local business environment (Almeida-García et al., 2016) and contributes to improving the level of welfare (Yoon et al., 2001).

Many studies suggest that residents adopt a positive attitude toward global tourism due to its social impact (Besculides et al., 2002; Brunt & Courtney, 1999; Harrison, 1992; Sharpley, 2014). As reported by Andereck and Vogt (2000), tourism enhances people's quality of life and this increase positively affects the development of local people. The clearest expression of this process is a series of activities developed within the framework of tourism and the employment of people from varying social strata, age groups, genders, and education levels (Tomic et al., 2012). It has also been suggested that positive attitudes are developed by local people toward the social impact of tourism, as tourism increases the interactions between residents and tourists, and also improves local services and facilities (Sinclair-Maragh et al., 2015). However, problems with social security can directly endanger both visitors and residents. Providing good public security is a key factor for a destination's image and the sustainability of tourism (World Tourism Organization, 2004). The opportunity to participate in tourism activities involving entertainment facilities is seen by local people as a positive effect of tourism (Stylidis et al., 2014). Access to health services is one of the primary social benefits in terms of a reliable destination image, and the participation of local people in decision-making processes is another important factor influencing the perception of tourism development (Rasoolimanesh et al., 2015).

Cultural benefit is perceived to be one of the gains from tourism development as it provides an opportunity to protect the unique culture of a society (Sinclair-Maragh et al., 2015). For instance, Sharpley (1994) emphasized that tourism contributes to the preservation of historical and religious spaces. Thanks to cultural tourism activities and facilities, cultural awareness has developed especially among the younger generations. Tourism enriches local arts, contributes to the development of cultural identity, improves the quality of life, and enhances the image of society (Bahaee et al., 2014). The interactive relations of culture favorably influence the outlook on tourism (Stylidis et al., 2014), and the availability of cultural activities for residents plays a role in increasing support for tourism development.

Residents' perceptions of environmental impact can also influence support for tourism development (Sinclair-Maragh et al., 2015). There are two perception types regarding environmental impact: positive and negative. Tourism can be a mechanism to reduce environmental pollution and demand for resources. In spite of that, it negatively affects the natural and physical resources where tourism activities are based and causes environmental degradation (Choi & Sirakaya, 2005; Dwyer et al., 2009). Many tourism development plans aim to ensure the sustainability of the natural and physical environment, and in a broader sense also aim to achieve the goal of balancing the economic, social, and environmental impacts of tourism on local people (Sinclair-Maragh et al., 2015). Environmental sustainability, which has a substantial place among sustainable tourism principles, includes factors such as the awareness of ecological limits, the prevention of excessive consumption and waste, and the awareness of a region's carrying capacity (White, 2006). Energy efficiency is also a forceful factor in terms of environmental impact (World Tourism Organization, 2004).

The seasonality of tourism is considered a major problem that must be overcome. The main reasons for this are low return on investment, problems in personnel continuity, and exceeding or underutilizing physical capacity (Bimonte & Faralla, 2016). However, the advantageous aspect of seasonality is that it creates an opportunity for the natural environment to recover and revive when there are no tourists and no shoulder season. A similar situation applies to residents; it is good for people to be in the dynamics of normal life without being subjected to the pressures of tourism (Butler, 1998).

Many studies have been conducted to evince the effects of seasonality. Commons and Page (2001) stated that seasonality causes prices to rise during the high season, problems in managing budget and cash flow, increased investment risk due to income instability, and environmental and infrastructure problems due to under- or over-utilization of resources. Most studies emphasized that seasonal employment increases the cost of human resources, decreases the quality of work, and creates a disadvantage for the professional development of employees (Goulding et al., 2005; Krakover, 2000). Butler (2001) emphasized that the high season crowd poses risks of environmental pollution and terrorism. Moutinho and Witt (1995) evaluated the positive aspect of seasonality in terms of environment and described it as an opportunity for nature to recover.

In a SWOT analysis conducted in 2012 by the Professional Hotel Managers Association of Turkey (POYD) with the participation of industry representatives and academics, seasonality was listed as one of the weaknesses of the tourism industry in Antalya. The relevant report underlined that almost all of the participants in the interviews conducted within the scope of the research agreed on this issue. Seasonality was described as the intensification of tourist arrivals and tourism activities in certain months while the resulting tourism cannot be spread throughout the year, or in other words, seasonal gathering. In addition, seasonality causes high turnover rates in employment, is a serious threat to the institutionalization processes of enterprises, creates difficulties in achieving a fully trained and qualified workforce in the summer; moreover, the increasing pressure on tourism supply factors negatively affects the balance of

protection and use, and it financially stretches the sector (Yılmaz et al., 2012). By 2019, it was understood that seasonality remained at the top of the list of problems. The current situation of seasonality in Turkey can be seen clearly in statistical tables. According to the data of the Turkish Statistical Institute (TUIK, 2019), 70% of visitors to Turkey in the last five years accounted for the flood of activity from May to October (a period of six months), and this value reached a more striking rate of 87% in the Antalya region. The Association of Mediterranean Touristic Hoteliers and Operators (AKTOB) stated that the seasonality problem must first be overcome to increase the number of tourists (AKTOB, 2019; Yağcı, 2019).

The way people view tourism is influenced by several factors from socio-demographic variables to personal values. Perceptions or attitudes are individual, but residents are thought to be more typically divided into relatively homogeneous groups. Many of the previous studies have focused on identifying, measuring, and comparing variables that can affect the process of tourism. For example, Harrill (2004) largely referred to economic dependence and socio-economic and spatial factors. However, the duality between the broader target factors and those associated with individuals are commonly defined as external or internal factors. It is also clear that residents were considered as a unique group in many studies, although a great deal of effort has been invested to identify and measure variables that could affect residents' perceptions of tourism. As Andriotis and Vaughan (2003) pointed out, these variables are considered as single entities, or related to each other, independent of subsets within the group; thus, they ignore varying resident populations that retain their distinct attitudes.

Researchers have suggested that local people in tourist destinations do not form a homogeneous group. Krippendorf (1987) identified four types of local community classification, primarily in the context of business: those who work in tourist businesses and are constantly in contact with tourists, those who have irregular contact in businesses not associated with tourism, those who are in regular contact but receive income partially from tourism, and those who do not have contact with tourists. When economic distinctions exist, the perceptions and attitudes of local residents change. Tourists' behaviors vary according to their nationality, and this is related to the question that how a different understanding of nationalism between the two groups can harm both the visitors and the residents in different ways (Griffiths & Sharpley, 2012).

Research Method

In this study, the factors regarding the support of local and foreign residents for sustainable tourism development were examined comparatively using a multi-criteria decision-making (MCDM) technique. The use of this technique is based on whether the researcher deems it to be the most suitable to examine the specific criteria on the topic under investigation (Jankowski, 1995). Therefore, the DEMATEL technique was selected, which allowed us to analyze the interactions between specific factors. With DEMATEL, the factors can be listed according to their importance, and the level of influence between them can be determined. The main reason for choosing the DEMATEL technique was to analyze the cause and effect relationship among the criteria determined in the context of sustainable tourism development. With the DEMATEL method, the type of relationships between the criteria and the strength of the effects on each other can be clearly shown. While composing the structure of the complex relationships between local people's support for the development of sustainable tourism, seasonality, the environmental, social, economic and cultural effects of sustainable tourism, the proposed sub-criteria were also appended in the scope of the study. The research process is presented in Figure 1.
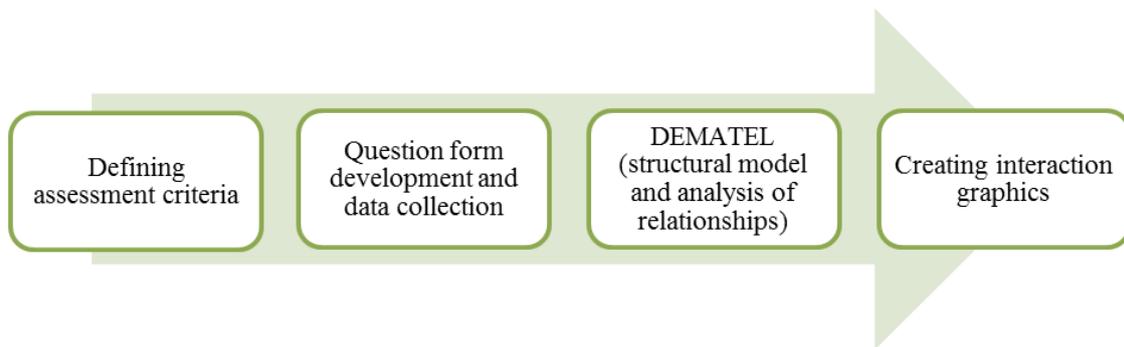
Figure 1. Implementation Process of DEMATEL Technique

From the perspective of sustainable tourism development in this study, four basic benefits (i.e., social, cultural, economic, and environmental) are explained in the literature section. Sub-criteria, which explain the four main benefits, were formed as a result of focus group discussions with expert academicians. Seasonality and support for sustainable tourism development were added to the study without sub-criteria. In Figure 2, the main framework and the factors of the study are presented.
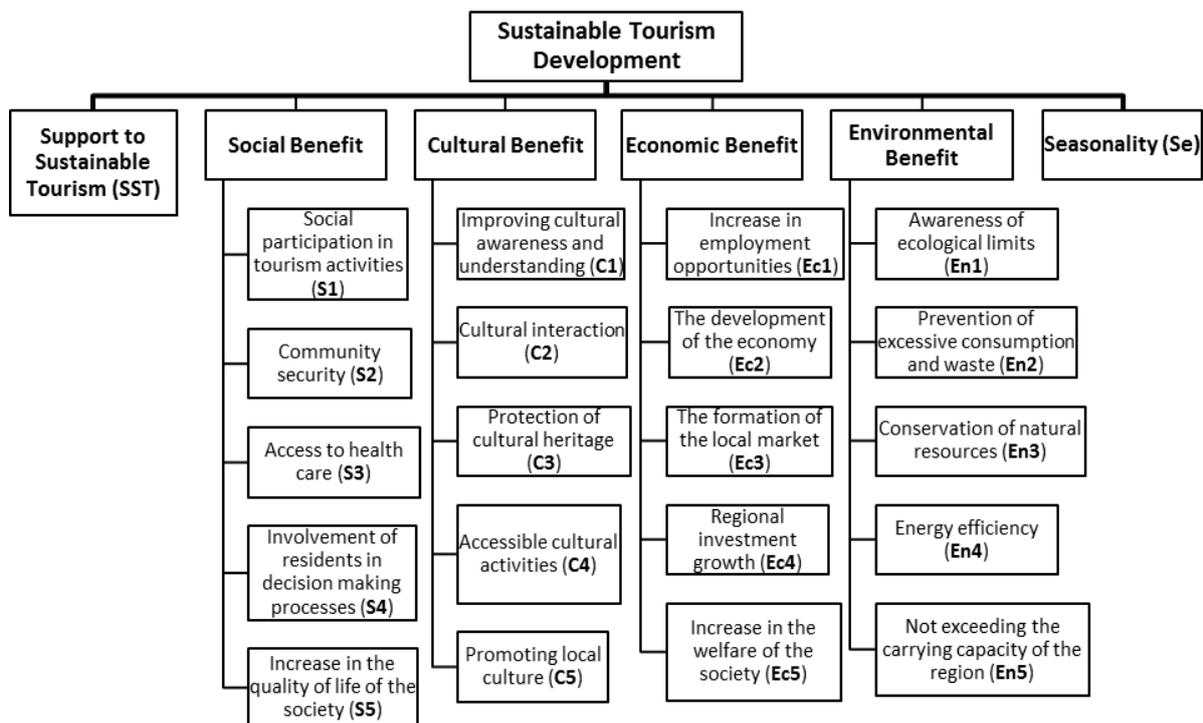
Figure 2. Evaluation Criteria Used in the Research

DEMATEL is defined as one of the comprehensive multi-criteria decision-making techniques introduced to establish, analyze, and visualize causal relationships between complex factors in a structural model (Wu & Lee, 2007). The Decision-Making Trial and Evaluation Laboratory (DEMATEL) method was developed by the Battelle Memorial Institute in Geneva between 1972 and 1976 (Tzeng et al., 2007; Wu, 2008). Another example of a multi-criteria decision-making technique is analytic hierarchy process (AHP), which focuses on the hierarchy of distribution among the elements compared, whereas the Serbian for multi-criteria optimization and compromise solution (VIKOR) method presents a ranking index based on the measure of proximity to the ideal solution using linear normalization. DEMATEL, like other

classic multi-criteria decision-making approaches, allows us to understand the relationships of the elements by rejecting the assumption that the elements in the structural model are only hierarchical and are independent from each other. Compared to other MCDM techniques, the DEMATEL technique has some advantages and disadvantages. Among the most important advantages are its ability to effectively analyze the mutual, direct and indirect effects between different factors, the visualization of the relationships between the factors, and the clear demonstration of the factors that have a mutual influence on each other. With the DEMATEL method, criteria weights can be determined at the same time, and these criteria can be listed according to their importance. On the other hand, when compared to other MCDM methods, it ignores low impact criteria and does not take the aspiration levels of dominant criteria into account as per graph theories (GRA) and VIKOR methods (Si et al., 2018).

In this graph theory-based technique, complex causal relationships allow us to divide factors in the structural model into cause and effect groups (digraph) and see their severity via matrices and/or scatter plots. It is therefore considered a feasible and useful tool to analyze interdependent relationships between factors in a complex system and rank them to determine the scope of long-term strategic decision-making and improvement. The DEMATEL technique has five basic steps (Nilashi et al., 2015; Lin, et al., 2009; Wu, 2008).

Step 1: Generating the Direct-Relation Matrix

A direct relationship matrix is created by the participant or expert group to reveal interaction between criteria, and a binary comparison scale is used to evaluate relationships between criteria. Although these scales vary in literature, we used an evaluation scale in this research consisting of five levels (see Table 1) (Dey et al., 2012; Gabus & Fontela, 1972).

Table 1. Binary Comparison Scale for the DEMATEL Method

0	No influence
1	Low influence
2	Medium influence
3	High influence
4	Very high influence

In this step, all respondents were asked to evaluate the direct influence between any two criteria according to the scale shown in Table 1. In the evaluations, n * n dimensional direct relationship matrices were created for each participant. The matrix was not symmetrical, and the same criteria did not interact; therefore, the diagonal values of the matrix are equal to 0. In the matrix, each i and j element indicates the level of influence from criterion i to criterion j. The average of the matrices obtained from the participants was calculated using the a_{ij} equation. Here, participants demonstrated to what extent one criterion affected another criterion (Karaoğlan & Şahin, 2016). As a result of this evaluation, direct data matrix $A = [a_{ij}]$ was obtained as the primary data for the DEMATEL analysis. Matrix A is also called the original mean matrix and shows the first direct effects that a criterion applies and receives from other criteria.

$$a_{ij} = \frac{1}{H}\sum_{k=1}^{H} x_{ij}^{k} \qquad A = \begin{bmatrix} 0 & \cdots & X_{1n} \\ \vdots & \ddots & \vdots \\ X_{n1} & \cdots & 0 \end{bmatrix}$$

Step 2: Normalized Initial Direct-Relation Matrix

Normalization was carried out to minimize distortion in matrix A. Here, the normalized direct relationship matrix was created using equations S and D. When applying normalization, the first S coefficient must be determined. This value is the largest value of each row's sum in the matrix. The sum of each column i in the matrix shows the total effect on the criterion i. The maximum of these values indicates the most powerful one. Here, each value of the direct relation matrix was divided by coefficient S to obtain a normalized direct relation matrix (D). This matrix takes a value between 0 and 1 and its diagonal takes the value of 0, as per the first matrix.

$$D = \frac{A}{S} \qquad S = \frac{1}{\max\limits_{1 \le i \le n} \sum_{j=1}^{n} a_{ij}} \qquad i, j = 1, 2, \dots n$$

Step 3: Attaining the Total-Relation Matrix

After obtaining the normalized relationship matrix, the T (total relation) matrix was created using the equations below. The unit matrix in the equation is denoted by I. The total relation matrix (T) was formed by subtracting the unit matrix (I) from the normalized relation matrix and multiplying it by the inverse.

$$\lim_{m \to \infty} D^m = [0]_{n \times n} \quad \lim_{m \to \infty} (I + D + D^2 + D^3 + \dots + D^m) = (I - D)^{-1}$$

$$T = [t_{ij}] = \sum_{i=1}^{\infty} D^i = D(I - D)^{-1} \qquad i, j = 1, 2, 3 \dots \dots n$$

Step 4: Finding Affecting and Affected Criterion Groups

Row and column totals in the total relationship matrix are available to determine the affected and influential criterion groups and to calculate their degree of impact. Each row and column was summed up separately, vector D was created for row totals, and vector R was created for column totals. After D and R vectors were found, (D+R) and (D-R) vectors were created (Çınar, 2013). The value of (Di-Ri) i indicated the net effect of the unit criterion. If this value is positive, it shows that criterion i is net influencing, and if it is negative, it reveals that it is net affected (Lee et al., 2008; Liou et al., 2007). (Di+Ri) shows how important the i unit criterion is compared to other criteria. While negative values from (Di-Ri) constitute an affecting group, positive ones constitute an affected group.

$$D = [D_i]_{n \times 1} = \left(\sum_{j=1}^{n} t_{ij} \right)_{n \times 1} \qquad R = [R_j]'_{1 \times n} = \left(\sum_{i=1}^{n} t_{ij} \right)'_{1 \times n}$$

Step 5: Producing a Causal Diagram

To create a diagram, a threshold value must be determined in order to show the effect level of the criteria. There are two ways for determining the threshold value. The first is the researcher's application of expert opinion. However, if the number of expert opinions is high, it may be difficult to accurately determine the threshold value. In this case, the arithmetic

mean (W_i) of the total relation matrix can be taken to determine the threshold value, which is important in terms of preventing complexity that may occur while drawing the diagram. D+R (degree of importance) values were placed on the horizontal axis of the diagram and D-R (degree of relation) on the vertical axis. Criteria above the threshold value were determined as influential and the direction of action was indicated by the arrow in the diagram. The situation that any criterion affects itself is also shown in diagram. The direction of arrows is created from the affected toward the affecting.

$$W_i = \sqrt{[(r_i + c_j)]^2 + [(r_i - c_j)]^2} \qquad W_i = \frac{W_i}{\sum_{i=1}^{n} W_i}$$

Data Collection and Analysis

Within the scope of the research, 19 people (locals and foreign residents) were interviewed in Antalya's city center in Turkey between November and December 2019. During the collection process, two DEMATEL forms were created to evaluate the differences in perception for sustainable tourism development between local and foreign residents. The ages of the participants in the foreign resident group ranged from 23 to 55 and they had been living in Antalya for an average of seven years. The ages of the locals ranged from 29 to 62, and this group had been living in Antalya for an average of two generations. After collecting the raw data, the DEMATEL forms were prepared for analysis. In the first stage of the analytical process, DEMATEL was applied separately to the sub-factors related to social, economic, environmental, and cultural benefits of sustainable tourism, and then to sustainable tourism development support, seasonality, and interaction of the benefits. The data of local and foreign residents were processed without being merged.

The DEMATEL steps described above were followed. First, the arithmetic averages of the responses given by the participants were obtained, and direct relationship matrices were created and normalized by dividing them by the largest value of the row totals. In the next step, total matrices were created by subtracting unit matrices from normalized matrices and multiplying the results by the inverse. D, R, D-R, and D+R vectors were obtained to determine the affecting and affected factors and their importance in the matrix. Before drawing the effect diagrams, the average of each total relationship matrix was taken, and threshold values were determined for the effect level. Finally, impact diagrams were drawn, and the priority levels of factors were calculated. Findings obtained as a result of the analysis are presented below on impact charts under the headings of social benefit, cultural benefit, economic benefit, environmental benefit, and support for sustainable tourism development.

Results

Social Benefits

In the context of social benefits and in relation to the support of sustainable tourism by local people, the interaction between social participation in tourism activities (S1), community security (S2), access to health services (S3), the involvement of local people in decision-making processes (S4), and the increase in the quality of life of society (S5) were examined. The interactions of these criteria are shown in Figure 3 for the local residents and in Figure 4 for the foreign residents.
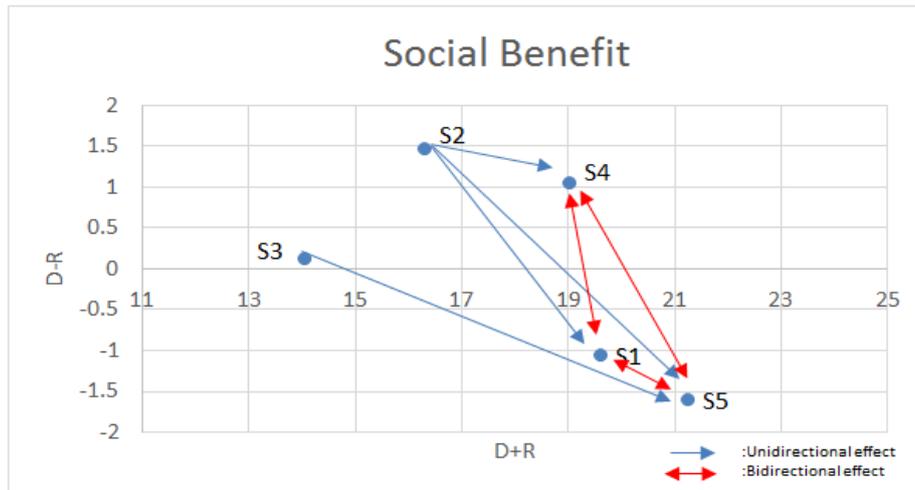
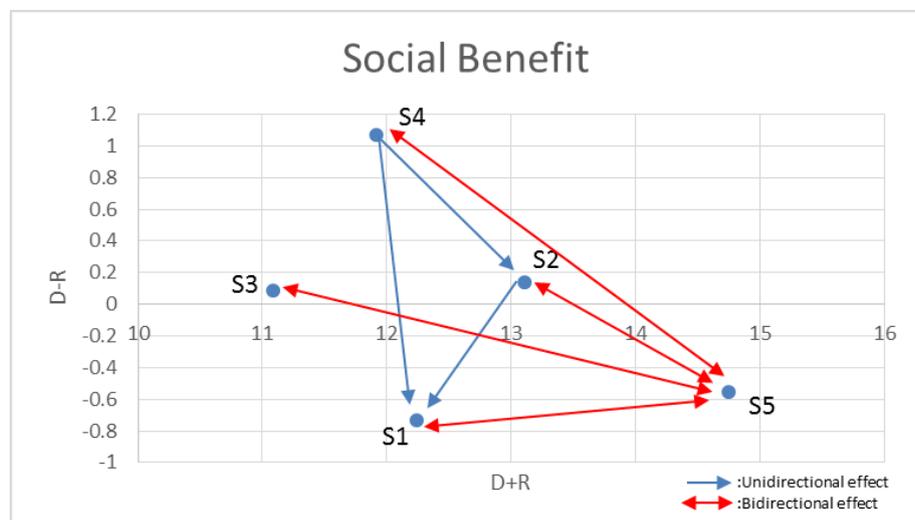**Figure 3.** Social Benefit (Locals)

Figure 4. Social Benefit (Foreign Residents)

When the values of the D-R axis that show the affected groups in the graphs were examined, it showed social security and involvement of local people in decision-making in the chart pertaining to the local residents. The influencing factor for foreign residents was participation of local people in the decision-making processes. For both local and foreign residents, the affected factors were social participation in tourism activities and increase in the quality of life in society, but the most affected factor was the increase in the quality of life in society. Furthermore, the fact that the arrows are uni- or bi-directional in the graphs shows that the interaction between the factors is mutual or unidirectional. On the other hand, considering the D+R axis, which shows the weight (significance) among factors, the most important factor was the increase in the quality of life in society; therefore, the increase in the quality of life was the most affected factor for both groups and it had the highest significance level. The least significant factor shown in both graphs was access to health services. The significance levels of other factors are presented in Table 2.

Table 2. Significance Levels of Social Benefit Criteria

	S1	S2	S3	S4	S5
Locals	19,63262	16,3647	14,0358	19,05277	21,30581
Foreign residents	12,26501	13,11201	11,09439	11,96932	14,76124

Cultural Benefit

The interaction of factors that constitute cultural benefits that are effective in supporting sustainable tourism development is presented in Figure 5 and Figure 6. Factors for cultural benefits are improving cultural awareness and understanding (C1), cultural interaction (C2), protection of cultural heritage (C3), accessible cultural activities (C4), and promotion of local culture (C5).
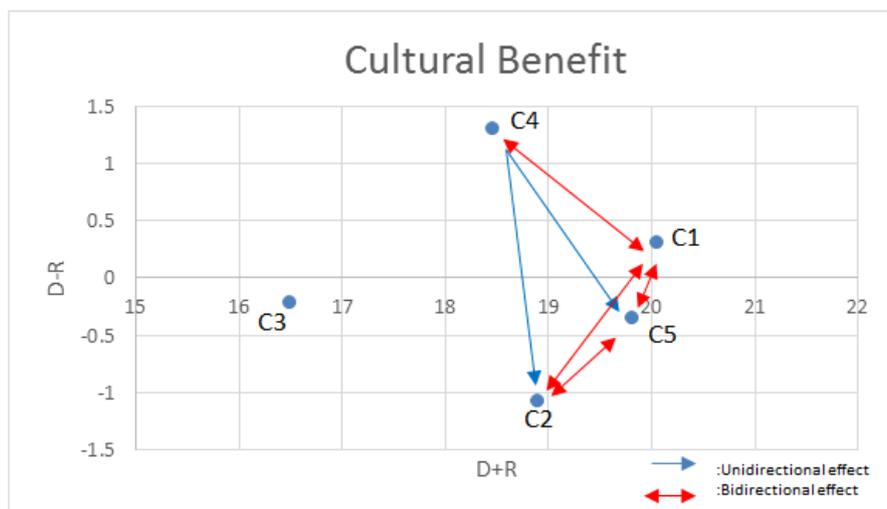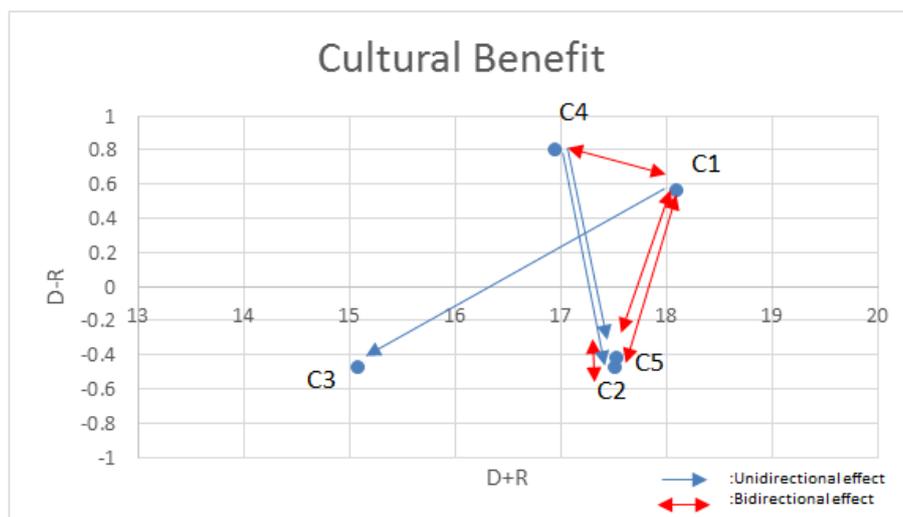

Figure 5. Cultural Benefit (Locals)

Figure 6. Cultural Benefit (Foreign Residents)

The D-R axis results show that developing cultural awareness and understanding along with making cultural activities accessible were the most affected factors for both groups. Affecting factors were cultural interaction for locals and cultural interaction and promotion of local culture for foreign residents. Another important finding was that while the protection of cultural heritage did not interact with other factors for locals, this factor only affected improving cultural awareness and understanding for foreign residents. The most and least important factors were similar for both groups according to the D+R axes (Table 3). While improving cultural awareness and understanding was the most significant factor, the protection of cultural heritage was the least significant factor for all participants.

Table 3. Significance Levels of Cultural Benefit Criteria

	C1	C2	C3	C4	C5
Locals	20,04414	18,91932	16,4853	18,50444	19,79978
Foreign residents	18,11082	17,52333	15,09117	16,96413	17,52768

Economic Benefit

In the context of sustainable tourism support, economic benefits were analyzed through the interaction between factors that increase employment opportunities (Ec1), development of the economy (Ec2), formation of a local market (Ec3), regional investment growth (Ec4), and the welfare level of society (Ec5). Within the scope of economic benefit, the interactions of the criteria are shown on the diagrams in Figure 7 for the locals and Figure 8 for the foreign residents.
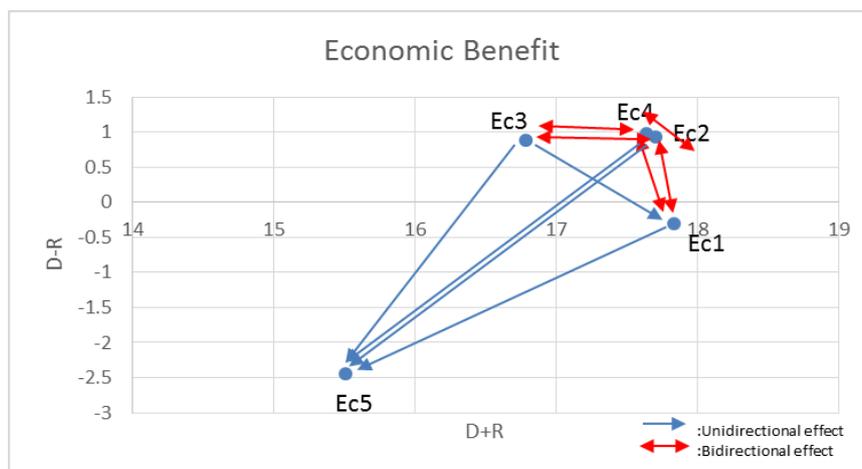
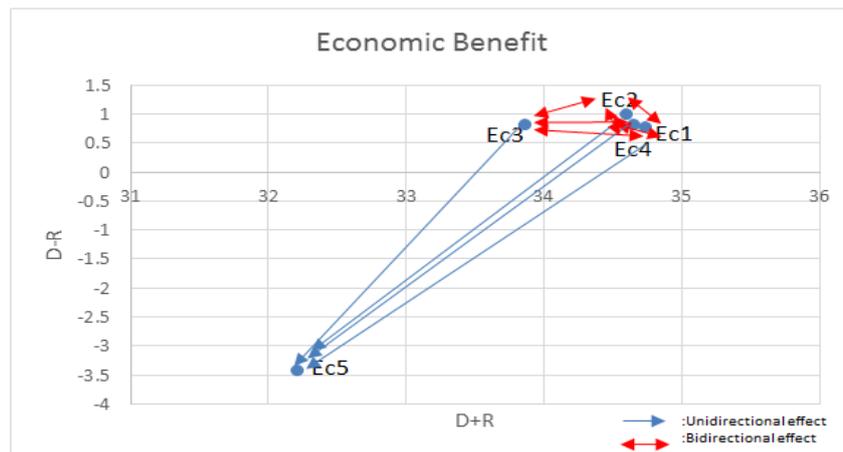

Figure 7. Economic Benefit (Locals)

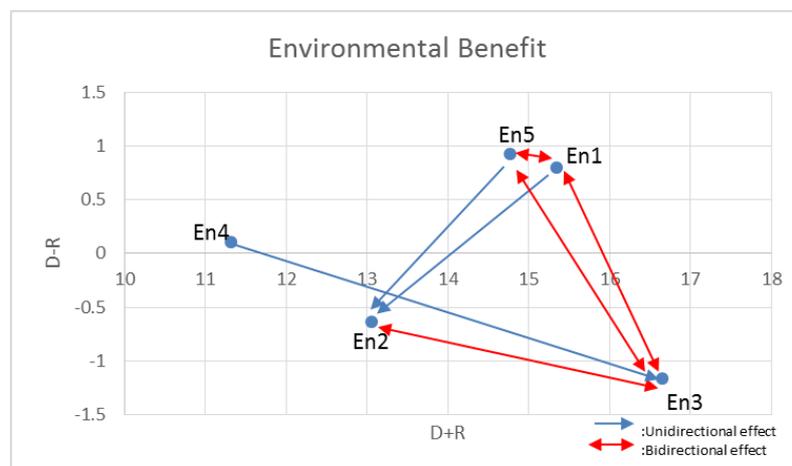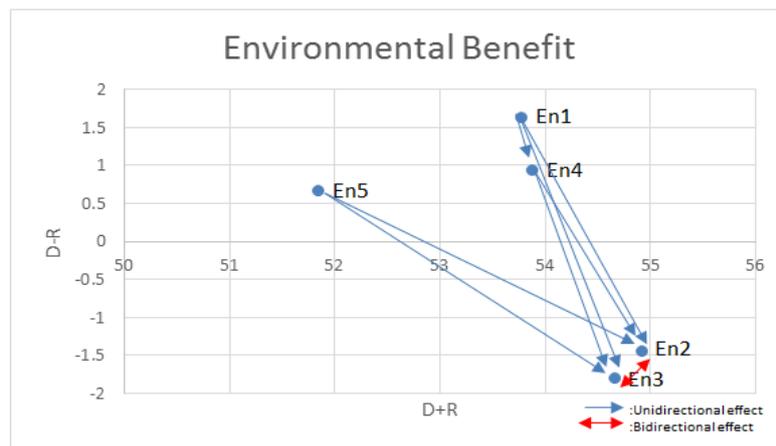**Figure 8.** Economic Benefit (Foreign Residents)

When the values on the D-R axes were examined, it was revealed that the increase in the welfare level of society (Ec5) was the most affected factor for both groups. At the same time, a similar image appeared for the affecting factors. When the significance levels of the aforementioned factors were analyzed in the D+R axis, it was seen that the most and least significant factors were the same for local and foreign residents (see Table 4). While the increase in employment opportunities was the most significant factor, the increase in the welfare level of society was the least significant factor.

Table 4. Significance Levels of Economic Benefit Criteria

	Ec1	Ec2	Ec3	Ec4	Ec5
Local	17,84167	17,73129	16,81377	17,66973	15,71101
Foreign resident	34,73798	34,61439	33,86577	34,65655	32,38655

Environmental Benefit

In the context of sustainable tourism support, environmental benefits were analyzed through the interaction between the awareness of ecological limits (En1), the prevention of excessive consumption and waste (En2), the conservation of natural resources (En3), energy efficiency (En4), and not exceeding the carrying capacity of the region (En5). The interactions of the criteria determined within the scope of environmental benefit are shown on the diagrams in Figure 9 for locals and Figure 10 for foreign residents.

Figure 9. Environmental Benefit (Locals)

Figure 10. Environmental Benefit (Foreign Residents)

According to the results obtained, there are differences in the evaluation of criteria determined for environmental benefit. When viewed on the D-R axis, while the conservation of natural resources and the prevention of excessive consumption and waste are both affected factors, the most influential factors are the awareness of ecological limits and energy efficiency for both local and foreign residents, but foreign residents also included the factor "not exceeding the carrying capacity of the region." The most significant factor for foreign residents was found to be the prevention of excessive consumption and waste, and for locals was the

protection of natural resources. The least significant factor for the locals was energy efficiency, and for the foreign residents was "not exceeding the carrying capacity of the region."

Table 5. Significance Levels of Economic Benefit Criteria

	En1	En2	En3	En4	En5
Local	15,37705	13,07561	16,70379	11,32595	14,80695
Foreign resident	53,79655	54,93663	54,68603	53,88538	51,84085

Support for Sustainable Tourism Development

The interaction between the support for sustainable tourism development and the social, cultural, economic, and environmental benefits that can be obtained as a result of sustainable tourism development and the seasonality of the tourism system are presented in Figure 11 for locals and Figure 12 for foreign residents.
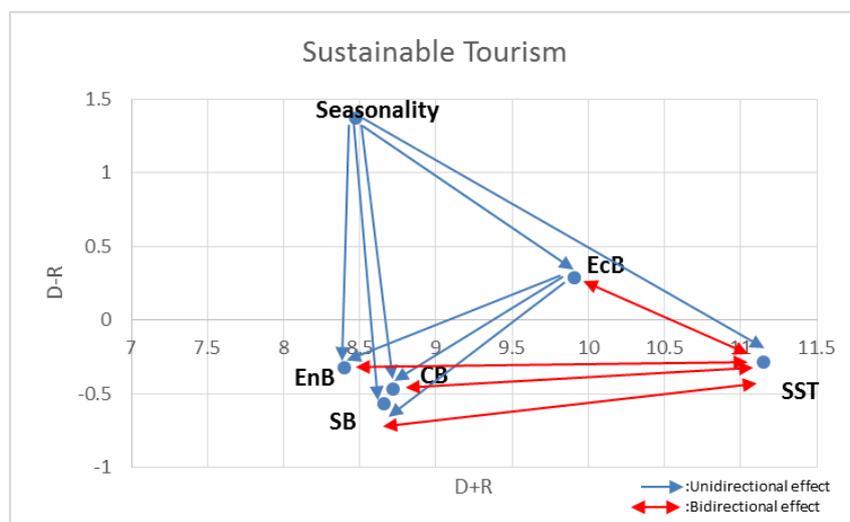

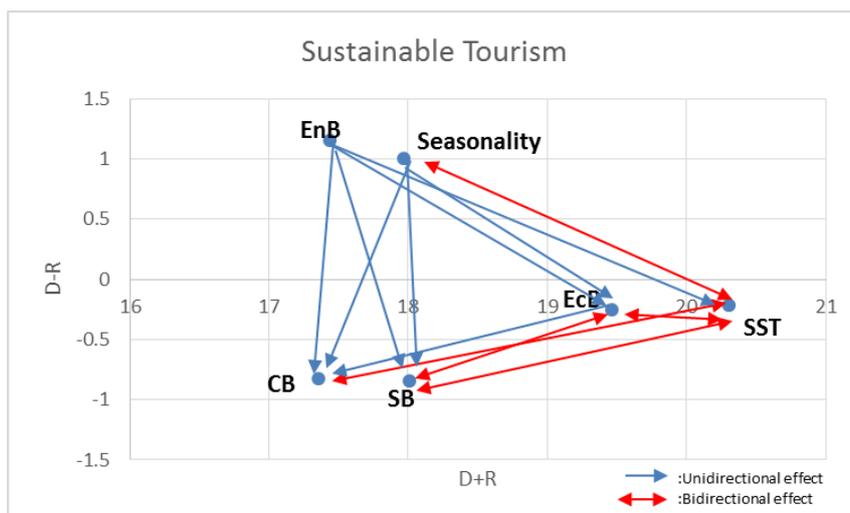**Figure 11.** Sustainable Tourism (Locals)

Figure 12. Sustainable Tourism (Foreign Residents)

There were differences in the evaluation of sustainable tourism development in the two groups. The D-R axis showed that while seasonality was the most affected factor for the locals, environmental benefit was the most affected factor for foreign residents. The factors

most affecting the locals were environmental, cultural and social benefits, and support for sustainable tourism development. For foreign residents, the most affecting factors were cultural and social benefits. Support for sustainable tourism development was considered to be the most significant factor, and environmental benefit was the least significant factor for both groups (see Table 6). Another important finding was that while the environmental benefit was an affected factor for local people, it was the most affecting factor for foreign residents.

Table 6. Significance of Levels of Attitude Towards Sustainable Tourism Development

	SST	SB	CB	EcB	EnB	S
Local	11,15945	8,680257	8,734103	9,919215	8,405613	8,583968
Foreign resident	20,30785	18,03346	17,37748	19,4675	17,47684	18,00062

Conclusion and Implications

In this study, the attitudes of different groups of local people toward sustainable tourism development for a popular tourist destination were analyzed comparatively. The most important contribution of this research to the related literature is the examination of the cause and effect relationships between the sustainable tourism development factors (i.e., support for sustainable tourism, social, environmental, cultural, and economic benefits, and seasonality). According to the results, there are similarities and differences between the attitudes of local and foreign residents in evaluating sustainable tourism development. These similarities and differences are clearly seen in the cause and effect relationships between the factors affecting the attitudes based on sub-factors.

Multi-criteria decision-making methods provided useful information for factors responsible for destination planning. In the context of the research, support for sustainable tourism development was found to be the most influential factor for the locals. Seasonality stands out as the most influential factor for the local population in the context of research, as well as across popular tourist destinations (Çızel et al., 2013). Seasonality is considered a major problem to be overcome for tourist areas, and the main reasons for this are low return on investment, problems with staff continuity, and exceeding or underutilizing physical capacity (Butler, 1998; Çızel et al., 2013; Commons & Page, 2001). Turkey Hoteliers Federation (TUROFED) suggested that the removal of seasonality in the sector would improve the continuity of trained and qualified staff and create a chance to utilize facility capacity more efficiently. Emphasis was placed on the need to increase product diversity in tourism to reduce seasonality (Ayık, 2019).

Theoretical and Managerial Implications

The results of the study provide several theoretical and managerial implications. First, while locals consider social security and participation of local people in decision-making processes as the criteria that affect social support, the participation of local people in decision-making processes came to the fore as the criterion that affects foreign residents. The target variable in the perception of social benefit for both groups is an increase in the quality of life in society. On the other hand, crime rates occurring in parallel with tourism development, the deterioration of social order, and the increased risk perception regarding security are felt more by locals. For local and foreign residents, participation in decision-making processes was the most significant criterion affecting social support for sustainable tourism development. This was also discussed in similar studies (Rasoolimanesh et al., 2015).

Second, when the criteria that constitute cultural benefits were analyzed, the factors affecting the improvement of cultural awareness and understanding and accessible cultural activities for both groups, cultural interaction for locals, and the promotion of local culture were found to be the affected factors. Cultural benefit was perceived to be one of the gains from tourism development as it provides an opportunity to protect the unique culture of a society (Sinclair-Maragh et al., 2015). With cultural tourism activities and facilities, cultural awareness can develop, especially among younger generations (Sharpley, 1994). Tourism supports local arts, contributes to the development of a cultural identity, improves the quality of life, and improves the image of society (Bahaee et al., 2014). Creating cultural interaction positively affects the attitude to tourism (Stylidis et al., 2014). The availability of cultural activities for local people plays a role in increasing support for tourism development (World Tourism Organization, 2004).

Third, it was seen that the increase in the welfare level of society was the most affected factor in the evaluation of economic benefits. The affecting factors (i.e., the increase in employment opportunities, the development of the economy, the formation of a local market, and the increase of regional investments) were similar in both groups. Economic benefit had a significant impact on local people's attitudes toward tourism because local people believe that tourism enhances or improves the local economy (Bahaee et al., 2014). This improvement process is perceived to be the most important benefit of tourism development, as it provides local people with business and other economic opportunities (Sinclair-Maragh et al., 2015). The reason that economic impact is valued by local people is that tourism creates employment opportunities as an important source of income for local people (Andereck & Nyaupane, 2011). Locals can also benefit from tourism if it brings more opportunities to create a local business environment (Almeida-García et al., 2016). Tourism also leads to a series of improvements in infrastructure and public facilities, which contribute to the increase in the welfare of tourism (Yoon et al., 2001).

Lastly, there were differences in the evaluation of the criteria determined for environmental benefit. While the conservation of natural resources and the prevention of excessive consumption and waste were the affecting factors for both groups, the most affected factors were the awareness of ecological limits and the energy efficiency for locals, and not exceeding the carrying capacity of the region for foreign residents. Local people's support for tourism development can also be affected by their perception of environmental impact (Sinclair-Maragh et al., 2015). There are two types of perceptions regarding environmental impact, i.e., positive and negative. While tourism is seen as a mechanism to reduce environmental pollution and demand for resource, it is also believed that it negatively affects the natural and physical resources on which tourism activities are based and that it causes environmental degradation (Choi & Sirakaya, 2005; Dwyer et al., 2009). Many tourism development plans strive to ensure the sustainability of the natural and physical environment and, in a broader sense, wish to achieve the goal of balancing economic, social, and environmental impacts on local people (Sinclair-Maragh et al., 2015). Environmental sustainability has an important place among sustainable tourism principles, and under this heading, there are factors such as the awareness about ecological limits, the prevention of excessive consumption and waste, and not exceeding a region's carrying capacity (White, 2006). Energy efficiency is an important factor in terms of environmental impact (World Tourism Organization, 2004).

Limitations and Recommendations for Future Research

This study has some limitations. Within the scope of the research, mixed methods were used in an attempt to strengthen the findings. However, the number of people participating in the

research was limited. In addition, the attitudes of two different groups toward sustainable tourism development were examined. Future studies, which might focus on significant groups for destinations, can provide important benefits to the related literature. Moreover, this study evaluated the attitudes of the two different groups in a tourist destination in a given period (cross-sectional) and addressed their perceptions in a specific direction. Although the results of previous studies are consistent with the research objectives during the period of this study, they become less significant in a historical context. As a result, there are no studies that provide sufficient evidence to show how residents' attitudes toward tourism have changed or transformed over time. However, one of the criticisms of the social exchange theory as a conceptual framework is that perceptions allow for evaluation from a broader socio-cultural and historical perspective. In this context, the potential for residents to work overtime should not be ignored and the attitudes of local people toward tourism development support should be analyzed with a longitudinal approach.

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