

# DETERMINING THE FACTORS TAKING ROLE IN SKI/SNOWBOARD PREFERENCES

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## Abstract

In this study, socio-economic factors underlying tourists' skiing or snowboarding preferences were proposed to determine. purpose was determine. Study material is acquired with a questionnaire study conducted on 295 participants who came to Palandoken and Konaklı Ski Center with the purpose of vacation in February 2015. In the study the contributory factors in the preference for ski-type was detected and then the unit-effects of the factors that have impact on the preferences was measured with their standard error. To achieve this goal, Conditional Logit Model was used. In the Logit Model the socio-demographic and economic conditions of the individuals are determinant factors for their skiing or snowboarding preferences. According to the descriptive statistic results, while the %32.9 of the guests that have participated in questionnaire reside in Erzurum, %38.2 of them come from Istanbul, Ankara and İzmir. While the %36 of the guests that have participated in questionnaire are female, it is confirmed that the average income of the vacationers is 6400 TL and that %20 of the guests paid 1000 TL and above for the accommodation. Almost all guests coming from other cities have stated that the center is quite better compared to the other centers.

**Keywords:** *Winter tourism, Economic cost, Income, Conditional Logit Model.*

**JEL Code:** *Q*

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# KAYAK/SNOWBOARD TERCİHİNDE ROL ALAN FAKTÖRLERİN BELİRLENMESİ

## Özet

Çalışmada turistlerin kayak yada snowboard yapma tercihlerinin altında yatan sosyo-ekonomik faktörlerin tespit edilmesi amaçlanmıştır. Çalışma materyali Şubat 2015 tarihinde Palandöken ve Konaklı kayak merkezine tatil amaçlı gelen 295 katılımcıya uygulanan anketlerden elde edilmiştir. Çalışmada kayak türü tercihinde rol alan faktörler belirlenmiş ve daha sonra tercihlere etki eden faktörlerin birim etkileri standart hatalarıyla birlikte ölçülmüştür. Bu amaca ulaşmada Logit Modeli kullanılmıştır. Logit modelinde bireylerin sosyo-demografik ve ekonomik faktörleri kayak yada snowboard yapmalarında belirleyici faktörlerdir. Deskriptif istatistik sonuçlarına göre anket uygulanan konukların %32.2'si Erzurum'da ikamet ediyorken, %38.3'ü İstanbul, Ankara ve İzmir'den gelmiştir. Anket uygulanan konukların %36'si bayan iken tatilcilerin ortalama gelirlerinin 6400 TL olduğu, konukların %20'sinin konaklamaya 1000 TL ve üzeri para ödedikleri tespit edilmiştir. Şehir dışından gelenlerin tamamına yakını merkezin diğer merkezlerle mukayese edildiğinde oldukça iyi olduğunu belirtmişlerdir.

**Anahtar kelimeler:** Kış turizmi, Ekonomik maliyet, Logit Model.

**JEL Kodu:** Q

## INTRODUCTION

Tourism is considered to be one of the important economic and social activities that facilitate global convergence and development today (Güzel, 2011). The popularity of culture, nature and winter tourism is increasing day by day, among the alternatives towards which the tourism sector called the service industry of the 21st century gravitates. More tourists are participating in sightseeing with international tourism movements. In recent years, studies on tourism types that may be an alternative to coastal tourism are being carried out in Turkey (Hacıoğlu and Avcıkurt, 2008; Özgen, 2010). These studies have led to a demand for tourism that is shifting from sea, sand and sun tourism to winter, nature and culture tourism. They have also made some changes among the regions that are important in terms of tourism (Durgun, 2007). This diversity in tourism contributes to the elimination of the uneven distribution of tourism in the geography of the country while primarily helping the distribution of the intensity to all months during the year (Soykan, 2003). Countries are

aiming to diversify tourism supply to spread tourism activities throughout the country and to benefit from the contributions that tourism can provide to regional socio-economic development, by taking into account the desire of the environment-conscious tourists to orient themselves towards the nature (Akova, 1995).

In winter sports tourism, as in other tourism branches, participants are increasing every year. Nowadays, ski tourism has spreaded all over the world (Bätzing, 2015). Nevertheless, winter sports tourism has been a tourism product for many years in the world tourism. The fact that tourism is one of the application types that makes it exist outside the usual season also makes winter tourism special and important. In 2016 International Report on Snow and Mountain Tourism, it is stated that there are around 2000 winter tourism centers in 68 countries. Eastern Europe and China are at the forefront of the regions where this tourism has been rapidly developing. Moreover, the states such as Algeria, Greece, Turkey, Pakistan, South Africa, India, New Zealand and Iran also appear to be in development in this area (Vanat, 2016). The multi-billion-dollar global ski market has been relatively stable for the last 15 years in-between 350 and 400 million skier visits. Negative to slightly positive growth rates have been observed in most established markets, such as the US, France, and Scandinavia, with extraordinary growth in emerging markets like China, and a visible decline in Japan (Vanat, 2018).

Although Turkey with its Taurus and North Anatolian Mountains connecting the Alps to Himalayas — has areas very suitable for winter tourism, this potential has not been able to be adequately benefited for many years (Doğanay and Zaman, 2013). However, investments in this area have been made in recent years, and significant progress has been made in terms of winter tourism (Altaş et al., 2015).

Although Turkey is a temperate zone state, it has winter tourism centers with national and international importance because of its special locational privileges. Bursa Uludağ, Erzurum Palandöken and Konaklı, Kayseri Erciyes, Bolu Kartalkaya and Kars Sarıkamış are the winter tourism centers that come to the foreground (Ağger, 2011). In addition to this, the fact that the 25th World University Winter Games in 2011 and the European Youth Winter Festival in 2017 were in Erzurum has proved that the region has an important winter tourism center potential, especially in this area (Dastan et al., 2016). With its runway length, snow quality, proximity to air space, accommodation opportunities, and number of facilities, the Palandöken Ski Center has many sportsmen camping sites internationally, and it has a number of FIS approved ski slopes suitable for Alpine discipline. All these make the center a

privileged center compared to the other centers of Turkey (Cimilli et al., 2016; Koca et al., 2007). What is more, the Palandöken Ski Center is one of the ski centers close to the city center in the world with a distance of 4 km to Erzurum city center (Şebin, 2009).

As literature on winter tourism was researched, the effects of climate change on winter tourism was underlined by (Campos Rodrigues et al., 2018; Falk, 2010; Chapagain et al., 2018; Scott et al., 2019; Spandre et al., 2019). Some researches were revealed for improvement of winter sport activities (Pons et al., 2014; Weber et al., 2016; Zehrer et al., 2017). In the related literature of this paper, Won and Hwang (2009) has a remarkable study, titled “Factors influencing the college skiers and snowboarders' choice of a ski destination in Korea: A conjoint study”. In different parts of the world, winter tourism studies have been conducted. However, there is no such study about factors affecting tourists skiing and snowboarding choice. Therefore, this study is very authentic and will contribute to the literature.

In this context, the aim of this study was to specify the socio-economic status of the tourists visiting the Palandöken and Konaklı Ski Centers, some of Turkey’s important ski centers, and to determine socio-economic factors underlying their preferences on whether to ski or go snowboarding.

## MATERIAL AND METHOD

The study material was obtained from a questionnaire administered to 295 participants who came to Palandöken and Konaklı Ski Centers on February 2015 for holiday purposes. The number of questionnaires administered was determined based on the proportional sampling method, using the following equation (Miran, 2003).

The number of samples according to this formula is calculated as 269. The number of questionnaires was increased by 10% and 295 questionnaires were applied, 295 of them were analyzed.

$$n = \frac{Np(1 - p)}{(N - 1)\sigma_{p_x}^2 + p(1 - p)}$$

Equality;

n: Sample size

N = Main mass (average number of visitors to Palandöken Mountain during the January-February survey is 25000)

$$\sigma_{p_x}^2 = \text{Variance } (0.05/1.64)^2$$

P = n ratio (0.5 was taken).

In the study, the factors that play a role in the ski category preferences were determined and the unit effects of the factors affecting the preferences were measured together with their standard errors. The Logit Model was used to reach this aim. In the Logit model, both the skiing categories and the socio-demographic and economic factors of the individuals are the decisive factors for the individual to choose skiing type.

## RESULTS AND DISCUSSION

Winter tourism is one of the main factor of economic development (Dordeviç, 2018). Skiing the most popular activity of winter tourism and snowboarding having increased rapidly in recent years are spreading especially with the interest of young people today. The ski centers offer accommodation for their guests in their comfortable hotels, as well as a wide range of services, from tours to materials supply. There are many ski resorts providing quality service in a country like Turkey experiencing the four seasons and where the winter is enjoyed with an irresistible beauty. When Table 1 is examined, it is seen that there are 28 ski resorts in Turkey. While the first eight (1–8) are tourism centers, the last eight (9–16) are not fully active centers. The Erzurum Palandöken Winter Sports Center is the number one center in terms of the current bed capacity, the capacity of the number of people sliding at the same time and the length of the runway. This province is followed by Uludağ.

**Table 1.** The current state of the ski centers in Turkey (2016)

Rank	Centers (TC/CTCDR)*	Bed Capacity		Existing Mechanical Facilities		
		Present	Target	Quantity	Capacity (person/hour)	Length (m)
1	Erzurum Palandöken Winter Sports TC	2466	8850	19	24563	22018
2	Bursa Uludağ II. Development Region TC	2250	3500	22	15000	16145
3	Bolu Köroğlu Mountain CTCDR	1713	4000	14	10000	10380
4	Kayseri Erciyes Winter Sports TC	1000	6000	13	19300	21832
5	Kastamonu Çankırı Ilgaz Winter Sports TC	1217	1300	6	5639	5983
6	Kocaeli Kartepe TC	800	1000	4	6400	3250
7	Kars Sarıkamış Winter Sports TC	833	12000	4	5348	6263
8	Isparta Davraz Mountain Winter Sports TC	467	1600	4	3800	3621
9	Sivas Yıldız Mountain Winter Sports TC	110	1600	3	3000	4547
10	Çankırı Ilgaz Kadınçayırı Yıldıztepe CTCDR	80	400	1	1200	1588
11	Ardahan Yanlızçam Uğurludağ Winter Sports TC	74	4250	2	2000	2250
12	Bayburt Kop Mountain TC	60	810	1	600	1220
13	Gümüşhane Zigana Tourism Center	40	470	1	843	661
14	Erzincan Ergen Mountain CTCDR	-	8000	3	3450	6967
15	Denizli Tavas Bozdağ CTCDR	-	2250	3	2400	3822
16	Samsun Ladik Akdağ Winter Sports TC	-	800	1	800	1360
	Others (12 units)	97	22515	-	-	-
	<b>TOTAL</b>	<b>11207</b>	<b>79345</b>	<b>101</b>	<b>104343</b>	<b>111907</b>

Source: (Anonymous 2017)

\*Tourism *Centers (TC)* Culture and Tourism Conservation and Development Regions (*CTCDR*)

It is noteworthy that the level of education of tourists visiting Erzurum Palandöken Winter Sports Center is quite high. While 85.4% of the tourists have a university or higher education level, it is seen that the ratio of high school graduate tourists is 12.2% and that of primary school graduates is only 2.4% (Table 2). 25.8% of the tourists live in Istanbul, 12.5% live in Ankara and İzmir, while the rate of those living in Erzurum is 32.2%. 83.0% of the

tourists ski, 17.0% snowboard. Higher income tourists prefer Sway and Polat Hotels (45.9%), which have more night skiing opportunities.

**Table 2.** Some features related to holiday makers

		N	%
<b>Educational Status</b>	Primary education	7	2.4
	High school	36	12.2
	University	200	67.8
	Master's and Ph.D.	52	17.6
	<b>Total</b>	<b>295</b>	<b>100.0</b>
<b>Area of Residence</b>	Istanbul	76	25.8
	Ankara and Izmir	37	12.5
	Erzurum	95	32.2
	Others	87	29.5
	<b>Total</b>	<b>295</b>	<b>100.0</b>
<b>Preferred ski category</b>	Ski	245	83.0
	Snowboard	50	17.0
	<b>Total</b>	<b>295</b>	<b>100.0</b>
<b>Distribution of holidaymakers according to runway preferences</b>	Palandöken Ejder 3200	162	54.9
	Sway	97	32.9
	Polat	36	12.2
	<b>Total</b>	<b>295</b>	<b>100.0</b>

In Turkey, especially in Aegean and Mediterranean regions, summer tourism is quite advanced. Modern tourism facilities have been established with sufficient infrastructure services in these regions. They attract the interest of local and foreign tourists. Studies show that tourism agencies, advertising and the Internet have an important role in summer tourism. However, it is seen that winter tourism has not been given as much importance as it deserves for its contribution to the spread of tourism revenue year-round. The visitors that were surveyed stated that family and friend recommendations were very effective in choosing the Palandöken Winter Sports Center (Table 3). The Internet was in the second place. It was determined that tourism agencies, advertisement brochures, magazines and TV had almost no effect.

**Table 3.** The effect of the information resources used before coming to Erzurum Palandöken Winter Sports Center

Information source	Average*
Family, friends, etc. recommendation	4.18
Tourism agencies	1.44
Newspaper/magazine/TV/radio	1.50
Internet	1.79
Advertisement books and/or brochures	1.32
By chance	1.39

\*1=ineffective, 2=somewhat effective, 3=moderately effective, 4=highly effective, 5=very effective

It is noteworthy that the quality of service in ski tourism is not as high as it is in sea tourism. Today, there are studies on quality of service and customer satisfaction (Kotler, 1997; Kelley and Turley 2000; Shonk and Chelladurai, 2008) and service quality in ski centers (Gençer et al., 2008).

Table 4 gives the satisfaction levels of the holidaymakers on the premises and the services provided. It was found that the holidaymakers were generally moderately satisfied with services, guidance and counseling services and visitor safety services on premises. When the holidaymakers compared Erzurum Palandöken Winter Sports Center with the domestic alternatives, they indicated that this center was quite good (3.93) compared with the others.

**Table 4.** Distribution of holidaymakers by satisfaction with facilities and services

Facility and service status	Average*
Service on premises	3.39
Guidance-consulting services	3.32
Visitor safety services	3.31

\*1=very bad, 2=bad, 3=moderate, 4=good, 5=very good

The dependent variables in the model were the preferences of skiers and snowboarders who were surveyed. The independent variables were determined as the city of residence, educational status, gender, marital status, working status, association membership, home and car ownership, status of visiting alone, skiing experience, age and income.

83% of the surveyed tourists preferred to ski, 86% were university graduates, 64% were male, and 66% were employed. While the average skiing experience of the tourists was 7.5 years, their average age was 34.



**Table 5.** Descriptive statistics about variables

Variables	Average	Standard Deviation	VIF Value
Preferred ski type (Ski=1, Snowboard=0)	0.830	0.3755	
The city of residence (Ankara, Istanbul and Izmir=1, Others=0)	0.382	0.4868	1.21
Educational Status (University=1, Others=0)	0.857	0.3511	1.10
Gender (Male=1, Female=0)	0.639	0.5656	1.07
Marital status (Married=1, Bachelor=0)	0.503	0.5009	1.68
Employment Status (Employed=1, Not Employed=0)	0.662	0.4817	1.30
Association Membership (Member=1, Not A Member=0)	0.261	0.4400	1.16
Homeownership (Owns=1, Does Not Own=0)	0.676	0.4842	1.23
Car ownership (Owns=1, Does Not Own=0)	0.518	0.5006	1.17
Travel (Alone=1, Not Alone=0)	0.158	0.3655	1.16
Skiing Experience (Year)	7.54	8.2666	1.39
Age (Years)	33.934	10.0711	2.11
Income (TL/Month)	6408.1	6254.998	1.54

The logistic regression analysis on tourists' preferences for skiing or snowboarding was tried to be explained with 12 independent variables. Based on the coefficients of variables in the model, gender, working status, age and income statistics were found important. It seems that females, employed people and older people were preferring skiing more. The model result showed a significant negative correlation between the income level and the ski category preference. As the income level increased, people gravitated towards snowboarding instead of skiing.

Based on the partial effects, females preferred skiing to snowboarding 12% more, and employed people preferred 9% more. Tourists with a high income preferred snowboarding to skiing 1.5% more.

**Table 6.** Logistic regression analysis results

Variables	MLE Values		Unit Effects	
	Coefficient	t-value	Partial effect	t-value
Constant	0.8639	0.97	-	-
The city of residence (Ankara, Istanbul and Izmir=1, Others=0)	0.1924	0.47	0.0229	0.47
Educational Status (University=1, Others=0)	-0.1933	-0.34	-0.0225	-0.36
Gender (Male=1, Female=0)	-0.9796***	-2.85	-0.1187***	-2.88
Marital status (Married=1, Bachelor=0)	0.4257	0.91	0.0510	0.92
Employment Status (Employed=1, Not Employed=0)	0.7234*	1.79	0.0877*	1.80
Association Membership (Member=1, Not A Member=0)	-0.0975	-0.22	-0.0119	-0.22
Homeownership (Owns=1, Does Not Own=0)	0.1109	0.28	0.0134	0.28
Car ownership (Owns=1, Does Not Own=0)	0.1281	0.32	0.0155	0.32
Travel (Alone=1, Not Alone=0)	-0.6282	-1.32	-0.0844	-1.21
Skiing Experience (Year)	0.0089	0.27	0.0011	0.27
Age (Years)	0.0519*	1.73	0.0063*	1.73
Income (TL/Month)	-0.1282***	-3.12	-0.0155***	-3.16
Log likelihood: -103.5714				
Restricted log likelihood: -120.544				
$\chi^2(12)$ : 33.945				
McFadden R Square: 0.1408				

\*\*\*, \*\*, \* = significant at 1%, 5%, 10%, respectively

Source: Original calculations

## CONCLUSION

It was determined in the study that the tourists who came to winter tourism were mostly people with high income. The price policy of the Palandöken and Konaklı facilities as well as the runway features allowed this activity to be enjoyed by those with middle income levels as well.

The most important expenditure item for tourists coming to the Palandöken Ski Center was transportation and accommodation. If these costs are reduced, it will be possible to attract more domestic and foreign tourists.

Tourists visiting the ski resorts usually spend time skiing or snowboarding. By offering activities such as paragliding, snow tubing, hiking, carving snow statues and snowmobiling that tourists enjoy, the quality of the holiday can be increased to ensure that more tourists arrive in the following years.

The most important feature that separates the Palandöken Ski Center from the other ski centers is the fact that it is only 4 km away from the city. When tourists come to the region for skiing, they can be brought to the center of the city, when they are not skiing, to have a more enjoyable time by being introduced cultural and historical places.

Winter tourism centers in Turkey usually cater to domestic tourism in Turkey, which hosted the 25th World University Winter Games in 2011 and the European Youth Winter Festival in 2017 and which aspires to the Winter Olympics to be held in 2026. Overall, Turkey needs to promote winter tourism more effectively to promote tourism in general to the outside world. Therefore, in order for the promotion to be effective, international fairs held abroad must be participated and the winter tourism potential of Turkey should be described.

Mursalov (2009) stated that people who spend their vacation in summer have started to keep these habits in the winter season and this has caused winter tourism movements to accelerate. In Turkey, the significant increases in the number of tourist arrivals in the December-January-February months in recent years confirms this thesis. Turkey with its great potential for winter tourism will contribute greatly to the spread of low tourism income of the January-February months into the year through this tourism.

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