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Değerli Bilim İnsanları,

İşletme Bilimi Dergisi Yayın Kurulu olarak 2019 son sayısı olan Cilt 7 Sayı 3 ile yayına çıkmamızın gurur ve mutluluğu içerisindeyiz. Önceki sayılarımızda olduğu gibi bu sayıda da farklı disiplinlerden gelen makaleler ile sizlere zengin bir içerik sunuyoruz.

Bu sayının ilk çalışması Nilgün SARIKAYA ve Remzi ALTUNIŞIK "Sağlık Kurumlarından Hizmet Alanlar Gözünden Hasta Hakları Konusundaki Uygulamalara Yönelik Tutum ve Değerlendirmeler" başlıklı çalışmadır. Yazarlar bu çalışmada hasta hakları konusunda halkın bilinç düzeyinin ve tutumlarının belirlenmesini amaçlamışlardır.

"Tüketicilerin Online Marka Topluluklarına Katılımları Üzerinde Öz Benlik Uyumunun Rolü" başlıklı ikinci çalışmada, Sertaç ÇİFCİ, Ruziye COP ve Ezgi GÖNENİR, öz benlik uyumu ile tüketicilerin online marka topluluklarına katılımları arasındaki ilişkiyi tartışmaktadırlar.

Üçüncü çalışma Ferda ALPER AY, İsmail ÜNALAN ve Özgün ÜNAL tarafından kaleme alınan "Üstler ve Astlar Arasındaki İletişimin Astların İş Tatmini Üzerindeki Etkisi" başlıklı çalışmadır. Bu makalede astlar ile üstler arasındaki iletişimin astların motivasyonunda nasıl bir etkiye sahip olduğu irdelenmiştir.

Dördüncü çalışmada Mehmet Yaşar, "Evaluation of the Competitive Factors Affecting Ticket Prices in Low-Cost Airlines" başlıklı çalışmasında düşük maliyetli havayolu işletmelerinin bilet fiyatlarının üzerinde etkisi olduğu varsayılan rekabetçi unsurların belirlenmesini amaçlamaktadır.

Bu sayının beşinci makalesi olan "Pozisyon Okulu mu, Kaynaklara Dayalı Yaklaşım mı? Yöneticilerin Stratejik Konulara İlişkin Görüşleri Üzerine Nitel Bir Araştırma" başlıklı makale Recai COŞUN ve Duygu ÇİFTÇİ tarafından üst düzey yöneticilerin stratejik kararlarında Pozisyon Okulu ile Kaynaklara Dayalı Yaklaşımın iddialarından hangilerine yakın durduklarını belirlemek amacıyla gerçekleştirilmiştir.

Sayının son çalışmasını oluşturan "Turizmde Yeni Ürün Geliştirme ve Pazarlama Stratejileri: Kastamonu Destinasyonu Örneği" başlıklı makale, Nagehan BÜYÜKMEHMETOĞLU ve Kutay OKTAY tarafından kaleme alınmıştır. Bu makalede yazarlar Kastamonu şehir merkezi destinasyonunda yeni ürün geliştirme ve pazarlama stratejilerinin neler olması gerektiğini araştırmışlardır.

Dergimiz bu sayısı da işletmeciliğin farklı disiplinlerinde değerli bilim insanlarının kıymetli çalışmalarlarıyla zengin bir içerikle hazırlanmıştır. Dergi politikası olarak bundan sonraki sayılarımızda da işletme bilimine dayalı farklı disiplinlerden gelen çalışmaları yayınlamaya özen göstereceğiz. Bu sayımızda

göndermiş oldukları makaleler ile dergimize katkı sağlayan tüm yazarlarımıza, dergimize gönderilen makalelerin değerlendirilmesi için kıymetli vakitlerini ayıran saygıdeğer hakemlerimize ve makalelerin dergide yayınlanmaya hazır hale gelmesi için yoğun bir gayret gösteren editör kurulumuz ve dergi sekreteryamıza teşekkürlerimi sunarım. Dergimizin okurlarımız ve bilim insanlarına faydalı olması dileklerle sonraki sayılarımızda işletmeciliğin güncel çalışmalarını bilim dünyasının hizmetine sunmak için siz değerli bilim insanları ve araştırmacıların katkılarını bekliyoruz.

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Saygılarımızla...

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EVALUATION OF THE COMPETITIVE FACTORS AFFECTING TICKET PRICES IN LOW-COST AIRLINES¹

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ABSTRACT

Aim: This study was designed to determine the competitive elements that are thought to have an impact on the ticket prices of low-cost airlines.

Method: Using ticket prices from routes in which Pegasus Airlines operates, a model was formed to examine the relationship between ticket prices and a variety of variables including the monthly frequency of the routes, the monthly available seats, the market share on the route, whether it is a monopoly on the route or not, the number of airlines operating on that route, whether there is another low-cost carrier on that route as well as the level of concentration on the route. Linear regression analysis and T-Test were used to test the model and reveal the levels of difference.

Findings: The study found that market share, the number of flights on the route and route concentration values had a significant positive effect on the ticket prices. On the other hand, the presence of another low-cost airline on the route has a negative effect on ticket prices. In addition, ticket prices were found to be higher in monopoly markets and in markets with only one low-cost airline.

Results: The research is important in terms of examining competitive effects on ticket prices.

Keywords: Ticket Prices, Competition, Regression, T-Test

¹ This research was presented at the 2018 Business and Organization Research Conference and extended by the author after the conference.

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ÖZ

Amaç: Bu araştırma düşük maliyetli havayolu işletmelerinin bilet fiyatlarının üzerinde etkisi olduğu düşünülen rekabetçi unsurların belirlenmesi amacıyla tasarlanmıştır.

Yöntem: Bu kapsamda Pegasus havayollarının seferlerini gerçekleştirdiği hatların bilet fiyatları elde edilmiş ve söz konusu hatlardaki aylık frekans, ay bazında arz edilen koltuk, hattaki pazar payı ve bununla ilgili olarak hattın monopol olup olmaması, o hatta faaliyet gösteren havayolu sayısı, ilgili hatta başka bir düşük maliyetli işletmenin olup olmaması ve hattın yoğunlaşma seviyesi gibi değişkenlerle bilet fiyatları arasındaki ilişkiyi incelemek üzere bir model kurulmuştur. Ayrıca monopol pazarlarda ve sadece tek bir düşük maliyetli havayolu işletmesinin var olduğu pazarlardaki fiyatların farklılıkları da araştırma kapsamında ele alınmıştır. Modelin test edilmesi ve farklılık düzeylerinin ortaya çıkarılması için doğrusal regresyon analizi ve T-Testi kullanılmıştır.

Bulgular: Araştırma sonucunda havayolu işletmesinin pazar payının, ilgili hatta gerçekleştirdiği sefer sayısının ve hattın yoğunlaşma değerlerinin bilet fiyatları üzerinde anlamlı pozitif etkisinin olduğu, bir başka düşük maliyetli havayolu işletmesinin ilgili hatta mevcut olmasının bilet fiyatları üzerinde negatif etkisinin olduğu bulguları elde edilmiştir. Ek olarak, monopol pazarlarda ve sadece tek bir düşük maliyetli havayolu işletmesinin olduğu pazarlarda bilet fiyatlarının daha yüksek olduğu sonucuna ulaşılmıştır.

Sonuç: Araştırma bilet fiyatları üzerindeki rekabetçi etkilerin incelenmesi açısından önem arz etmektedir.

Anahtar Kelimeler: Bilet Fiyatları, Rekabet, Regresyon, T-Testi

I.INTRODUCTION

The liberalization tendencies, which first emerged in the United States (USA) and followed by Europe before moving to spread all over the world, brought a lot of innovations to the air transport industry. Access and entry to markets became easier and more comfortable after the liberalization movements. This ease brought a quantitative increase of businesses and prepared the ground for the emergence of new airlines (Fu et al., 2010; Dobruszkes, 2009).

The emergence of low-cost carriers (LCC) in the USA, the European Union countries, and almost all over the world today is considered to be the most important output of liberalization movements (Lawton, 2002). The LCC model emerged in North America under the leadership of Southwest airlines

before being first adopted by other airlines in the region and then spread across the world (Graham and Shaw, 2008: 1440).

An examination of the Turkish aviation environment reveals that airlines, other than Turkish Airlines, are actively involved in the market, especially following the 2003 liberalization of domestic routes. This has led to an increase in demand, which translates to an increased number of passengers, and, an increased volume in both domestic and international routes for Turkish aviation sector (Battal et al., 2006). Before the liberalizations, the Turkish aviation sector only had Turkish airlines, which is a traditional airline and other airlines operating Charter flights. After the liberalizations, just as in the US, low-cost airlines following the cost leadership strategy emerged in the Turkish air transportation industry (Özsoy, 2010).

Data from the ministry of transport could be used to support the increase in the volume of the sector. Based on the 2017 report of the Ministry of Transport, a comparison of the 2003 and 2016 figures reveal that whereas the number of domestic passengers was 9.1 million in 2003, the number surpassed 100 million in 2016, reaching 102.4 million. The number of passengers on international routes, which was 25 million in 2003, reached 75 million at the end of 2016. In addition, the number of destinations flown also increased from 26 to 55 in domestic lines and from 60 to 286 in international flights (UDHB, 2017). Undoubtedly, the important reasons for this increase are the freedom of access to the market due to the liberalization and the emergence of the airline companies operating under new business models. As in other examples abroad, the airlines in Turkey which identify as LCC, have taken their place in the market and contributed to the growth of the aforementioned volumes.

According to ICAO's definitions, Low-Cost Airlines in Turkey include (ICAO, 2017):

- Atlas Global
- Corendon
- Onur Air
- Sun Express*
- Pegasus Airlines*

LCCs aim to minimize their costs in all processes. In this context, they mostly use secondary airports. The reasons for this may include low turn-around times due to low density, fewer slot problems, inability to access primary airports or the stiff competition when they manage to enter these airports, and relatively low fees at secondary airports (Barbot, 2004: 2-3).

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Although included in the LCC list by ICAO, it may be difficult to consider LCCs such as Ryanair, Southwest and Wizz Air as 100% LCC in the Turkish context given the airports they use, their fleet structures and their network structures. However, considering these features, Sun Express and Pegasus are the two closest airlines with LCC qualifications.

The increase in sector volume that resulted from the 2003 domestic liberalization in Turkey brought competition. This process, which was started with the increase in the number of flight points, also triggered an increase in the frequency at these points, leading to the possibility of more flight points and more journeys in both domestic and international routes. There is a need for the examination of the competitive status of the market given the increased number of destinations, the increased number of flights in these destinations as well as the presence of LCCs in these markets.

An examination of the competition dimension of air transport, especially on the domestic front, reveals that most studies have focused on market structures. Among these, Sarıbaş and Tekiner (2015) drew a general framework of airlines in Turkey, Kiracı et al. (2017) examined the competitiveness of airlines at the airports by considering their market shares at those airports, and Yaşar and Gerede (2018) looked at the competitive status of markets with concentration criteria on the basis of city pair.

These studies are based on a 'general to specific' model, and all 3 of them reached the conclusion that the air transport market in Turkey is not truly competitive. In this study, we intended to evaluate the competitive features of ticket prices resulting from the internal dynamics of the airline as opposed to the inter-firm or market structure dimensions. In this context, 134 flight routes (origin-destination) of Pegasus airlines, which is identified as an LCC, were analyzed and the competitive factors that are thought to have an effect on ticket prices tested within the determined model.

II. LITERATURE

There are different studies that look at various aspects and features of ticket prices. Table 1 provides information about the studies obtained as a result of the literature review.

Table 1.
List of Literature Review

Author(s)	Year	Methodology	Focus	Variable(s)	Results
Barbot	2004	Regression	42 one-way flights of Ryan Air (LCC Carrier)	D:Price I:Market Share, Existence of LCC, Number of Competitors	No Effect: Existence of LCC Positive Effect: Number of Competitors Negative Effect: Market Share
Dresner et.al.	1996	Regression	Southwest Entry at BWI Airport in 1993	D: Yield, Passenger Numbers I: Distance, LCC, Slots, Vacation, Income, Population, Market Concentration	*Presence of LCC → Lower Yields *Presence of LCC → Higher traffic levels
Stavins	2001	Regression	*12 Different Routes in the USA *Relationship between price discrimination and market concentration	D:Price Dispersion I:Market Concentration, Distance, Population, Per-Capita Income, Ticket Restrictions DY:Touristic Traffic, Major Hub, Landing Slots	Price discrimination increases when markets become more competitive
Gillen and Morrison	2003	Creating a simple model	Interaction between full service carriers and LCC	Dimensions:product differentiation, bundling & integration between airlines and airports.	FSC-LCC interaction leads to price stability and low price dispersion.
Giaume and Guillou	2004	Regression	*Ticket prices for flights from Nice Airport *Price discrimination and market concentration	D:Price I:Ticket Restrictions, Market Share, Distance, Average Population, Number of Days Before Departure DY: LCC, Hub Airport, Oneway Ticket, Business Class Ticket	*Negative correlation between price level and concentration and *Concentration positively affected the airline ticket price sensitivity.
Gerardi and Shapiro	2009	Panel Data Analysis	Competition and price dispersion relationship 1993-2006 period	D:Price Dispersion I:Market Share,HHI,Total Flights,Tourist earnings (related with accomodation) DY:Hub, Small City Presence	When competition and number of carriers ↑ , price dispersion and prices ↓
Orlov	2011	Regression	Internet and price dispersion relationship	D:Average Fare and Price Dispersion I:Market Share, Internet Penetration, DY: Monopoly, Duopoly and Compete, Southwest Presence, Direct Flights, Peak Period	*Internet has influenced airline competition. (domestic routes) *The effect of the Internet on prices and dispersion is larger on direct flights than indirect ones.

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Table 1. Contuned

Author(s)	Year	Methodology	Focus	Variable(s)	Results
Gaggero and Piga	2011	Panel Data Analysis	*Citypair markets within UK-Ireland *Market power & Price dispersion relationship	D:Gini Coefficient I: HHI, Load Factor, Total Flights, Frequency, Departure Time, Purpose DY: Christmas, Easter, Month	*Negative relation between competition and price dispersion, *Competition hinder the airlines' ability to price discriminate, *This effect seems to be reduced in peak periods.

D: Dependent Variable, I: Independent Variable and DY: Dummy Variable

In one of the studies, Barbot (2004) analyzed 42 one-way flights by Ryan Air originating from Paris Beauvais, Brussels Charleroi, Dublin, London Stanstead and Milan Bergamo and found that the existence of another LCC on the routes had no effect on ticket prices, while the number of competitors on the routes had a positive effect on the ticket prices and the market share had a negative effect.

Dresner et al. (1996) investigated the effect of the entry of low-cost airlines into the market on airports and routes and found that the presence of LCCs had an average reduction effect of 38% on revenue. In a similar study, Stavins (2001) looked at the relationship between market concentration and different price applications on various routes within the USA. The findings show that as markets become more competitive, the price distribution attributed to ticket restrictions increases. Gillen and Morrison (2003) evaluated the competition between traditional carriers and low-cost carriers in terms of price and concluded that the interaction between these carriers brought price stability and relatively less price discrimination. Giaume and Guillou (2004) examined the relationship between price distribution and market concentration on Nice flights in the European market and found a negative correlation between the price level and concentration. They also concluded that concentration positively affected the airline ticket price sensitivity.

Gerardi and Shapiro (2009) examined the relationship between airline prices and the level of competition in the industry using panel data analysis covering the period of 1993-2006. The findings show that competition has a negative effect on price distribution. Orlov (2011) evaluated the ticket price distribution in airlines in terms of the effects of the internet and concluded that the internet reduced the average ticket price and increased the price distinction between firms. The study also concluded that the effect of the internet on ticket prices was higher on direct lines. Gaggero and Piga (2011) analyzed the flights between England and Ireland with

regard to price distribution. They found that competition has an inverse relationship with a price distribution, that the level of price distribution decreases with increasing competition.

Considered as a whole, the studies in this area seemed to have generally examined diversification in ticket prices on the basis of airlines and market. In the studies reviewed above, Barbot (2004) 's research focused factors that were thought to affect the ticket pricing by airlines, including the number of competitors, the presence of another LCC and the market share. In this study, in addition to the variables used by Barbot, the concentration value of the route, whether the route is a monopoly or not, and the frequency of the airline operations in that route is added to the model. Moreover, tests were also conducted to check whether there is any differentiation in ticket prices for monopolistic routes and routes with only a single LCC. This is one of the dimensions in which this study intends to contribute to the literature.

II. METHODOLOGY

The aim of this study is to identify the competitive factors that are assumed to be the determinants of ticket prices in low-cost airlines and to examine how these factors affect prices. In this regard, we examined 134 flight routes in which Pegasus Airlines operate. After identifying the flight routes, variables that are thought to affect ticket prices were determined and a model was created. Hypotheses were determined within the model and their effects on ticket prices were tested within hypotheses.

The model created within the scope of the research is as follows:

$$LCC_p = \beta_1 SHARE_{pgs_i} + \beta_2 NUMBER_{rival_i} + \beta_3 FREQ_{pgs_i} + \beta_4 HHI_i + \beta_5 LCC_i + \beta_6 MONO_i$$

LCC_p = Ticket price per mile

$\beta_1 SHARE_{pgs_i}$ = Pegasus airline's market share in the i route

$\beta_2 NUMBER_{rival_i}$ = number of competitors on the i route

$\beta_3 FREQ_{pgs_i}$ = Pegasus airline's monthly frequency in route i

$\beta_4 HHI_i$ = Herfindahl-Hirschmann Index value on route i

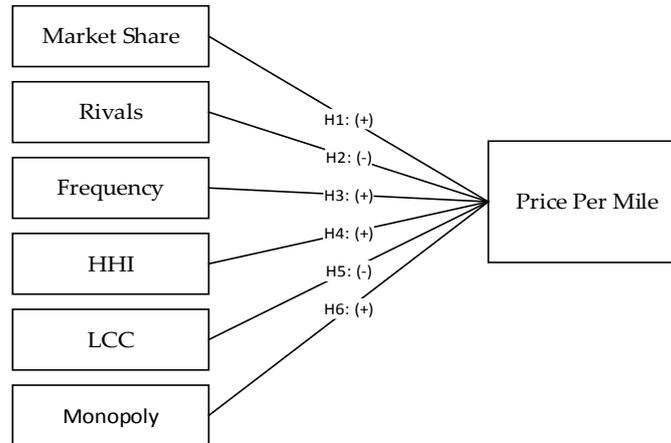
$\beta_5 LCC_i$ = Other LCCs except for Pegasus airline in route i (if there is 1, otherwise 0)

$\beta_6 MONO_i$ = i route is monopoly (if monopoly is 1, if not 0)

Figure 1 shows the visual representation of the model.

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**Figure 1.
Research Model**

Data on the ticket prices used as the dependent variable in the model were obtained from the website of the airline. Anticipatory ‘regular price’ of the same day were used while obtaining the data. Special offers and flexible prices were not included in the dataset. Of the two prices not included, airlines have specific quotas on offer prices within their flights and flexible prices are a less preferred ticket price class considering the business model of Pegasus airlines. For the aforementioned reasons, these two price types were excluded. Ticket prices are considered as the ticket price per mile and it is intended to omit the relationship between flight distance and ticket price. There is no doubt that ticket price increases with an increase in distance. In order to eliminate this effect, ticket prices for each flight route were divided by the distance of that route and the price per mile was obtained as the dependent variable.

The market share which is one of the independent variables of the study was obtained by dividing the number of seats of each airline by the total supply for the specific route and the market share was obtained separately for each airline and for each flight route.

The variable for the number of competitors represents the number of airlines operating on the route. The frequency variable is the number of monthly trips and HHI variable represents the concentration value obtained by the sum of the squares of the market shares on each route. The LCC_i and $MONO_i$ variables are dummy independent variables which are represented by 1 if there is another low-cost airline on the line, otherwise, 0, and 1 if the route is a monopoly, otherwise 0 respectively.

Linear regression analysis was used to test the model. The hypotheses tested within the scope of the research are as follows:

H1: As the market share of the airline increases, prices increase.

H2: As the number of competitors on the route increases, prices decrease.

H3: As the frequency of airline in the related route increases, ticket prices increase

H4: As the HHI value of the route increases, so does the ticket price.

H5: Prices are relatively low if there is another LCC on the route in which the airline operates

H6: If the airline is alone on that route, the prices are higher than those routes that are not monopolized.

IV. ANALYSIS

In the analysis, T-test is used to determine whether or not monopolized markets create a price difference, and whether there is a difference in price in a market with more than one LCC in the market. Linear regression analysis was used to test the model given in the previous section. Table 2 and 3 show descriptive statistical data and T-Test results on monopoly and non-monopoly markets.

Table 2.
Descriptive Statistics for Monopoly and Non-Monopoly Markets

		Group Statistics			
	Markets are	N	Mean	Std. Deviation	Std. Error Mean
farepermile	Monopoly	66	10,87445	7,290953	,897454
	Not Monopoly	68	7,87871	4,571629	,554391

As seen in Table 2, 66 of the 134 markets examined are a monopoly while the remaining 68 are non-monopoly markets. In other words, Pegasus operates alone in almost half of the markets it operates. In Monopoly markets, the average ticket price per mile is \$ 10.8, while in other markets it is \$ 7.87. This implies that ticket prices are higher in monopoly markets than non-monopoly markets. Table 3 presents the results of the T-Test, which tests the statistical significance of the ticket price difference of the markets in question.

**Table 3.
Independent Groups T-Test Results (Monopoly Markets)**

		Independent Samples Test								
		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	df.	Sig. (2- tailed)	Mean Dif.	Std. Error Dif.	95% Confidence Interval of the Difference Lower Upper	
Fare Per mile	Equal variances assumed	6,644	,011	2,859	132	,005	2,9957	1,0479	,9227	5,0687
	Equal variances not assumed			2,840	108,715	,005	2,9957	1,0548	,9049	5,0865

According to the results of the T-test conducted to find out whether the price difference between monopoly and non-monopoly markets is significant, the average price per mile in monopoly markets (Avg = 10, 87; SE = 0.897) and the average price per mile in non-monopoly markets (Avg = 7, 87) ; SE = 0.554) were found to be different from each other, and this difference is statistically significant (t (108, 71) = 2.840; p <0.05).

Tables 4 and 5 show descriptive statistical data and T-Test results for markets where a single and more than one LCC exists.

**Table 4.
Descriptive Statistics On the Status of Multiple LCCs in the Market**

		Group Statistics			
LCC		N	Mean	Std. Deviation	Std. Error Mean
farepermile	Exist	37	6,35714	2,843977	,467547
	Not	97	10,49744	6,774517	,687848

In Table 4, there is another LCC in 37 out of the 134 markets examined and there are no LCCs other than Pegasus in the remaining 97 markets. As will be remembered from Table 2, Pegasus has a monopoly in its 66 markets. Back to Table 4, in 31 out of the 97 markets where no other LCC exists, there is an airline that is classified as Charter or Traditional airline. In the markets where there is another LCC other than Pegasus, the average price per mile is \$6.35. In the markets where Pegasus airlines is the only operator, the average price per mile is \$10.49. Table 5 shows the T-Test results which test the statistical significance of the ticket price difference of the mentioned markets.

Table 5.
T-Test Results of Independent Groups (LCC)

		Independent Samples Test								
		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Dif.	Std. Error Dif.	95% Confidence Interval of the Difference	
								Lower	Upper	
Fare Per mile	Equal variances assumed	11,415	,001	-3,592	132	,000	-4,1403	1,152628	-6,4203	1,8602
	Equal variances not assumed			-4,978	130,76	,000	-4,1403	,831706	-5,7856	-2,4949

According to the T-test results (in table 5) which was intended to find out whether there were more than one LCCs or not and whether the price difference in such a case significant or not, the average price per mile in the markets where Pegasus is the only LCC (mean = 10,49; SH = 0.687) and the average price per mile in the markets where there is another LCC (L = 6,35; SH = 0,467) are different, and this difference is statistically significant ($t(130,76) = -4,978; p < 0,05$). This means that when there is another LCC in Pegasus market, the prices are relatively low.

The findings of the regression analysis conducted to test the operability of the model tested in the research are given in Table 6.

Table 6.
Regression Analysis Results

Variables	Coefficients (Standart Errors)
Constant	-2,155
Market Share	,307* (,158)
Competitor Number	,691 (,500)
Frequency	,119* (,062)
HHI	,741* (,446)
LCC	-,189** (,059)
Monopoly	-,012 (,137)
Dependent Variable: Price Per Mile	
$R^2 = ,224$	
Adjusted $R^2 = ,187$	
* $p < 0.10$; ** $p < 0.001$	
Durbin Watson : 1,887	
Number of Observations=134	

According to the results of the regression analysis in Table 6, the adjusted R^2 value of the model is (.187) and the independent variables in the model explain 18% of the dependent variable. The Durbin Watson value is 1.887 and it is close to the values required in order to avoid autocorrelation.

Looking at the factors affecting the ticket price per mile, the market share was observed to have a significant effect at (.307). In other words, the market share has an increasing effect on the ticket price. Considering the dynamics of the sector, airlines were found to generally keep their ticket prices at higher levels in routes where they have high market shares. In this context, the presence of this significant effect shows that there is a consistent result considering the nature of air transport.

The effect of frequency and HHI on price per mile are significant (.119) and (.741) respectively. The increase in frequency provides an important premise on which the airline can increase its market share or on which to base its current high market share. The increase in frequency has an important role in the tariff-based components of service delivery, and a higher frequency airline is more attractive to passengers in terms of meeting the origin-destination transportation requirement within the minimum time (Gerede and Yalçınkaya, 2015: 124). It is, therefore, possible to find that the ticket prices are relatively higher in route where the frequency is higher. As it will be remembered, HHI gives some clues about the competitive structure of the route. The higher HHI value, the lower the competition level of the route. This implies that an airline will be able to maintain control of the ticket prices on the non-competitive route, and the possible result in this is that the ticket prices will be relatively high.

A significant negative effect (.189) is observed in the LCC dummy variable. LCCs try to minimize costs in all processes by following the cost leadership strategy and reflect this in their prices, and they seek to attain a competitive advantage by keeping ticket prices lower than traditional airlines. It is thus inevitable that having a second LCC on a route where there is already an LCC will have a reducing effect on ticket prices. The findings of the study support these hypotheses.

The number of competitors and the monopoly dummy variable have no significant effect on the price per mile. Given the competitive dynamics in air transport, the number of competitors is expected to have an impact on ticket prices. However, it was observed that the number of competitors did not have an effect on ticket prices within the model used in this study. Despite this, the significant effect of HHI, LCC and market share variables in the model indicates that the number of competitors has an indirect effect on

the ticket prices. It was also observed that within the model of the study, whether the market is a monopoly or not doesn't have any significant effect. In the T-tests performed before the model, there was a significant difference of approximately \$ 3 per mile in the average ticket prices between monopoly markets and non-monopoly markets, but this effect was not found to hold within the model.

In light of all these data, the validation status of the hypotheses is given in Table 7.

Table 7.
Verification of Hypotheses

Hypotheses	Accept	Reject
H1	X	
H2		X
H3	X	
H4	X	
H5	X	
H6		X

The data in Table 7 shows the confirmation of hypotheses H1, H3, H4 and H5. In other words, increasing market share of the airline has an increasing effect on ticket prices; the ticket prices increase as the concentration of the route increases i.e. as the competition reduces in the route; ticket price increase as the number of flights performed by the airline on the route increases; the ticket price decreases if there is more than one LCC on the route. No significant effect was observed with respect to the number of competitors and whether the route is a monopoly or not.

V. CONCLUSION

This study sought to evaluate the competition in the air transport market in light of the ticket prices as well as examine the competitive factors that are thought to have an impact on ticket prices, which is among the most important competition tools for airlines. The results of the study show that market share has a significant effect on airline ticket prices and this effect is positive. In other words, as the airline's market share in the relevant route increases, the ticket price on that route also increases. This finding is consistent with the characteristics of the sector. If an airline is established in the market, it gets to be dominant in that market dominance and the increased market share is reflected in the ticket prices. Looked at from

another perspective, an airline with a lower market share getting into the market with higher prices may lag a few steps behind the competition.

As the frequency of the airlines increases, so does the ticket price. An increase in frequency parallel to the market share leads to more trips and more supply in the relevant market. In line with the characteristics of the tariff-based components of service delivery, passengers are expected to choose the airline with a higher frequency in order to minimize the time between the actual origin and the actual destination points. In this context, the price increase arising from the frequency increase is natural considering the characteristics of the sector, and it shows the consistency of the research findings and the characteristics of the sector.

Another factor dealt with in the study was the relationship between the concentration level of the route and the ticket price. Concentration value also has a significant positive effect on ticket prices. Concentration is inversely proportional to competition and if concentration increases, competition in the relevant market decreases. In this sense, when the concentration value is high, the relevant ticket price is expected to be high and the findings of this study support this.

If there is another LCC on the route, ticket prices decrease. LCCs are companies that sell tickets at a lower price than their competitors and keep costs of the operations and processes at a minimum level. For this reason, the second LCC in a market where one is already operating will have reducing effect on ticket prices. The findings of the research are consistent with this and support this position.

No significant relationship was found between the number of competitors and the monopoly status of the airlines and the ticket prices. However, the T-Test analyzes conducted outside the model revealed that ticket prices were different in monopoly and non-monopoly markets, and this difference was significant.

Many studies exist in the literature on the determinants of ticket prices. This study examined the determinants of ticket prices for low-cost airlines by considering the competitive factors alongside the factors commonly studied in the literature. In this context, this research is important in terms of determining the effects of competition factors on ticket prices. Future studies could include different components which are likely to affect competition in the model and increase the number of routes and the number of airlines.

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