

DO LOW-COST BUSINESS MODEL DIE? EVIDENCE FROM AVIATION

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Abstract:

In this study, Turkish LCCs' business model is assessed utilizing Klopheus's LCC index. The fleet homogeneity value of 0.90 indicates that LCCs' fleet strategy is similar to pure LCCs. The mean score of the simple LCC index is 3.2 indicating hybrid LCCs with dominating full service airline characteristics. This shows that LCCs in Turkey have largely adopted the business model of Turkish Airlines. The mean score of the consolidated LCC index is 0.26 indicating a very high degree of hybridization among Turkish carriers.

Key words:

Low-cost airlines, business model, aviation

INTRODUCTION

Much has been written related to the low cost carrier business model and what elements in the business model set this business model apart from traditional full service carriers [1, 2, 3, 4, 5, 6]. With its inception with Southwest Airlines in the USA, low cost airlines have changed the competitive environment within liberalized markets and have reshaped the world's domestic passenger markets, which had previously been mainly controlled by full service network carriers (FSNC). These airlines have pursued efficiency, simplicity, high utilization of assets and productivity to offer low fares. Table 1 provides a summary of the main characteristics of LCCs [4].

Tab. 1. *Product features of low cost carriers*

Product features	Low cost carrier
Brand	One brand: Low fare
Fares	Simplified fare structure
Distribution	Online and direct booking
Check-in	Ticketless
Airports	Secondary airports (mostly)

Tab. 1. *Product features of low cost carriers-continue*

Product features	Low cost carrier
Connections	Point-to-point
Class segmentation	One class (high density)
Inflight	Pay for amenities
Aircraft utilization	Very high
Turnaround time	25 min turnarounds
Product	One product: Low fare
Ancillary revenue	Advertising, on board sales
Aircraft	Single type
Seating	Small pitch, no assignment
Customer service	Generally under performs
Operational activities	Focus on core (flying)

Source: [4]

Klophaus et al. [7] analyzed European carriers generally categorized as low-cost airlines to reveal to which extent they have changed their business model towards a hybrid strategy with dominating full service airline characteristics. The results of the study indicated that in Europe short-haul airline business models converge. Many of low-cost airlines has evolved into hybrid airlines which blend low-cost traits with those of full service network airlines. Similarly, Mason and Morrison [8] used a product and organizational architecture (POA) approach to classify and relate key elements of airline business models. The POA model is used to analyze and compare six European carriers. The analysis indicates that there are important differences in the business models of low cost carriers. This study shows how differences in the business models adopted by the different carriers benefit their relative profitability.

In the study, airline business models are assessed according to criteria for the LCC business model which was created by Klophaus et al. and it is applied to the 4 LCCs operating in Turkish domestic market as well as to one full service national carrier (Turkish Airlines) that serves as a control group. The study analyzes the extent to which low cost carriers blend low-cost characteristics with the features of Turkish Airlines, which characteristics remain distinct between low cost carriers and Turkish Airlines, and which tend to be similar for all airlines. This study is based on publicly available data obtained from carriers' websites, permitting the evaluation of airlines' business models.

1 CARRIERS INCLUDED IN THE STUDY

To facilitate data acquisition, the analysis is limited to LCC market in Turkey. Figure 1 shows passenger growth in Turkish domestic market between 2008 and 2020. Table 2 provides basic information on the 4 LCCs. All these carriers operate short-haul routes. The number of airports served refers to the airline's destinations in Turkey. The operational statistics were collected from several sources. Table 2 excludes three airlines operating in Turkey: Freebird Airlines, Tailwind Airlines and Corendon Airlines. Freebird and Tailwind are not viewed as LCCs rather than as charter airlines offering flights mainly to holiday destinations such as London, Hamburg, Belgrade. Although Corendon Airlines operates both scheduled and charter flights, it does not offer domestic flights in Turkey. Therefore, it was not included in the survey.

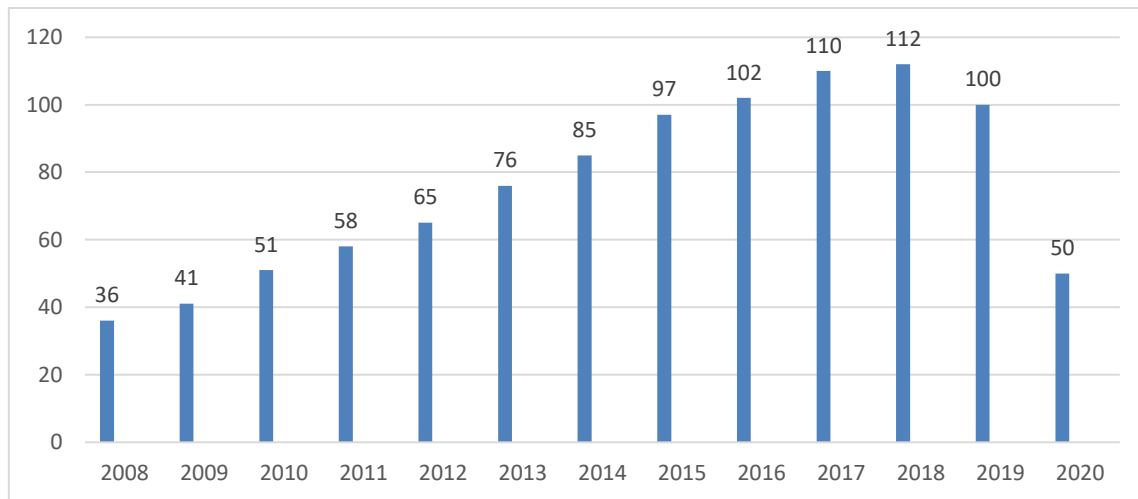


Fig. 1 Domestic passenger traffic in Turkey (millions)

Source: [9]

Tab. 2. Basic Information on LCCs in Turkey

Airline	Foundation Year in Turkey	Seat Capacity	Destinations
Sunexpress	1989	10962	90
Pegasus Airlines	1990	12084	111
Onurair	1992	7018	19
Anadolujet	2008	6993	61

Source: [11]

Figure 2 shows market shares of 4 LCCs in Turkish domestic market in 2020. Turkish Airlines with its subsidiary of Anadolujet dominate domestic market in Turkey. Besides the 4 Turkish LCCs we analyze a control group of full service network carriers (FSNC), consisting of Turkish Airlines, carrier traditionally considered to be the “national flag” carrier in the Turkish domestic aviation market.

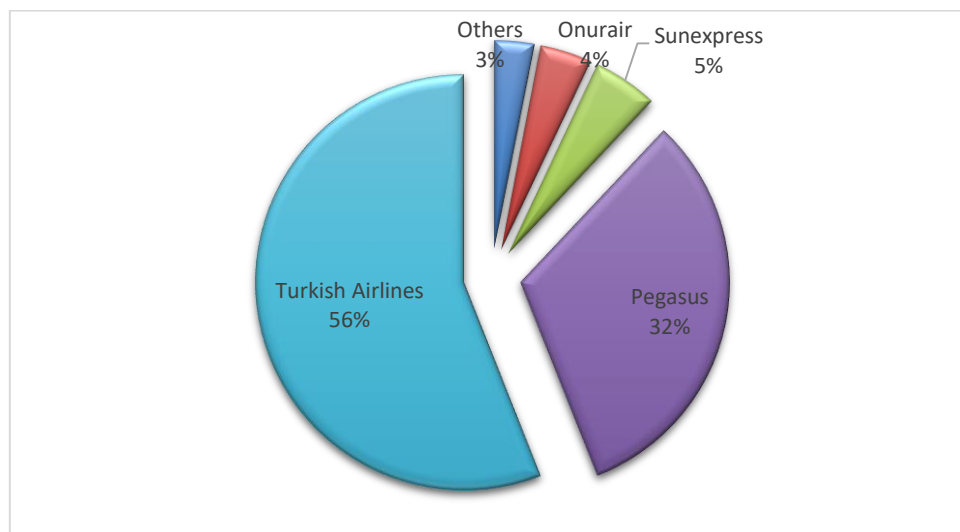


Fig. 2. Market shares of LCCs in Turkey

Source: [10]

2 CRITERIA FOR THE LCC BUSINESS MODEL

Archetypical LCCs are characterized by practices that enable them to decrease costs in comparison to full service carriers. Table 3 shows the selected criteria to evaluate whether a carrier has the LCC business model. Some criteria such as checked baggage, in-flight service, code sharing and frequent flyer program are self-explaining. The following part explains each criteria [7]:

- Fleet homogeneity index: It is measured as the number of aircraft of the family (A320 family, B737 family) with largest fleet share divided by fleet size. For example, the fleet homogeneity index value of an airline operating a fleet consisting of nine aircraft of the same type and one from another type is 0.9.
- Secondary airport index: According to LCC business model, these carriers only serve secondary airports offering quicker turnaround times and lower landing fees. In this study, secondary airports are defined as those not served by Turkish Airlines with aircraft having at least 100 seats. Index is calculated as the weighted percentage of secondary airports based on all airports served by an airline in Turkish domestic market.
- Point-to-point services only: This means that an airline does not offer connecting flights including transfer of passenger and baggage.
- One-way fares only: This criterion is considered to be fulfilled if fares offered via the Internet do not include return tariffs at a lower price than the sum of the two one-way fares.
- No more than one fare at any time: LCCs such as Ryanair do not offer more than one fare at any time during the booking period of a specific flight. For them the value of the criterion is “Yes”.
- No more than two fares at any time: Some LCCs offer more than one fare. The higher fare category offers additional services such as seat selection, free checked baggage or changing a booking without surcharge.
- Single class cabin: If the seats are the same for all passengers travelling on short-haul flights, this is accepted to be a single class cabin.

Tab. 3. Criteria

Business model practice	Components	Value
Single aircraft type	Fleet homogeneity index	>0.75
Secondary airport	Secondary airport index	>0.5
Point-to-point traffic	Point-to-point services only	Yes
No code sharing	No code sharing	Yes
Only one-way fare per flight	One-way fares only	Yes
available at each point in time	No more than one fare	Yes
	No more than two fares	Yes
Single class cabin	Single class cabin	Yes
No frills	No complimentary in-flight service with lowest fare category	Yes
	No complimentary in-flight service with highest fare category	Yes

	No free checked baggage with lowest fare category	Yes
Tab. 3. Criteria-continue		
Business model practice	Components	Value
No frills	No free checked baggage with highest fare category	Yes
	No frequent flyer program	Yes

3 RESULTS

Most carriers included in the survey operate a homogenous short-haul fleet. The fleet homogeneity index ranges from 0.59 (Onurair) to one (Sunexpress, Anadolujet and Pegasus). In 2012, Pegasus Airlines made order of 100 A320neo and A321neo aircraft. Although Pegasus's fleet is not homogeneous because of fleet renewals, in the near future, it will sell its B737-800 and its fleet homogeneity index will reach to one. Therefore, its fleet homogeneity index is accepted as one. The average value is as high as 0.90. Fleet homogeneity of Turkish Airlines is 0.36. Therefore, fleet heterogeneity or homogeneity seems to be valid indicator to differentiate between these two carrier segments in Turkish domestic market.

In contrast to the LCC model, the average value of the secondary airport index among 4 airlines is rather low (0.01). Turkish Airlines benefitting from hub & spoke system serves more than 50 destinations in Turkey. Because these destinations are served by other LCCs, there are only a few airports qualified as secondary airports in Turkey.

Airline business models can be classified based on a simple LCC index by counting how many of the 13 criteria are fulfilled. All criteria should be "Yes" or more than the defined threshold values for a pure LCC. However, the index value should be zero for a typical FSNC. According to the index, there are four types of airlines [7]:

- Type 1: With an index minimum of 11 to qualify as a "pure low-cost carrier",
- Type 2: With an index value between eight and ten might be called "hybrid airlines with dominating low-cost characteristics",
- Type 3: With an index value between four and seven might be called "hybrid airlines with dominating full service airline characteristics",
- Type 4: These airlines may not even be classified as hybrids. They are full service airlines.

Table 4 indicates the values of the simple LCC index for the analyzed carriers. The mean of 3.2 shows that the market strategy of LCC airlines in Turkish domestic market qualifies as hybrid airlines with dominating full service airline characteristics. Additionally, Onurair and Sunexpress in the survey only fulfill three out of 13 criteria, seriously questioning their status as LCC.

Turkish Airlines has an index value of zero. LCCs - with the exception of Sunexpress- offer only one-way fares on their websites. In other words, they do not offer price discount on round trips. On the other hand, all LCCs offer incentive schemes for frequent fliers. Moreover, the secondary airport index indicates that all LCCs serve same airports as FSNC.

Tab. 4. Simple LCC index

Airline	Value
Pegasus Airlines	5
Anadolujet	4

Sunexpress	3
Onurair	3

The number of observed criteria in the simple LCC index can be consolidated to a smaller number of sub-indices. Table 5 indicates five sub-indices with the associated components. Each of five sub-indices explains one crucial property such as the airline's airport choice, fleet structure, pricing policy, service and its network strategy. Based on the value one or zero given to each criterion the five sub-indices are measured as the average value. As an example, if a carrier offers only one-way fares but more than one and two fares at any time, the pricing index for the carrier is 0.33. Assigning equal weight to each of the five sub-indices, an overall index is measured; a consolidated LCC index. The index value changes from zero to one, with the latter representing pure LCC [7].

Tab. 5. *Five sub-indices*

Sub-Index	Components
Fleet homogeneity	Fleet homogeneity index
Secondary airport	Secondary airport index
Pricing	One-way fares only No more than one fare at any time No more than two fares at any time
Network	Point-to-point service only
Service	No code sharing Single class cabin No complimentary in-flight service with lowest fare category No complimentary in-flight service with highest fare category No free checked baggage with lowest fare category No free checked baggage with highest fare category No frequent flyer program

Table 6 indicates the carrier ranking according to the consolidated LCC index. Sunexpress and Onurair with values of 0.26 or even less should not be called LCCs according to the underlying criteria. The mean value of the consolidated LCC index is 0.26 showing a very high degree of hybridization among Turkish carriers. The consolidated and the simple LCC index indicate a similar airline ranking. In contrast to the simple LCC index, Pegasus and Anadolujet share first place in the consolidated LCC index. The improvement in Anadolujet's ranking comes from pricing. While both airlines offer one-way fares, only Anadolujet among 5 carriers offers no more than two fares at any time. As it is not combined with other criteria, this criterion scores a relatively high weight in the consolidated LCC index.

Tab. 6. *Consolidated LCC index*

Airline	Value
Pegasus Airlines	0.36
Anadolujet	0.36
Sunexpress	0.26
Onurair	0.13

Figure 3 indicates the mean values of the five sub-indices and compares them with those for pure LCC. All carriers deviate from the LCC business model, specifically related to network strategy and airport choice. It can be said that fleet homogeneity of LCCs in Turkey is close to homogeneity of pure LCCs.

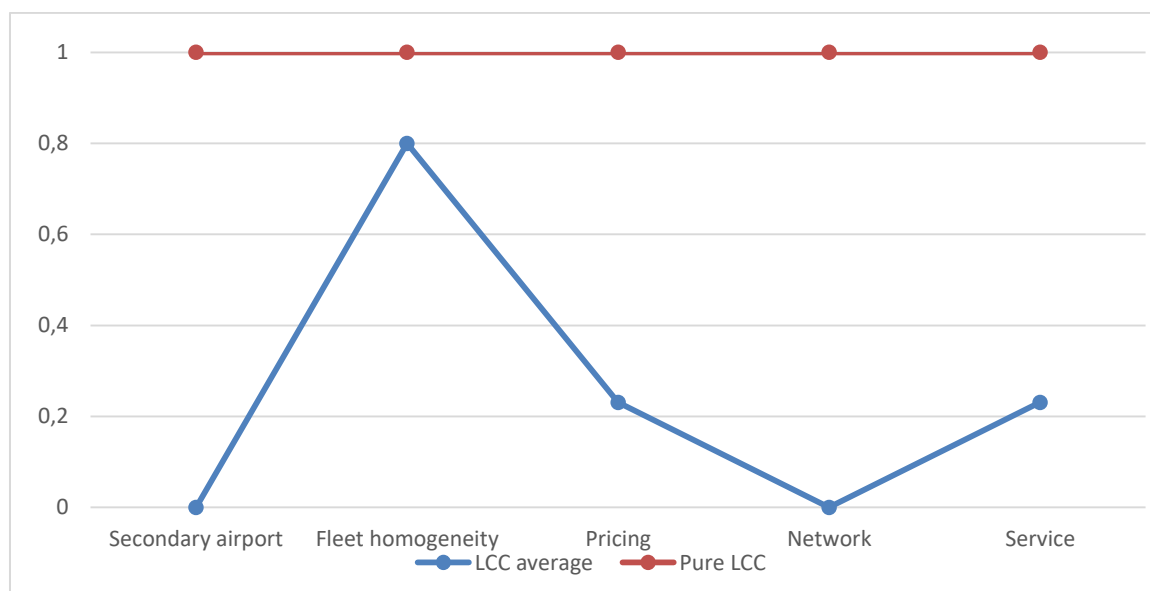


Fig. 3. Mean values of the five sub-indices

4 CONCLUSIONS

Since its inception with Southwest Airlines in the USA, low cost carriers have changed the competitive environment in liberalized aviation markets. One of these liberalized aviation markets is Turkish domestic aviation market. In this study, we utilized Klopheus's LCC index to assess Turkish LCCs' business models in the domestic market. These LCCs account for almost 50% of domestic market in Turkey.

The fleet homogeneity index of LCCs ranges from 0.59 (Onurair) to one (Sunexpress, Anadolujet and Pegasus). The average value is 0.90. This indicates that LCCs' fleet strategy is similar to pure LCCs. Compared with Turkish Airlines' fleet homogeneity index of 0.36, these two carriers segments in Turkish domestic market differentiate. Secondary airport index is very low because of Turkish Airlines' extensive domestic route structure. In Turkey, there are only a few airports qualified as secondary airport. Therefore, none of LCCs could not fulfill this criterion. With the exception of Sunexpress, LCCs offer only one-way fares. Strangely, all LCCs offer incentive schemes for frequent fliers. Probably, LCCs see these schemes to protect their market shares against Turkish Airlines.

According to the simple LCC index for the analyzed carriers, the mean score is 3.2 indicating hybrid LCCs with dominating full service airline characteristics. This shows that LCCs in Turkey have largely adopted the business model of Turkish Airlines. The reasons of this situation should be sought in the past. Before the liberalization of Turkish domestic market in 1983, Turkish Airlines was the only scheduled airline operating in the Turkish domestic market. Other Turkish companies were operating only as charter airlines. Along with the liberalization, the newly established airlines and airlines which previously operated as charter airlines entered into the domestic market. However, none of them succeeded in the competition against Turkish Airlines and vanished. The airlines examined in this study

established after this experience. Probably due to past experiences, these newly established airlines believe that they can be successful if they imitate the business model of Turkish Airlines.

According to the consolidated LCC index, Sunexpress and Onurair with values of 0.26 or even less should not be accepted as LCCs. Similar to the simple LCC index, the mean value of 0.26 consolidated LCC index indicates a very high degree of hybridization among Turkish carriers.

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